Part III

Advancing Quality of Life for Selected Population Groups

Communitarian versus Individualistic Arrangements in the Family: What and Whose Income Matters for Happiness?

MARIANO ROJAS

"In the case of the labour market the distribution of resources is based on competition and individual performance. The welfare states' redistribution is focused at solidarity between citizens. 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." Vogel (2003: p. 393)

1. Introduction

The relationship between income and happiness has been widely studied. Most cross section studies find out that a statistically significant but weak relationship between income and happiness does exist. Different variables are used as proxies for income in these studies, being the availability of information a binding constraint. Most studies work with household income, but the use of personal income and adjusted household income is also common in the literature. A recent study (Hsieh, 2004) compares how different income variables—household income, per-capita income, and equivalent income—affect financial satisfaction in older adults in the United States. Hsieh finds out that equivalent and per-capita income are better income predictors of financial satisfaction than family income.

This paper uses information about household income, personal income, personal expenditure, and adjusted household income to study what income proxy better relates to a person's happiness. Household income refers to the aggregate income earned by all persons who live in the same household as the person whose happiness is being studied. Personal income refers to the income earned only by the person under study. Personal expenditure refers to total spending in personal goods made by the person under study. Adjusted household income is calculated on the basis of household per capita income—household income divided by the total number of household members—and equivalent income—a concept that takes into account the existence of economies of scale as the number of household members increases.

R.J. Estes (ed.), Advancing Quality of Life in a Turbulent World, 153–168.

There are substantial differences with respects to Hsieh's paper. First, the investigation deals with happiness rather than with financial satisfaction; it is widely accepted that happiness is a better approximation to a person's well-being than financial satisfaction. Second, it incorporates other proxies for income, such as personal income and personal expenditure. Third, it is not limited to elder people. Fourth, the study is made in Mexico, a country with different cultural and family patterns than the United States. Fifth, it also studies the importance that a person's breadwinning status has in the relationship between income and happiness. Thus, this paper deals with what and whose income matters for happiness.

Furthermore, the paper explores the important implications that the use of alternative income proxies have with respects to our conception about living arrangements within the family.[1] For example, the use of household income assumes that a person's happiness is related to the purchasing power of her family, and that this person's happiness is independent of her breadwinning and family status. In other words, it is assumed that household income is a common pot from which every member of the family can equally benefit. Thus, if household income is relevant in explaining a person's happiness then it is possible to state that there are communitarian arrangements within the family.

On the other hand, the use of personal income to explain a person's happiness assumes that what matters is the income that this person generates, and that this person's happiness does not depend on the conditions of her family nor on her status within the family. If this were the case, it could be stated that living arrangements within this person's family are basically individualistic.

In consequence, the study of what and whose income matters for happiness provides useful insights to a vast literature on family living arrangements. The traditional view approaches the family as a communitarian group; where income, time, and other resources are pooled together, and all family members equally benefit from the household's resources.[2] The intra-family allocation of the scarce resources is not dominated by self-centred considerations. No family member takes advantage of his or her status to attain greater happiness by influencing the intra-family allocation of resources. Therefore, household income -rather than personal income- better explains a person's happiness in a communitarian family. In addition, her happiness and her benefits from household income are not related to her specific breadwinning status within the family.

In his pioneer work on the economic approach to the study of the family, Becker (1973, 1974, 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. Becker 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—and, 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. Therefore, personal income should be a relevant explanatory variable for happiness in the case of non-altruistic family members; while household income should be a more relevant explanatory variable for the altruistic members.

The recent literature approaches the family as a cooperative arrangement, where family members—in special, spouses—have selfish behaviour (they are concerned just about their own utility) and act unilaterally. A cooperative equilibrium (a marriage or a family) emerges because it is in the interest of every member. This approach has been called *Cooperative Bargaining Models of Family* (Manser and Brown, 1980; McElroy, 1985, 1990; Lundberg and Pollak, 1993 and 1996; Pollak, 1994, 2002), and it explains intra-family decisions as the result of a collective-choice process; which takes place on the basis of selfish and unilateral behaviours that leads to cooperative household equilibriums. Hence, family members remain in the household as long as the arrangement is in their advantage. This approach implies that personal income—and personal expenditure—should be better explanatory variables of a person's happiness rather than her household income.

