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Household Arrangements and Economic Poverty: A Subjective Well-Being Approach

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Household Arrangements and Economic Poverty:
A Subjective Well-Being Approach

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Abstract:

This paper uses a subjective well-being conception of economic poverty to study the nature of household arrangements in Mexico and how these arrangements do affect the relationship between a person's economic satisfaction and his or her household income. It finds out that in low income households there is some degree of communitarianism -and even some degree of altruism- within the family; which makes it impossible to infer a person's economic satisfaction situation just on the basis of his or her household equivalent income. This general finding has important implications for the use of income measures to classify people as economically poor or non-poor, for the assessment of the extent of economic poverty in a country, and for cross-country economic poverty comparisons.

1. Introduction

This paper uses a subjective well-being conception of poverty; it distinguishes between human poverty and economic poverty. A person is in human poverty if he or she has low life satisfaction or low happiness; a person is in economic poverty if he or she has low economic satisfaction. Economic satisfaction is a relevant, although not determinant, component of life satisfaction or happiness. The investigation focuses on the study of economic poverty, but it acknowledges that economic poverty is an element of a broader poverty conception.

The paper shows that there are many relevant issues in economic poverty research where the subjective well-being approach may be of utility In particular, the investigation deals with the impact of household arrangements on economic poverty. The literature on household arrangements is vast; some authors have proposed that the family is basically a communitarian organization, where resources are pooled into a common pot from where all family members can benefit. On the other hand, other authors see the family as the result of a cooperative equilibrium, where individualistically motivated persons do remain as long as they obtain benefits, and where a bargaining process that influences the distribution of the benefits from the common pot do take place. Extreme situations may include altruistic behavior where some members do sacrifice in the benefit of others; and a completely individualistic household, where members act as partners, with separate budget and consumption accounts.

Thus, the literature on household arrangements has stressed that the family is a black box, where there may be communitarianism, altruism, cooperation, bargaining and conflict (Bergstrom, 1997; Hart, 1990; Vogel, 2003). The nature of household arrangements in a country is of relevance for the study of economic poverty. It could be that all household members do have or do not have equal access to the economic well-being benefits from a given household income; and this depends on the nature of household arrangements. In particular, it is of interest to study household arrangements in low income families.

Economic poverty research usually works with household income figures, and it assumes that this household income –in its household equivalent income adjustment- indicates the economic situation of all household members. Thus, it is implicitly assumed that all household members do have an equal access to the benefits from a given household income. Income equivalent indicators such as household per capita income and household equivalent income are calculated to make comparisons across households of different sizes; but it is assumed that within the household the benefits from a given household income are identical for all household members.

This investigation studies whether a household equivalent income can be used to assess the economic well-being of all household members. In other words, it tests the validity of using household equivalent income measures to assess the extent of economic poverty. The investigation uses a subjective well-being approach to study the nature of household arrangements in Mexico and whether these arrangements do influence the relationship between economic satisfaction and household equivalent income. In particular, the characteristics of the relationship between economic satisfaction and household equivalent income are studied for persons holding different family and breadwinning status within the household.

Because the nature of such a fundamental social institution as the family varies across countries, it is clear that the study of cross-country household arrangements is also of importance to make cross-country economic poverty comparisons.

The paper is structured as follows: Section 2 discusses from a subjective well-being approach the difference between human and economic poverty. Section 3 introduces the literature on household arrangements and links it to the study of economic poverty. Section 4 presents the database and discusses the construction of a subjective economic well-being indicator, called economic satisfaction. Section 5 deals with what is the appropriate household income variable to be used when studying economic poverty, it shows that the subjective well-being approach is useful to construct a household equivalent income measure. Section 6 studies how a person's family status is related to his or her economic satisfaction; it shows that a person's household equivalent income is not a good proxy of his or her economic poverty situation because of household arrangements in low income households. Section 7 studies how a person's breadwinning status is related to his or her economic satisfaction; it arrives to similar conclusions than section 6. Section 8 further studies the role of a person's intra-household bargaining power in his or her economic satisfaction. Section 9 presents the major conclusions from the investigation.

2. Human Poverty and Economic Poverty: The Subjective Well-Being Approach

The subjective well-being approach is based on the following six principles (Rojas, 2005a): First, it deals with the well-being as declared by the person, usually declared as an answer to a life satisfaction or happiness question; it states that this is the best way to know a person's well-being. Second, it works with the well-being of a person, rather than with the well-being of an academically defined agent; thus, it studies the well-being of a person of *flesh and blood* and *in her circumstance*.[1] Third, it recognizes that a person's well-being is essentially subjective; it necessarily passes through the subject's evaluation of his or her condition. Fourth, it accepts that the person is the authority to assess his or her well-being; because being well or not is fundamentally a subjective experience. Fifth, it accepts as correct a person's assessment of his or her well-being and then follows an inferential –bottom-up- rather than a doctrinal –top-down- methodology to identify the factors that influence a person's well-being.[2] Sixth, it calls for a transdisciplinary –or at least interdisciplinary- study of well-being, since it is difficult to seize the complexity of a person's well-being assessment from any single discipline.

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[1] There is no person without circumstance; thus, the alternative for a person is not to get rid of all cultural biases, parents, dependencies, values, goals, childhood experiences, and so on; but to substitute them for different ones.

[2] In this way, even if it sounds paradoxical, it can be said that the subjective well-being approach avoids the subjectivity and arbitrariness of the so called objective indicators of well-being. It deals with the well-being of a person as she is, and not as someone else thinks she ought to be.

