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Relative Income and Subjective Well-Being in Latin America: Implications for Poverty and Inequality Debates

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ABSTRACT

This paper studies the importance of absolute-income and relative-income effects in explaining people's well-being in Latin America. A subjective well-being approach is followed. The empirical research uses the Latin American Gallup Survey 2007, with more than 14000 observations covering all countries in the region. Reference-groups are constructed on the basis of country-gender-age criteria. It is found that Latin American's well-being strongly depends on relative income, while the absolute-income effect is of lesser importance. The relative-income effect is important and significant for all segments of the income distribution and even for people classified as poor. The absolute-income effect is not greater for people in poverty than for anybody else in the survey. These findings have substantial implications for both economic theory and for the implementation and design of economic policies and development strategies; these implications are discussed in the paper.

KEYWORDS

Subjective well-being, absolute poverty, relative poverty, income inequality, relative income, absolute income, Latin America.

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‘No man is an island, entire of itself.’
John Donne

1. INTRODUCTION

The most unequal region in the world; this is a common assertion when talking about income inequality in Latin America; it is also a well-deserved qualification because country-level Gini coefficients above 0.50 are frequent in the region. Even though income inequality is high, most Latin American countries have expressed a clear preference for economic growth rather than for income-redistribution strategies. This preference is justified in the believe that by rising their income economic growth has a large impact on the well-being of those in poverty, and that this impact is independent of what happens with the income of other people.

The view that people’s well-being depends on their income and only on their income is behind the understanding and measurement of poverty on the basis of an absolute-income criterion. This absolute-income view assumes that well-being is a matter between the person and his or her consumption of commodities; it also assumes that contextual factors -such as what other people consume- are of little relevance. However, it is also possible to imagine that people make comparisons with their peers and that they form their aspirations on the basis of what others have, and that this influences their well-being. In this circumstance, other people’s income matters for well-being and relative-income considerations become important.

The absolute-income view justifies a preference for rapid economic growth that trickles down to the bottom income deciles; it is stated that by attaining rapid economic growth those at the bottom will experience larger income raises and that this is what matters mostly for their well-being. In addition, the absolute-income view may generate some disregard for redistributive

policies, which are considered as risky and even harmful to those in poverty if by deterring economic growth these policies end up slowing the raise of income of those classified as poor.

The absolute-income view has been predominant in economic theory. Reflecting this predominance, most countries in Latin America have focused on promoting economic growth through the implementation of pro-market reforms during the last decades. With a few exceptions, income redistribution policies have been marginalized from the economic-policy discussion, and social policies have shown a preference for reducing (absolute) poverty rates rather than for reducing income inequality in the region. This focus on reducing (absolute) poverty is justified by the belief that it is absolute income –rather than relative income- what matters for people’s well-being.

If absolute income is crucial in explaining people’s well-being then the interest in reducing (absolute) poverty rates and the preference for economic growth as an instrument for raising people’s well-being is justified. If absolute income matters for people’s well-being then one can be sure that any raise in income in the bottom income deciles translates into greater well-being for the low-income people, even in a circumstance where the gap between the top and the bottom deciles is increasing. However, if people’s well-being is closely related to their relative income –rather than to their absolute income- then the gap between the top and the bottom income deciles matters, and strategies for economic growth which do not contemplate the income gap may be futile in raising people’s well-being, even when absolute income at the bottom deciles is increasing. In this case redistributive policies should be considered as constitutive of any strategy to raise the well-being of those in the bottom income deciles.

This paper follows a subjective well-being approach to study the relevance of absolute and relative income in explaining well-being in Latin America. The paper uses the Gallup 2007 survey which contains information for about 14000 people in 19 Latin American countries. The investigation constructs reference groups on the basis of age brackets and gender.¹ Relative income is constructed from a comparison of people’s income to their reference group’s mean income.

It is found that relative income plays a large role in explaining people’s experience of being well. Thus, the impact of income rises on people’s well-being becomes significantly

¹ Other criteria such as age brackets, gender and education or age brackets, gender and area of living provide results that are, in essence, similar. However, these criteria imply a pulverization of the data and lead to greater standard errors.

smaller when these rises are generalized rather than person-specific. Further study of the role of relative income is done for low-income groups as well as for those considered to be in absolute poverty; in all cases relative income plays an important role in explaining people's well-being. The large importance of relative income at all income levels makes it crucial to incorporate income-inequality considerations in the understanding of well-being as well as in the implementation of economic policies and development strategies. Absolute-poverty approaches and measurement methodologies are insufficient to adequately inform about people's well-being situation, and they may lead to implementing policies which are detrimental to people's well-being.