In consequence, the study of what income variable better relates to a person's happiness has important implications for the validity of different approaches to the study of the family.

It is important to state that the vast literature on family arrangements emphasizes the consumption side of living arrangements, and sometimes other areas such as women incorporation into the labour force (Edmonds *et al.*, 2004). There are not previous studies that emphasize the happiness side of family living arrangements; which is an important issue because happiness is an ultimate goal, while consumption is just an instrumental goal.

Furthermore, those studies that emphasize the consumption side of living arrangements usually conclude that household income—as an indicator of a person's access to economic resources—tends to exhaust as the number of members in the household increase. Therefore, household per-capita income and household equivalent income—which adjust household income by the family's size and its age structure—are used on the basis that they better relate to the well-being of household members. Happiness can be used as a proxy for well-being in order to test what income variable better relates to well-being and, in consequence, to study the degree of depletion of material resources as family size and age structure change.

In addition, even if families have communitarian arrangements, it could still be possible to have some asymmetry in a member's access to the common pot (household income) For example; Lundberg *et al.* (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. The family would become a perfect communitarian group if breadwinning status does not make a difference in the relevance of household income as an explanatory variable for happiness.

Thus, this paper constitutes a first attempt to get inside the black box of the household's income-happiness relationship. The paper is structured as follows. Section 2 discusses the database and the variables used in the empirical analysis. Section 3 studies the relationship between income and happiness. Section 4 deals with what income variable is more relevant in explaining a person's happiness; it also discusses the degree of communitarian arrangements within the family, as well as whether there is a depletion of household income in the generation of happiness as the size of the family increases. Section 5 studies whether a member's breadwinning status within the family has an impact on her access to the family's material resources for her happiness pursue. Section 6 presents some general conclusions from the investigation.

2. The Database and List of Variables

A survey was conducted in five states of central and south Mexico[3] as well as in the Federal District (Mexico City) during October and November of 2001. A stratified-random survey was designed to gather the information. The survey was balanced by household income, gender, and urban-rural areas. The sample size is acceptable for inference in central Mexico; 1540 questionnaires were properly completed.

The survey gathered information regarding the following quantitative and qualitative variables:

Demographic variables. Education, gender, age, civil status, family size, age structure, number of household-income dependants, and breadwinning status.

Socio-economic variables. Twenty-four questions were asked to gather information about housing conditions, ownership of durable goods, and access to public services. Three variables that describe the socio-economic position of a person were constructed on the basis of principal-components technique: Soc_1 relates to ownership of commodities such as computer, microwave ovens, and cable/satellite TV, as well as house size (measured by number of bedrooms and number of lights). Soc_2 relates to access to public services such as running water, sewage, and electricity. Soc_3 relates to variables that describe the situation in the neighbourhood, such as quality of public transport, streets, public lighting, and security.

Economic variables. Current household income, personal income, and personal expenditure in thousands of Mexican pesos.

Happiness. A seven-option scale was used. A question of the form "Taking everything in your life into consideration, how happy are you?" was asked. The following are the scale's answering options: *extremely happy*, *very happy*, *happy*, *somehow happy*, *neither happy nor unhappy*, *unhappy*, and *very unhappy*. Happiness is handled in a 1 to 7 scale; where 1 was assigned to the lowest level of happiness and 7 to the highest. It is treated as a cardinal variable.[4]

3. On the Relationship between Happiness and Income

First of all, it is important to state that income, independently of how it is measured, is not a crucial variable in the explanation of happiness. Numerous investigations have dealt with the relationship between economic variables and happiness (Douthitt *et al*., 1992; Diener *et al*., 1993; Diener, 2002; Diener and Oishi, 2000;

Table 1. Happiness and income* simple regression—two specifications for income.