With respects to poverty, the subjective well-being approach advocates a conception of poverty as a situation where a person's subjective well-being is low (Rojas, 2005b). From a subjective well-being perspective, it is possible to distinguish between human and economic poverty. The former refers to a situation where a person's subjective well-being –in its happiness or life satisfaction conceptions- is low; the later refers to a situation where a person's satisfaction with his or her economic situation is low. The distinction is based on the domains-of-life literature. This literature states that a person's life can be approached as a general construct of many specific domains; and that his or her life satisfaction can be understood as the result of his or her satisfaction in the domains of life.[3] Thus, economic satisfaction refers to just one area of a person's life and, in consequence, human poverty is a broader and more complex phenomenon than economic poverty.

It is widely accepted that economic satisfaction contributes to life satisfaction. However, economic satisfaction does not determine life satisfaction (Rojas, 2005c). Economic variables such as income and expenditure are related to economic satisfaction, but not so much to life satisfaction and happiness (Rojas, 2005d). Hence, it is possible to think about income as an adequate proxy to study economic poverty, but not to study human poverty.

Human poverty is not so strongly related to income and to other economic variables because a person's assessment of his or her well-being does take in consideration his or her satisfaction in all domains of life where persons are being human, and not only in the economic domain (Rojas, 2005a and 2005c). It is clear that there is more in life than the standard of life. In addition, there is heterogeneity in life purposes across persons and cultures. Hence factors that could be of great importance for some people may be completely irrelevant for others (Rojas, 2005e and 2005f)

Even though a person's economic satisfaction is not necessarily the main determinant of his or her life satisfaction or happiness; it is clear that it contributes to life satisfaction or happiness. In other words, abating economic poverty does have a

[3] See Cummins, 1996 and 2003; Headey and Wearing, 1992; Headey, Holmström and Wearing, 1984 and 1985; Rojas, 2005a and 2005c; Salvatore and Muñoz Sastre, 2001; Saris and Ferligoj, 1996; van Praag, Frijters, and Ferrer-i-Carbonell, 2003; van Praag and Ferrer-i-Carbonell, 2004; Rampichini and D'Andrea, 1998; and Veenhoven, 1996.

positive impact on the reduction of human poverty. Hence, it may be practical to concentrate in the study of how household arrangements do affect economic poverty.[4]

3. Household Arrangements and Intra-Household Economic Poverty

Family arrangements are crucial to the study of economic poverty, since they deal with the intra-family distribution of economic resources that generate economic satisfaction. In his work on the family Vogel (2003: p.393) states that "*In the case of the family the principle is reciprocity and an informal contract between family members concerning responsibilities for the welfare of family members. There is a contract between spouses, between parents and their children, between adults and their elderly parents, and between adults and further relatives*."

In his pioneer work on the economic approach to the study of the family, Becker (1973, 1974, and 1981) assumes that some family members -usually the head of the family- behave altruistically; while the other members of the family behave selfishly. Thus, Becker combines communitarian and individualistic characteristics within the family. He assumes that altruistic members are concerned about the well-being of the rest of the family, although not necessarily as much as they are concerned about their own well-being. In consequence, the well-being of other members is incorporated in the utility function of altruistic members. Selfish members are just concerned with their own situation, and they have no interest in the well-being of the rest of the family. The altruistic behavior of income earners do imply that the economic well-being of any family member is not closely related to his or her breadwinning status. Therefore, in a perfectly communitarian family, the household equivalent income is a good proxy of any household member's economic satisfaction; independently of his or her breadwinning and family status.

Most recent studies approach the family as a cooperative arrangement, where family members -in special, spouses and adult members- have selfish behavior; they are only concerned with their own utility and they act unilaterally. Thus, a cooperative equilibrium -a marriage or a family- emerges because it is of convenience to every household member. This approach has been called *Cooperative Bargaining Models of Family* (Lundberg and Pollak, 1993 and 1996; Manser and Brown, 1980; McElroy, 1985, 1990; Pollak, 1994 and 2002), and it explains intra-family decisions as the result

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[4] Rojas (2006) has studied how household arrangements do affect human poverty. He shows that the impact of a person's breadwinning and family status on his or her life satisfaction is negligible; and he concludes that families in Mexico do basically follow communitarian arrangements.

of a collective-choice process; which takes place on the basis of selfish and unilateral behaviors that lead to cooperative household equilibriums. Hence, family members remain in the household as long as the arrangement is in their advantage.

According to *Cooperative Bargaining Models of Family*, the distribution of bargaining power within the family influences the kind of cooperative equilibrium that emerges and the intra-household distribution of the gains from this equilibrium (Binmore, 1987). It could be possible to have some asymmetry in a member's access to the common pot (household equivalent income) on the basis of his or her bargaining power; hence, this asymmetry should reflect in his or her economic satisfaction. For example, Lundberg, Pollak, and Wales (1997) find out that an increase in a person's income raises her decision-making power within the family. This investigation tests whether an asymmetric arrangement exist on the basis of a person's breadwinning status and family status. Being a main or a secondary breadwinner within the family should provide more bargaining power, which the person could translate into a cooperative equilibrium that raises his or her economic satisfaction with respects to the rest of the family. A person's family status is another important variable associated to his or her bargaining power because of the advantages of having an internal division of labor at the household level. The internal division of labor could imply that a person –e.g.: a mother or a grandfather- may earn no income, but he or she holds substantial bargaining power because of his or her place within the family's division of labor. Hence, if family arrangements are based on cooperative bargaining models then the family, as a cooperative equilibrium, should imply greater economic satisfaction for those members who hold greater bargaining power because of their family and breadwinning status.