	Linear specification		Log-income specification	
	Coefficient	Prob > t	Coefficient	Prob > t
Intercept	5.3	.000	5.0	.000
Income	.0125	.000	.212	.000
R-squared	.020		.045	

Note: * Household income is used as a proxy for income in these regressions.

Diener and Suh, 1997; Frey and Stutzer, 2000; Fuentes and Rojas, 2001; Easterlin, 1974, 1995, 2001) The finding of a weak or non-existent relationship between income and happiness in cross-section studies is common in this literature.

Thus, income is not a very important resource in the generation of happiness. However, its relevance is larger at low income levels; thus, a logarithmic measure of income provides better goodness of fit than a linear approximation. Two simple regressions are run in order to explore this issue. Table 1 shows the results from the analysis.

Table 1 shows that: First, the logarithm of income provides a better goodness of fit than the absolute income value. In consequence, the impact of income on happiness declines as income increases. Second, the relationship between income and happiness is weak; income alone—in its logarithm specification—explains less the 5% of the variability in happiness. Third, the relationship between income and happiness is positive and statistically significant; however, an increase of about 500% in income is be required to increase happiness in just one category (in a 1–7 scale)

Thus, even though income is not a crucial variable in the explanation of happiness, it still has a positive and statistically significant relationship with happiness. Hence it is of interest to study what proxy for income performs better.

4. What Income Matters?

4.1. Proxies for Income

Income is a general concept associated to a person's command over resources that are useful to purchase goods and services. It is possible to conceive different proxies for this concept. Each proxy implies important conceptual assumptions and has different empirical consequences. Five different proxies for income—all measured in monthly terms—are considered in this investigation:

a. Household income (Y_H): refers to the aggregate income earned by all persons living in the same household.[5]
b. Personal income (Y_{pers}): refers to the income earned exclusively by the person under consideration.
c. Personal expenditure (Y_{exp}): refers to the expenditure made by the person in goods and services for his or her exclusive consumption.

d. Household per-capita income ($Y_{\text{H-pc}}$): refers to the ratio of household income over the total number of members in the household. It is a measure of average income within the household.
e. Household equivalent income ($Y_{\text{H-eq}}$): This concept is based on two main assumptions: First, that there are scale economies as the number of household members increases. In other words, adding a second or a third adult to the household does not represents as much a burden as the first member. Up to a certain degree, many household items can be shared, with no exclusion and little rivalry among family members. Second, children and adolescents do not represent as much a burden as adults. Thus, different weights are assumed for the first adult and for the rest of adults in the house, as well as for children and adolescents. This investigation uses the weight criteria followed by the Organisation for Economic Cooperation and Development (OECD), where the first adult is set at 1.0, other adults at 0.7, and children and adolescents at 0.5.[6]

Table 2 presents the correlation matrix for the five income proxies used in this investigation. It is observed that the correlation coefficient is very high for the household per-capita and equivalent incomes. Correlations are relatively low for the personal income and the household per-capita and equivalent incomes. Household income is correlated with all other proxies, but correlation coefficients are not extremely high.

4.2. Is the Family a Communitarian Group?

It is possible to study the degree of communitarian arrangements within the family on the basis of the relationship between happiness and the different proxies for income. The aggregate income of her group should be the relevant explanatory variable for a person's happiness if the group is communitarian; while her personal income should be the relevant explanatory variable if the group is individualistic. Thus, in a perfectly communitarian family, a member's happiness is associated to her household's income, but not to her personal income. In other words, in a communitarian family a member's happiness better relates to household income, rather than to personal income. On the contrary, in an individualistic family, a member's happiness does not relate to her household's income, but only to her personal income.

Therefore, the issue demands for a comparison of the impact of household income (Y_{H}) and personal income (Y_{pers})—or personal expenditure (Y_{exp})—on a person's happiness. It is clear that a communitarian living arrangement should not be

Table 2. Correlation matrix alternative income proxies.

	Y_{H}	Y_{exp}	Y_{pers}	$Y_{\text{H-pc}}$	$Y_{\text{H-eq}}$
Y_{H}	1.000	.671	.578	.752	.731
Y_{exp}	.671	1.000	.564	.684	.664
Y_{pers}	.578	.564	1.000	.355	.399
$Y_{\text{H-pc}}$	.752	.684	.355	1.000	.992
$Y_{\text{H-eq}}$	.731	.664	.399	.992	1.000

associated to an equal distribution of material resources (household income) among all family members, since not all family members require the same resources for their happiness. Family members may require different material goods and services because of different life purposes, life situations, and personalities. Thus, what really matters for the family being a communitarian institution is that its members are not restricted by their personal income nor by their family status in their happiness pursue.

The following regression was run to study whether the Mexican families can be considered as communitarian:

$$H = \alpha_0 + \alpha_1 \ln Y + \delta X_{\text{control}} + \mu \quad (1)$$

where:
H refers to happiness
Y refers to a proxy for income
X_{control} is a vector of the following control variables (δ is a vector of parameters)
Gender: 1 for male, 0 for female
Education: level of education
Age: age in years
Civil status: vector of dichotomous variables, *single* is the category of reference
Socioeconomic variables: Soc_1, Soc_2, Soc_3, explained in section 2.

Three proxies for income were used: household income (Y_H)—which is relevant in communitarian family arrangements, personal income (Y_{pers}), and personal expenditure (Y_{exp})—which are relevant in individualistic family arrangements. Table 3 presents the estimated coefficients for each income proxy.

Results from the exercise show that the relevant variable for explaining a person's happiness is not her personal income nor her personal expenditure, but her household income. Controlling for other socio-economic and demographic variables, an increase of a 100% in a person's household income tends to increase her happiness in one tenth of a category. As it is expected with income, the impact on happiness is relatively small, but it is statistically significant. On the other hand, the impact of a person's personal income and personal expenditure on happiness is

Table 3. Happiness and income relationship different proxies for income.

	Proxy for income		
	Household income (Y_H)	Personal income (Y_{pers})	Personal expenditure (Y_{exp})
Ln. Income Coefficient (α_1)	.099	.005	.005
Prob. $> t$	.001	.554	.844
R-squared	.094	.093	.084

Specification for each regression:

$$H = \alpha_0 + \alpha_1 \ln Y + \delta X_{\text{control}} + \mu$$

Control variables: age, gender, education level, civil status, and socio-economic indices. The estimated δ coefficients are not shown in the table.

negligible and statistically non different than zero. Thus, the happiness benefits from household income are shared by all household members and, in consequence, Mexican families follow communitarian arrangements.

In addition, the non relevance of personal income indicates that there is substantial altruism within the family; income earners do not obtain any extra-happiness benefit. All income goes to a common pot, and no family member is excluded from the happiness benefits of household income on the basis of his or her lack of contribution.[7]

4.3. *Is there a Depletion of Household Income?*

From a happiness perspective, household income is a common pot from which all family members can benefit if there is a communitarian arrangement in the family. However, a communitarian family may still face the problem of depletion of resources. The material resources that a household income provides have to be shared by a larger number of members as family size increases. Hence, for a given household income, it could be more difficult for a family member to obtain the same happiness in larger than in smaller families. In other words, there could be family-size depletion effects on the household's common pot. The existence of a depletion effect can be explored with the use of family-size adjusted incomes. This investigation uses two adjusted measures, the household per-capita income ($Y_{\text{H-pc}}$), which takes into consideration the number of household members; and the household equivalent income ($Y_{\text{H-eq}}$), which encompasses the existence of scale economies in family size and also adjusts for the family's age structure.

Regression (1) was run to test for the existence of depletion effects in the impact of household income on a person's happiness as her household size increases. Three proxies for income were used: Household income (Y_{H}), household per-capita income ($Y_{\text{H-pc}}$), and household equivalent income ($Y_{\text{H-eq}}$). Table 4 shows the results from the analysis.

It is clear that a person's happiness is related to her household income; the coefficient is statistically different than zero when household income is considered. On the other hand, a person's happiness is not related—in a statistically

Table 4. Happiness and income relationship different proxies for income.