Rojas (2006) makes a distinction between communitarian and individualistic families on the basis of the altruistic and cooperative bargaining models. In a perfectly communitarian family a person's economic satisfaction does depend on his or her household equivalent income; and it is independent of his or her breadwinning and family status. Likewise, earning a large share of the household's income or no share at all should not matter in a communitarian/altruistic family arrangement. On the contrary, in an individualistic family, where the family emerges because a cooperative equilibrium is convenient to each member, a person's breadwinning and family status should affect his or her relative economic satisfaction. In addition, in an individualistic family the access to resources that contribute to economic satisfaction is expected to be strongly related to a person's share in the generation of his/her household income.

Thus, this paper constitutes an attempt, maybe the first, to use the subjective well-being approach to explore how household arrangements influence the relationship between economic satisfaction and household income.[5] It is clear that household arrangements do have important implications for economic poverty. It would be possible to find economically poor persons in non-economically poor families and non-economically poor persons in economically poor families if there are substantial intra-household asymmetries in the access to the economic resources that generate economic satisfaction. If this were the case then household equivalent income would not be a good proxy for each member's economic satisfaction, and poverty figures should be adjusted by these asymmetries. The subjective well-being approach can indicate how these adjustments must be made. On the other hand, if family arrangements are basically communitarian then household equivalent income is a good proxy of the economic satisfaction of all members in the household.

4. The Database

4.1 The survey

A survey was conducted in five states of central and south Mexico as well as in the Federal District (Mexico City) during October and November of 2001.[6] A stratified-random sample was balanced by household income, gender and urban-rural areas; 1540 questionnaires were properly completed, the sample size is acceptable for inference in central Mexico. It is important to remark that only adult people were interviewed; thus, economic satisfaction refers to the economic satisfaction of an adult person (18 years old and older) that lives under a specific household arrangement and who has a family and breadwinning status in that family. Hence, the economic satisfaction of children and teenagers (less than 18 years old) in the family is not considered in this investigation. Furthermore, the unit of study is the person and not the family. It would have been preferable to interview all adult members in a household; however, financial constraints did not allow constructing such a database.

4.2 The variables

The survey gathered information regarding the following quantitative and

[5] A vast literature has used so called objective indicators to study household arrangements and intra-household allocation of resources. See Bourguignon *et. al*., 1994; Carlin, 1991; Haddad *et. al*., 1997; Lazear and Michael, 1988; and Thomas, 1990, 1993a and 1993b. This research is not based on self-reported economic satisfaction measures; hence, the link between the indicators used by this kind of research and a person's well-being can not be corroborated and have to be presumed.

[6] The author expresses his gratitude to Conacyt, Mexico for a grant that supported this research.

qualitative variables:

Demographic and Social Variables: education, age, gender, civil status, household composition (age and number of household-income dependent persons), family status (father, mother, daughter or son, grandfather, other), and breadwinning status (main breadwinner, secondary breadwinner, marginal breadwinner, no breadwinner)

Economic Variables: current household income, personal expenditure, personal income.

Subjective Economic Well-Being Variables: Four satisfaction questions related to the economic domain of life were asked: How satisfied are you with your income? (*income*); How satisfied are you with what you can purchase? (*purchasing power*); How satisfied are you with your housing conditions? (*housing condition*); and How satisfied are you with your household's financial situation? (*financial situation*). Each satisfaction question had a seven-option verbal answering scale, ranging from extremely unsatisfied to extremely satisfied: extremely unsatisfied, very unsatisfied, unsatisfied, neither unsatisfied nor satisfied, satisfied, very satisfied, extremely satisfied. Satisfaction questions were handled as cardinal variables, with values between 1 and 7; where 1 was assigned to the lowest satisfaction level and 7 to the highest.

4.3 The construction of a subjective economic well-being indicator

Table 1 presents frequencies for the four subjective economic well-being variables (*income*, *purchasing power*, *housing condition* and *financial situation*). It is observed that there is a relatively high degree of dispersion in these economic-satisfaction variables.

Table 1
Frequencies for Economic Satisfaction Variables

	Income **Satisfaction**	***Purchasing Power*** **Satisfaction**	***Housing Condition*** **Satisfaction**	***Financial Situation*** **Satisfaction**
Extremely Unsatisfied	0.7	0.5	0.3	0.5
Very Unsatisfied	4.0	4.0	2.9	3.3
Unsatisfied	31.0	31.4	17.7	25.0
Neither Satisfied nor Unsatisfied	11.0	13.1	11.9	12.5
Satisfied	40.6	39.8	47.4	42.4
Very Satisfied	11.0	9.7	15.8	13.7
Extremely Satisfied	1.7	1.5	4.0	2.6
Total	100.0	100.0	100.0	100.0

It is desirable to have a single indicator for subjective economic well-being because of two main reasons: First, the four subjective economic well-being variables are highly correlated; second, a single variable simplifies the analysis. Hence, factor analysis was used to reduce the number of dimensions; the technique allows keeping as much information as possible, while it avoids the problem of duplicating its use. A principal-components technique was used to create the new *economic satisfaction* variable, and a regression method was used to calculate the factor score.

Table 2 shows the loads of each subjective economic well-being variable in the new *economic satisfaction* variable. It is clear that the new variable captures a great percentage of the information contained in the four subjective economic well-being variables, and that it is highly correlated with each one of them.

Table 2
Construction of *Economic Satisfaction* Variable
Principal Component Analysis

Subjective Economic Well-Being Variable	Load into *Economic Satisfaction* Variable
Income satisfaction	0.844
Purchasing power satisfaction	0.874
Housing condition satisfaction	0.796
Financial situation satisfaction	0.890
Percentage of variance explained by factor	72.5%

The new *economic satisfaction* variable was rescaled to a 1 to 7 basis to facilitate its manipulation and comparability. It has a mean value of 56.9 and a standard deviation of 16.6.