	Proxy for income		
	Household income (Y_{H})	Household per-capita income ($Y_{\text{H-pc}}$)	Household equivalent income ($Y_{\text{H-eq}}$)
Income coefficient (α_1)	.099	.035	.028
Prob. > t	.001	.189	.311
R-squared	.094	.090	.090

Specification for each regression:

$$H = \alpha_0 + \alpha_1 \ln Y + \delta X_{\text{control}} + \mu$$

Control variables: age, gender, education level, civil status, and socio-economic indices. The estimated δ coefficients are not shown in the table.

sense—to adjusted income measures such as household per-capita and equivalent incomes. Thus, a person's happiness is related to her household income, and this is independent of the number of family members and of their age structure. This result indicates that from a happiness perspective there are no significant depletion effects associated to a larger family size nor to a change in its age structure.[8]

There are two potential explanations to this interesting finding. First, there could be substantial family-size scale economies at the household level, and this economies are not fully captured by adjusted income measures such as the household per-capita and equivalent incomes. It seems that in the generation of happiness there is little intra-family rivalry in the use of a household's material resources.[9] Second, happiness is not only related to a person's access to material resources (consumption), but also to a person's access to affective intra-family resources. A larger family may imply less access to material resources, but it may also imply more access to affective intra-family resources. The affective effects may compensate—and could even overcome—the material effects of larger families; thus, a person's happiness is not smaller—and could even be greater—in a larger family, even if household income remains constant.[10]

In conclusion, because of communitarian arrangements in the Mexican family, household income is the best income proxy in the study of a person's happiness in Mexico. The remaining sections of the paper will use household income as the income proxy.

5. Whose Income Matters?

In a communitarian family it should not matter who the source of income is or how much a person contributes to the total household income. In other words, a person's happiness should not depend on his or her breadwinning status or on his or her share of the household income. Being the main breadwinner, a secondary breadwinner, a marginal breadwinner, or even no breadwinner at all should not matter for the access to the family resources that contribute to happiness. Likewise, earning a large share of the household's income or no share at all should not matter. On the contrary, in an individualistic family the access to resources that contribute to happiness is expected to be strongly related to a person's share in the generation of his/her household's income; as well as on his/her breadwinning status.

5.1. Happiness and Breadwinning Status

The survey gathered information about a person's breadwinning status. Four categories were created: main breadwinner, secondary breadwinner, marginal breadwinner, no breadwinner. This is a self-reported categorical variable; which provides information about the status of the person with respects to his/her role in the generation of household income. Table 5 provides information about the breadwinning status distribution, as well as about average happiness by status.

Table 5. Breadwinning status frequency and corresponding average happiness.

Breadwinning status	Percentage in sample	Average happiness
Main breadwinner	46.4	5.36
Secondary breadwinner	23.0	5.46
Marginal breadwinner	18.0	5.46
No breadwinner	12.6	5.33

It is observed in Table 5 that there is little difference in average happiness across breadwinning status.

The following regression was run to study whether a person's breadwinning status makes a difference in his or her happiness, as well as on his or her capacity to obtain happiness from variations in her or his household income.

$$\begin{aligned} H \;=\; & \beta_0 + \beta_1 S_{\mathrm{B}} + \beta_2 M_{\mathrm{B}} + \beta_3 N_{\mathrm{B}} + \beta_4 \ln Y_{\mathrm{H}} + \beta_5 S_{\mathrm{B}} \ln Y_{\mathrm{H}} \\ & + \beta_6 M_{\mathrm{B}} \ln Y_{\mathrm{H}} + \beta_7 N_{\mathrm{B}} \ln Y_{\mathrm{H}} + \phi X_{\mathrm{control}} + \mu \end{aligned} \tag{2}$$

where:
H refers to happiness
$\ln Y_{\mathrm{H}}$ refers to the logarithm of household income
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 not a breadwinner, and a value of 0 otherwise.
X_{control} is a vector of the following control variables (ϕ is a vector of parameters)

Gender: 1 for male, 0 for female
Education: level of education
Age: age in years
Civil status: vector of dichotomous variables, *single* is the category of reference
Socio-economic variables: Soc_1, Soc_2, Soc_3, explained in section 2.

The category of reference in regression (2) 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 happiness difference between the secondary, marginal, and no breadwinner position and the main breadwinner, respectively. These parameters are useful to test whether there exists a happiness difference across persons which is explained only by their breadwinning status. Parameter β_4 shows the relationship between household income and happiness for the main breadwinner; while parameters β_5, β_6, and β_7 indicate whether there is a difference in the happiness—household income relationship between the main breadwinner and the secondary, marginal and no breadwinner persons, respectively.

In a communitarian family, a person's breadwinning status should not influence his or her access to the family's material resources. Thus, as household income increases, the increase in happiness should be similar to any member in the family, independently of his or her breadwinning status. In consequence, if the family is a communitarian organization then parameters β_5, β_6, and β_7 should be no different than zero. Furthermore, a person's breadwinning status should not influence his or her access to all family's resources. Thus, parameters β_1, β_2, and β_3 should also be no different than zero.

Table 6 presents the results from regression (2). First, it is observed that a person's breadwinning status does not make a difference with respects to his or her happiness. There are not statistically significant differences between the happiness of a main breadwinner and the happiness of a secondary, marginal or no breadwinner person. However, it seems that marginal breadwinners have greater happiness than secondary breadwinners.

In addition, the impact of income on happiness is small but statistically different than zero. For a main breadwinner, as household income increases in 100%, his or her happiness increases in almost a tenth of a category. It is observed that the impact of household income on happiness is not statistically different when a secondary, marginal or no breadwinner person is considered. Thus, as household income increases, the happiness of any family member increases in a similar way, independently of his or her breadwinning status. This finding is consistent with a communitarian family.

5.2. *Share in Household Income*

Section 5.1 worked with a self-reported breadwinning status to explore whether there is a difference in the relationship between happiness and household income on the basis of a person's breadwinner status within the family. The same issue can

Table 6. Happiness and income breadwinning status.

Variable	Coefficient	Prob $> t$
Secondary breadwinner (*SB*)	−.500	.41
Marginal breadwinner (*MB*)	.466	.42
No breadwinner (*NB*)	.083	.91
$\ln Y_H$	.096	.02
$\ln Y_H * SB$	.060	.38
$\ln Y_H * MB$	−.044	.52
$\ln Y_H * NB$	−.023	.79

Regression is based on equation (2).
Control variables: age, gender, education level, civil status, and socio-economic indices. The estimated ϕ coefficients are not shown in the table.
R-squared: 0.098.

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:

$$S_{\text{per/H}} = \frac{Y\text{per}}{Y_{\text{H}}}$$

Table 7 provides some basic statistics for $S_{\text{per/H}}$. It is observed that the mean value for the share of a person's income in his or her household income is 0.56. 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, 35% of people in the survey have a share of 1, which means that they earn the totality of their household's income.

If breadwinning status matters, then a person's happiness should rise as his or her share of personal income in household income increases.

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

$$H = \varphi_0 + \varphi_1 \ln Y_{\text{H}} + \varphi_2 S_{\text{per/H}} + \omega X_{\text{control}} + \mu \tag{3}$$

All variables in regression (3) have already been defined. Table 8 shows the relevant estimated parameters.

It is observed that a person's happiness slightly declines as his or her share in the generation of household income increases; however, this decline is not statistically different from zero. Thus, from a statistical point of view, a person's share in

Table 7. Descriptive statistics share of personal income in household income.

Range	Percentage
$S_{\text{per/H}} = 0$	20.5
$0.50 \geq S_{\text{per/H}} > 0$	25.8
$1.0 > S_{\text{per/H}} > 0.50$	19.3
$S_{\text{per/H}} = 1.0$	34.4
Mean value	0.56

Table 8. Happiness and income personal share in household income.