5. On what income proxy to use

Any study of the relationship between economic satisfaction and income must take into consideration that income is just a proxy of the capacity of a person to purchase goods and services that satisfy his or her economic needs. Therefore, any study of the relationship between economic satisfaction and income must first discuss what income variable is best for approximating a person's command over resources to satisfy his or her economic needs. People live under different household arrangements; hence, an income proxy that can be compared across different household arrangements is required. The following income proxies can be considered: Household income, personal expenditure, personal income, and family-size adjusted income measures.

Household income is limited because it does not take into consideration that families may be of different size, and that a person's purchasing capacity and consumption of goods and services depends not only on his or her household income but also on the size of his or her family. Personal expenditure and personal income do not take into consideration that because of the communitarian nature of the family a person may enjoy the consumption of goods and services even if he or she is not an income earner or a purchaser of personal goods. Household per capita income and household equivalent income do adjust for the number –and sometimes the age structure- of family members. However, household per capita income is limited because it does not take into consideration that economies of scale may exist at the household level; it also presumes equal weights for all household members, independently of their age. Household equivalent income measures do assume arbitrarily defined weights and scale economies. Rojas (2005g) uses a subjective well-being approach to estimate the degree of scale economies at the household level in Mexico; he also estimates the economic burden of additional household members of different ages. The investigation constructs a subjective well-being household equivalent income, which is shown to be superior to alternative income proxies to explain a person's economic satisfaction. The investigation finds out that the subjective well-being adult-equivalent size of a household of size S with a given composition of adults (S_{adu}), teenagers (S_{tee}), and children (S_{ch}) is given by:

$$S_{swb-eq}(S_{adu}, S_{tee}, S_{ch}) = \left(S_{adu}^{0.9076} + S_{tee}^{0.8240} + S_{ch}^{1.0404}\right)^{0.5119} \quad (1)$$

and the subjective well-being household equivalent income (Y_{swb-eq}) is:

$$Y_{swb-eq}(S_{adu}, S_{tee}, S_{ch}) = \frac{Y_{Household}}{S_{swb-eq}(S_{adu}, S_{tee}, S_{ch})} \quad (2)$$

Thus, Rojas (2005g) shows that there are substantial general economies of scale at the household level in Mexico. The economic burden increases at a decreasing rate as the number of household members increases; however, this increase in the economic burden is not similar across age groups. Children do imply a larger economic burden with respects to adults; while teenagers do imply a smaller burden.

Simple regressions with the logarithm of different incomes proxies[7] as the explanatory variable and economic satisfaction as the explained variable are run to confirm the superiority of the Y_{swb-eq}. Table 3 shows the goodness of fit of each regression, as well as the estimated coefficient and its significance test.

Table 3
Statistics from Simple Regression Analyses
Economic satisfaction as explained variable

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[7] Income is measured in Mexican pesos. One peso was added to each figure in order to avoid zero-value incomes, which would be problematic for logarithm calculations.

Explanatory Variable	R-squared	Coefficient	Prob>*t*
Ln Household Income	0.167	6.960	0.00
Ln Personal Income	0.023	0.847	0.00
Ln Personal Expenditure	0.062	3.855	0.00
Ln Household Per Capita Income	0.156	6.111	0.00
Ln Household Equivalent Income-OECD scale	0.158	6.501	0.00
Ln Household Equivalent Income-SWB scale	0.177	7.129	0.00

It is clear that the $Y_{swb\text{-}eq}$ is a superior proxy with respects to alternative proxies. Hence, the present investigation uses the $Y_{swb\text{-}eq}$ as the proxy for income in any further analysis. Table 4 provides information about the cumulative distribution of observations at different income levels.

Table 4
Cumulative Distribution of Persons in the Sample
By subjective well-being household equivalent income

SWB Household Equivalent Income	Cumulative Distribution
500	3.1%
1000	10.8%
2000	32.5%
5000	73.7%
10000	90.4%
20000	98.0%

6. Family Status and Economic Satisfaction

Six categories for family status are distinguished: *Father*, *mother*, *son*, *daughter*, *grandparent*, and *other*. Table 5 shows the distribution of persons in the sample according to their family status.

Table 5
Family Status Frequency and Corresponding Average Economic Satisfaction

Family Status	Percentage in Sample	Average Economic Satisfaction
Father	31.6	55.7
Mother	27.6	54.3
Son	18.8	61.0
Daughter	15.6	60.6
Grandparent	2.0	46.2
Other	4.4	57.3
Total number of observations	1535	

It is observed in Table 5 that there are substantial differences in average economic satisfaction across family status. These differences in average economic satisfaction could emerge because of the status itself or because of other socio-demographic and economic characteristics, which are correlated with a person's family status. Hence, the following regression is run to study the role of a person's family status on his or her economic satisfaction. A *father* status is the category of reference.

$$ES = \beta_0 + \beta_1 FS_{mother} + \beta_2 FS_{son} + \beta_3 FS_{daughter} + \beta_4 FS_{grandpa} + \beta_5 FS_{other} + \beta_6 \ln Y + \phi X_{control} + \mu \quad (3)$$

where:

ES refers to economic satisfaction, in a 1 to 100 scale

FS_{mother} is a dichotomous variable with value of one if the person has a *mother* status within the family, and a value of 0 otherwise

FS_{son} is a dichotomous variable with value of one if the person has a *son* status within the family, and a value of 0 otherwise

$FS_{daughter}$ is a dichotomous variable with value of one if the person has a *daughter* status within the family, and a value of 0 otherwise

$FS_{grandpa}$ is a dichotomous variable with value of one if the person has a *grandparent* status within the family, and a value of 0 otherwise

FS_{other} is a dichotomous variable with value of one if the person has *other* family status within the family, and a value of 0 otherwise

$\ln Y$ refers to the logarithm of the subjective well-being household equivalent income

$X_{control}$ is a vector of the following control variables (ϕ is a vector of parameters)

Education: level of education, in ordinal categories

Age: age in years

Civil status: vector of dichotomous variables, *single* is the category of reference

Table 6 shows the results from the econometric exercise. Once it is controlled by some socio-demographic and economic variables, it is observed that a person's family status does not seem to make a difference in his or her economic satisfaction. Thus, this result shows that, in general, all household members enjoy a relatively similar economic satisfaction.[8] It is also observed that economic satisfaction tends to decline with age and to increase with education and the logarithm of subjective well-being equivalent income.

Table 6
Family Status and Economic Satisfaction

	Coefficient	**Prob>*t***
Constant	8.150	.04
Mother	**-0.077**	**.94**
Son	**0.088**	**.97**
Daughter	**1.469**	**.49**
Grandparent	**-3.190**	**.29**
Other	**-2.111**	**.40**
LnY_{eq-swb}	5.537	.00

[8] There is a slight hint that *grandparents* and *other* household members have lower economic satisfaction with respects to what could be considered as the family nucleus: Father, mother, sons and daughters. However, the estimated coefficients are not statistically different from zero.

Age	-0.061	.12
Education	1.748	.00
Married	-0.692	.70
Stable partner	-3.473	.14
Separated	-3.334	.21
Divorced	-0.940	.76
Widowed	1.838	.50
R-squared: 0.218		

The relationship between economic satisfaction and household equivalent income is a main concern of this investigation. If this relationship is independent of a person's family status then there is no bias in using this person's household equivalent income to assess his or her economic poverty situation. However, if the relationship does depend on a person's family status then his or her household equivalent income must be adjusted by his or her family status in order to assess this person's economic poverty situation. Thus, the following regression is run to further explore the relevance of a person's family status in the relationship between household equivalent income and his or her economic satisfaction.

$$ES = \beta_0 + \sum_{i=1}^{5} \beta_i FS_i + \sum_{i=1}^{5} \alpha_i FS_i \ln Y + \phi X_{control} + \mu \qquad (4)$$

where:

FS_i refers to the family status, i = *mother*, *son*, *daughter*, *grandparent*, *other*.

All other variables in equation (4) have already been defined.

Table 7 shows the results from the econometric exercise.

Table 7
Family Status and Economic Satisfaction
Income interactions

	Coefficient	**Prob>*t***
Constant	0.761	.90
Mother	**7.473**	**.34**
Son	**19.772**	**.05**
Daughter	**15.238**	**.19**
Grandparent	**-10.813**	**.69**
Other	**5.265**	**.78**
***Mother*•LnY$_{eq\text{-}swb}$**	**-0.951**	**.34**
***Son*•LnY$_{eq\text{-}swb}$**	**-2.417**	**.05**
***Daughter*•LnY$_{eq\text{-}swb}$**	**-1.731**	**.22**
***Grandparent*•LnY$_{eq\text{-}swb}$**	**1.079**	**.76**
***Other*•LnY$_{eq\text{-}swb}$**	**-0.936**	**.68**
LnY$_{eq\text{-}swb}$	6.506	.00
Age	-0.061	.11
Education	1.692	.00
Married	-0.816	.65
Stable partner	-3.496	.14
Separated	-3.533	.18
Divorced	-0.887	.78
Widowed	1.965	.47