Variable	Coefficient	Prob > t
$\ln Y_{\text{H}}$	.085	.01
$S_{\text{per/H}}$	−.056	.41

Regression is based on equation (3).
Control variables: age, gender, education level, civil status, and socio-economic indices. The estimated ω coefficients are not shown in the table.
R-squared: 0.095.

the generation of household income does not make a difference in his or her happiness. This result strengthens the general argument that from a happiness perspective Mexican families are basically communitarian.

6. Conclusions

This investigation has used self-reported happiness, as well as the emerging literature on subjective well-being and economics, to test some hypothesis about family arrangements. In addition, it provides useful conclusions about what income variable is more relevant to the study of a person's happiness.

The literature on living arrangements within the family has usually focused on consumption as a proxy for a person's well-being. However, consumption is not a good proxy for well-being because there is much more in life than the standard of life. Hence, family arrangements should be judged on the basis of a good proxy for well-being; this investigation has used a person's self-reported happiness.

It was found that neither personal income nor personal expenditure are the relevant variables in explaining a person's happiness, but his or her household income. This result indicates that Mexican families are organised on the basis of a communitarian arrangement, rather than an individualistic or bargaining arrangement. In addition, it was shown that a person's relationship between household income and happiness is not affected by the size of her family or by its age structure. Thus, no depletion effects associated to larger family sizes and compositions are found in Mexican families. This finding may occur because of substantial scale and scope economies in the use of material resources at the family level; another possible explanation is based on the existence of positive affective effects as the family size increases.

Furthermore, the study found that a person's increase in happiness as household income rises is independent of his or her breadwinning status. This finding is consistent with the existence of communitarian arrangements within the family.

Thus, with respects to the Mexican data, it seems that household income is the best income proxy to study a person's happiness. However, this result should not be extended to other regions, since it is contingent of the country's culture and family arrangements. More cross-country comparative research is needed. Future research would also benefit from the use of panel—rather than cross-section—data; as well as from databases that use the family—all members—as subjects of study.

Notes

1. Strauss and Thomas (1995) discuss whether the household extends beyond a residential unit or whether it is limited to those persons that occupy the same physical residence. This investigation uses a same-residence occupancy definition, and it uses the terms household and family as synonymous.
2. The family is seen as an institution that provides a large vector of services to its members; for example: coping with risk, providing unemployment insurance, taking advantage of

specialization and division of labour, pooling resources and taking advantage of scale and scope economies, modifying labour supply, and so on (Benjamin, 1992; Rosenzweig, 1988; Strauss and Thomas, 1995; Thomas, 1990; Vogel, 2003).

3. The states included in the survey are: Oaxaca, Veracruz, Puebla, Tlaxcala and the State of Mexico. The survey was applied in both rural and urban areas.
4. Ferrer-i-Carbonell and Frijters (2004) have shown that there are not significant differences in the results when happiness is treated as a cardinal rather than as an ordinal variable.
5. In this research, all household occupants are considered as family members. Cultural patterns in Mexico justify the use of an extended definition for the family; which goes beyond the typical nucleus of father, mother, and children. Grandparents, uncles, aunts, nephews, nieces, cousins, and so on, may also be considered as members of the family as long as they live under the same roof. Thus, the investigation works with an extended conception of the family.
6. Notice that the relevance of the equivalence scale used by the OECD can be tested on the basis of the relevance of household equivalent income as an explanatory variable of happiness
7. It is important to keep in mind that the survey was not applied to kids nor teenagers; thus, the analysis only takes into consideration the reported happiness of adults living in the house.
8. This result is consistent with the findings of van Praag and Ferrer-i-Carbonell (2004, chapter 15) On the basis of a Belgian database, they find out that there are substantial scale economies.
9. Household income can be used to provide public goods and services at the intra-family level. In other words, most of the goods and services provided by household income show non-rivalry and non-exclusion intra-family attributes.
10. It is also important to remember that up to a certain degree the original size of the family is an endogenous variable for some family members (parents); and its composition is also an endogenous variable for most adult members.

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