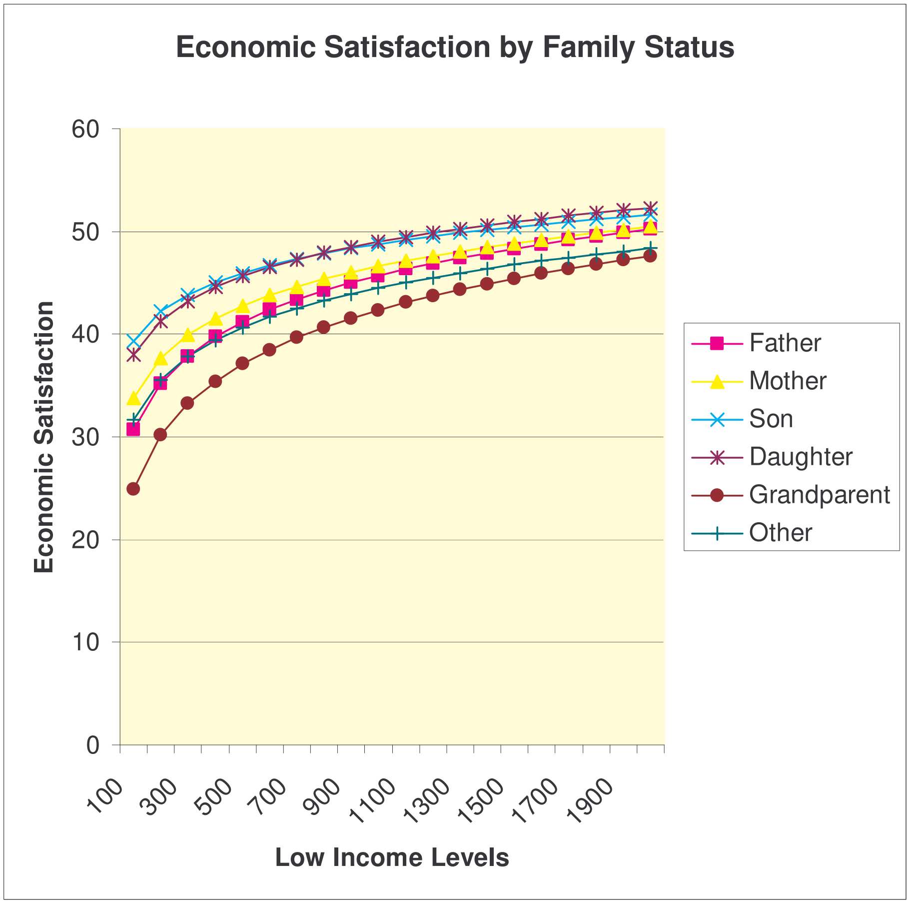
R-squared: 0.221

It is observed in Table 7 that family status does make a difference in the relationship between household equivalent income and economic satisfaction. At low $Y_{swb\text{-}eq}$ (e.g.: less than 1000 Mexican pesos per month) the economic satisfaction of sons and daughters is greater than that of other household members, in special than that of grandparents. The difference vanishes as $Y_{swb\text{-}eq}$ increases. This finding has important implications for the measurement of economic poverty: in low income households it is not correct to assume that economic satisfaction is equally low for all household members. Because adult sons and daughters do have relatively high economic satisfaction levels in low income households, then it could be possible for them to be non-economically poor persons in a presumed economically poor household. For example, a son or a daughter than lives in a household with a $Y_{swb\text{-}eq}$ of 600 Mexican pesos per month does have the economic satisfaction of a father who lives in a household with a $Y_{swb\text{-}eq}$ of 1100 Mexican pesos per month or a mother who lives in a household with a $Y_{swb\text{-}eq}$ of 1000 Mexican pesos per month.

This finding indicates that at low household income levels there is some degree of asymmetry in the intra-household distribution of resources that generate economic satisfaction. However, this asymmetry does not completely support the *cooperative bargaining models* literature, unless one is willing to assume that adult sons and daughters do have greater bargaining power than fathers and mothers. On the contrary, the finding could be associated to the practice of altruism by fathers and mothers at low income levels. The situation of *grandparents* and *other* household members in low income households seems to be consistent with what cooperative bargaining models would predict.

Graph 1 shows the relationship between economic satisfaction and $Y_{swb\text{-}eq}$ by family status for low household income levels. All control variables in regression (4) are assumed to be equal to zero.[9]

[9] This assumption affects the consumption satisfaction levels, but not the relationship between consumption satisfaction and household equivalent income by family status.



Graph 1: Economic Satisfaction and Subjective Well-Being Household Equivalent Income; by family status; for low income levels.

7. Breadwinning Status and Economic Satisfaction

The survey gathered information about a person's self-reported breadwinning status. Four categories were used: *main* breadwinner, *secondary* breadwinner, *marginal* breadwinner, and *no* breadwinner. This variable provides information about the status of the person with respects to his or her role in the generation of household income. Table 8 provides information about the breadwinning status distribution, as well as about average economic satisfaction by status.

Table 8
Breadwinning Status Frequency and Corresponding Average Economic Satisfaction

Breadwinning Status	Percentage in Sample	Average Economic Satisfaction
Main Breadwinner	46.5	55.9
Secondary Breadwinner	22.9	59.3
Marginal Breadwinner	18.0	56.2
No Breadwinner	12.6	57.7
Total number of observations	1535	

It is observed in Table 8 that differences in average economic satisfaction across breadwinning status are relatively small. These differences could emerge because of the status itself or because of other socio-demographic and economic characteristics, which are correlated with a person's breadwinning status. Hence, the following regression is run to study the role of a person's breadwinning status on his or her economic satisfaction.

$$ES = \beta_0 + \beta_1 S_B + \beta_2 M_B + \beta_3 N_B + \beta_4 \ln Y + \phi X_{control} + \mu \qquad (5)$$

where:

S_B is a dichotomous variable, with a value of 1 if the person is a *secondary* breadwinner, and a value of 0 otherwise

M_B is a dichotomous variable, with a value of 1 if the person is a *marginal* breadwinner, and a value of 0 otherwise

N_B is a dichotomous variable, with a value of 1 if the person is *no* breadwinner, and a value of 0 otherwise

All other variables have already been defined. The variable *Gender*, with a value of 1 for males and 0 for females, is added to the list of control variables. It is clear that the category of reference corresponds to a *main* breadwinner person.

Table 9 shows the results from the econometric exercise. Once it is controlled by some socio-demographic and economic variables, it is observed that there is a slight hint, although not statistically significant, that *main* breadwinners do have lower economic satisfaction with respects to other breadwinning status.

Table 9
Breadwinning Status and Economic Satisfaction

	Coefficient	**Prob>*t***
Constant	7.933	.03
***Secondary* Breadwinner**	**1.687**	**.12**
***Marginal* Breadwinner**	**1.083**	**.36**
***No* Breadwinner**	**0.992**	**.48**
$\text{LnY}_{eq\text{-}swb}$	5.470	.00
Gender	0.259	.77
Age	-0.066	.08
Education	1.797	.00
Married	-0.688	.48
Stable partner	-3.723	.05
Separated	-3.354	.16
Divorced	-0.923	.75
Widowed	1.156	.63
R-squared: 0.218		

As it was stated earlier, the relationship between economic satisfaction and household equivalent income is a main concern of this investigation. If this relationship is independent of a person's breadwinning status then there is no bias in using this person's household equivalent income to assess his or her economic poverty situation. However, if the relationship does depend on a person's breadwinning status then his or her household equivalent income must be adjusted by his or her breadwinning status in order to assess this person's economic poverty situation. Thus, the following regression is run to further explore the relevance of a person's breadwinning status in the relationship between household equivalent income and his or her economic satisfaction.

$$ES = \beta_0 + \beta_1 S_B + \beta_2 M_B + \beta_3 N_B + \beta_4 S_B \ln Y + \beta_5 M_B \ln Y + \beta_6 N_B \ln Y + \beta_7 \ln Y + \phi X_{control} + \mu \quad (6)$$

where all variables have previously been defined.

The category of reference in regression (6) is a person who is the *main* breadwinner in the family. Thus, parameters β_1, β_2, and β_3 must be interpreted as the economic satisfaction difference that exists in a household with very low equivalent income ($Y_{swb\text{-}eq} = 1$) between the *secondary*, *marginal*, and *no* breadwinner status and the *main* breadwinner, respectively. Parameter β_7 shows the relationship between the logarithm of household income and economic satisfaction for the *main* breadwinner; while parameters β_4, β_5, and β_6 indicate whether there is a difference in the relationship between the *main* breadwinner and the *secondary*, *marginal* and *no* breadwinner persons, respectively.

Table 10 shows the results from the econometric exercise.

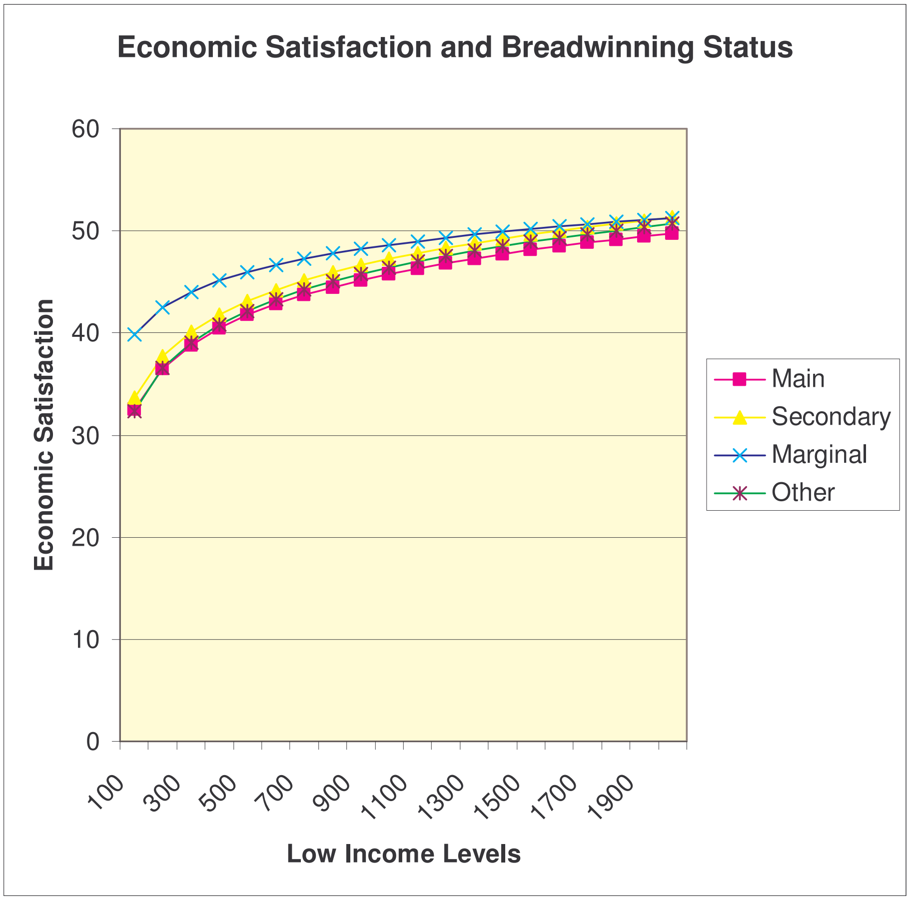
Table 10
Breadwinning Status and Economic Satisfaction
Income interactions

	Coefficient	Prob>*t*
Constant	5.894	.21
***Secondary* Breadwinner**	**0.532**	**.95**
***Marginal* Breadwinner**	**16.412**	**.06**
***No* Breadwinner**	**-1.824**	**.87**
$\mathbf{LnY_{eq\text{-}swb}}$	**5.774**	**.00**
***Secondary* Breadwinner•$\mathbf{LnY_{eq\text{-}swb}}$**	**0.134**	**.90**
***Marginal* Breadwinner•$\mathbf{LnY_{eq\text{-}swb}}$**	**-1.963**	**.07**
***No* Breadwinner•$\mathbf{LnY_{eq\text{-}swb}}$**	**0.359**	**.80**
Gender	0.390	.66
Age	-0.072	.05
Education	1.760	.00
Married	-0.835	.39
Stable partner	-3.969	.04
Separated	-3.468	.15
Divorced	-1.102	.71
Widowed	1.043	.66
R-squared: 0.22		

It is observed in Table 10 that *marginal* breadwinners do show a different relationship between household equivalent income and economic satisfaction with respect to other breadwinning status This implies that at low $Y_{swb\text{-}eq}$ (e.g.: less than 1000 Mexican pesos per month) the economic satisfaction of *marginal* breadwinners is greater than that of other household members. This difference vanishes as $Y_{swb\text{-}eq}$ increases. As it happened with family status, this finding corroborates that it is not correct to assume that economic satisfaction is equally low for all household members in low income households. The implications for economic poverty measurement, as well as for the *cooperative bargaining family models* have already been discussed in the case of family status. For example, a *marginal* breadwinner in a household with a $Y_{swb\text{-}eq}$ of 600 Mexican pesos per month does have the economic satisfaction of a *main* breadwinner who lives in a household with a $Y_{swb\text{-}eq}$ of 1200.

Graph 2 shows the relationship between economic satisfaction and $Y_{swb\text{-}eq}$ by breadwinning status for low household income levels. All control variables in regression (4) are assumed to be equal to zero.[10]

[10] This assumption affects the consumption satisfaction levels, but not the relationship between consumption satisfaction and household equivalent income by family status.



Graph 2: Economic Satisfaction and Subjective Well-Being Household Equivalent Income; by breadwinning status; for low income levels.

8. Share in household income

Section 7 worked with a self-reported breadwinning status to explore whether there is a difference in the relationship between economic satisfaction and household equivalent income on the basis of a person's breadwinning status within the family. The same issue can be addressed on the basis of a person's share in his or her household income. Let's define a person's share as the ratio of his or her personal income over his or her household income:

$$S_{per/H} = Y_{per} / Y_H \tag{7}$$

Table 11 provides some basic statistics for $S_{per/H}$. It is observed that the mean value for the share of a person's income in his or her household income is 0.58. Twenty percent of people in the survey do have a share of 0, meaning that they make no contribution to their household's income. On the other hand, 37 percent of people in the survey have a share of 1, which means that they earn the totality of their household's income.

Table 11 Descriptive Statistics Share of Personal Income in Household Income	
Range	**Percentage**
$S_{per/H} = 0$	19.7
$0.50 \geq S_{per/H} > 0$	24.7
$1.0 > S_{per/H} > 0.50$	18.5
$S_{per/H} = 1.0$	37.1
Mean value	0.58

Cooperative bargaining family models would state that a larger share is associated to greater bargaining power within the household and, in consequence, with a more favorable cooperative equilibrium. Thus, if breadwinning status matters, then a person's economic satisfaction should rise as his or her share of personal income in household income increases.

The following regression is run to study whether a person's economic satisfaction is related to his or her share in the generation of household income:

$$ES = \varphi_0 + \varphi_1 \ln Y + \varphi_2 S_{per/H} + \omega X_{control} + \mu \qquad (12)$$

All variables in regression (12) have already been defined. Table 12 shows the estimated parameters.

Table 12 Breadwinning Status and Economic Satisfaction		
	Coefficient	**Prob>*t***
Constant	5.119	.17
Share in Household Income	0.901	.40
$LnY_{eq\text{-}swb}$	6.056	.00
Gender	-0.590	.48
Age	-0.079	.03
Education	1.641	.00
Married	-1.085	.26
Stable partner	-3.753	.05
Separated	-3.746	.12
Divorced	-1.529	.60
Widowed	0.931	.70
R-squared: 0.22		

It is observed that a person's economic satisfaction slightly increases as his or her share in the generation of household income increases; however, this increase is not statistically different from zero. Thus, from a statistical point of view, a person's share in the generation of household income does not make a difference in his or her economic satisfaction.

9. Conclusions

This paper has discussed that the subjective well-being approach can be useful to understand how household arrangements influence the extent of economic and human poverty. From a subjective well-being approach human poverty is understood as a situation where a person has very low life satisfaction or happiness; while economic poverty refers to a situation of low economic satisfaction. A person's economic satisfaction is an important, although not determinant, component of a happy life; thus, the abatement of economic poverty may imply the lessening of human poverty. However, it is not only important to reduce economic poverty, but to do it in a way that does not distress human poverty. Thus, the strategy to reduce economic poverty does matter for human poverty.

The investigation has shown that the use of a person's household equivalent income to assess his or her economic poverty situation is limited. This paper concludes that:

A person's economic satisfaction associated to his or her given household equivalent income changes on the basis of his or her family status. It was found that adult sons and daughters have greater economic satisfaction than other household members in low income households. Some degree of intra-household altruistic behavior by fathers and mothers on benefit of their sons and daughters could partially explain this finding. On the other hand, grandparents in the household tend to attain less economic satisfaction from a given income in low income households.

A similar result is found when a person's breadwinning status is considered. Marginal breadwinners do have greater economic satisfaction than other household members in low income households.

These findings have important implications for the classification of a person as economically poor or not, and for the national assessment of the extent of economic poverty. Because of the nature of household arrangements in Mexico, a person living in a low-income household could enjoy relatively high economic satisfaction levels; while other persons living in mid-income households could have very low economic satisfaction levels. Hence, in Mexico a person's household equivalent income is not a good proxy of his or her economic poverty situation.

Other important findings from the investigation indicate that education plays an important role in increasing a person's economic satisfaction given a household equivalent income. In other words, it could be stated that education does increase the economic satisfaction productivity of a given household income. Highly educated people do have greater economic satisfaction than uneducated people, even at low income levels. The role of education in increasing economic satisfaction given a household equivalent income needs further study; it seems that education tends to improve a person's consumer skills in Scitovsky's sense.

Economic satisfaction also declines with age. Thus, an elder person could be economically poor and a younger person not even if their household equivalent income is the same.

It is possible to conceive adjustments to household equivalent income measures that take into consideration a person's breadwinning and family status, as well as his or her education and age. In this way it would be possible to have a new household equivalent income measure that better reflects a person's economic satisfaction. The subjective well-being approach is useful to provide criteria about how these adjustments must be made. The alternative is to directly use the subjective well-being approach to assess economic and human poverty.

Furthermore, it has been found that the explanatory power of the group of socioeconomic and demographic variables under consideration (household equivalent income, age, education, gender, civil status, breadwinning and family status) do explain no more than a quarter of the variability in economic satisfaction. Thus, these variables do not contain enough information to be good proxies of a person's economic satisfaction, and more research is needed to understand it.

The family is a fundamental institution in any society; however, its nature varies across cultures. Some cultures may have more communitarian –and even altruistic- family arrangements, while other cultures may have more individualistic family arrangements, which are based on a cooperative equilibrium. The nature of these household arrangements does matter for the assessment of economic poverty in a country and for the comparison of poverty measures across cultures. The subjective well-being approach has proven to be useful to study these household arrangements and to overcome the cross-culture comparison limitations they do imply.

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