The paper is structured as follows: Section 2 makes a revision of the relevant literature. Section 3 explains the database as well as the criteria used to construct reference groups; it also presents some descriptive statistics. Section 4 studies the relationship between subjective well-being and relative income under different specifications. Section 5 discusses the main findings from the investigation as well as their policy implications.

2. LITERATURE REVIEW

2.1 Absolute income in economic theory

Economic theory states that a person's utility² depends on her absolute income and only on her absolute income; no direct role is played by other people's income (Frank, 2005). Thus, most economic models assume that well-being is affected by changes in own income but not by changes in other people's income. In the well-being literature this view is called the absolute-income hypothesis, and it is inspired in an individualistic approach where out-of-context individuals constitute the building blocks of economic models. The individualistic approach stresses the view that the social context emerges as a result from the aggregation of out-of-context individualistic decisions, rather than being a circumstance that frames people's decisions and which is an inherent constituent of what a person is. It is also within this individualistic perspective that income-distribution indicators end up playing the unique role of qualifying mean indicators, such a per-capita income. In consequence, the distribution of income does not have an

² Utility is understood either in its ordinal conception -which is useful for explaining and predicting behavior- or in its latent well-being conception -which is useful for public policy and for the design and evaluation of social-programs.

independent impact on a person's economic well-being -or on her behavior- beyond that produced by her influence in the determination of a person's absolute income.

Many economists have postulated that a person's utility, either in its ordinal-behavioral interpretation or in its well-being interpretation, depends on this person's relative standing in society.³ In the well-being literature this view is called the relative-income hypothesis. The assumption that utility does depend on absolute income alone may not only be incorrect, but it may also lead to wrong public-policy recommendations, as well as to the emergence of apparent paradoxes in our understanding of human actions and reactions. For example, policies that generate high economic growth rates with increasing inequality may be considered as more beneficial than egalitarian-oriented policies that generate low growth rates. These high-growth-with-inequality policies are even assumed to be beneficial for the poor if their absolute income rises. These recommendations assume that people's relative income is not important for their well-being and also assume that people's aspirations and goals remain constant even when income disparities are rising.

During the past decades there has been a surge in research about the relevance of relative standings in well-being. It is a recurrent finding in the emerging subjective well-being literature that well-being does depend not only on people's absolute income but also on their relative income. However, research on the importance of relative income has been carried out mostly in high-income countries, but not in low and mid-income countries, where absolute poverty is larger and where high income inequality is common.

2.2 Relative income in economic theory

This emphasis on absolute income is surprising if it is considered that classical economists did emphasize the role played by a person's relative position in her well-being and in her decisions. Smith (1776 (1937)) and Keynes (1931) have stressed the role of relative needs, while Marx (1849 (1977)) emphasizes human comparisons. The view that most needs are relative rather than absolute has led to understanding well-being deprivation as a situation where people are not living a decent life according to the consumption standards of their society (Townsend, 1962).

³ This paper makes a semantic distinction between a person, who is defined as such in society, and an individual, who is out of any social context and whose role in functionalist models is to be the kernel for the construction of societies.

At the brink of the twentieth century Veblen (1899) argued for the importance of conspicuous consumption, stating that some consumption patterns have a positional foundation; and Duesenberry (1949) noticed that savings patterns could be better explained if relative income was taken into consideration. The recent literature on economic behavior and relative income is large and support the idea that people's relative standing matters (Schor, 1998 and 2002; Hopkins and Kornienko, 2004; Robson, 1992; Samuelson, 2004; Corneo and Jeanne, 1997; Knell, 1999; and Pham, 2005). There is also some research on the interdependence of preferences (Kapteyn and van Herwaarden, 1980; Kapteyn, van de Geer, van de Stadt et.al., 1997; Postlewaite, 1998).⁴

Furthermore, Parducci (1968, 1995) argues that human beings are not framed to make absolute judgments and that relative judgments are necessary for human decisions and evaluations. This is an argument that is closely linked to the social-norms literature (van Praag and Ferrer-i-Carbonell, 2004). Hirsch (1976) introduced the concept of a positional society, placing greater importance on the status a person holds within her society rather than on her absolute situation. The importance of status has been popularized by de Botton in his *Status Anxiety* book.

2.3 Reference groups: Sociological theories

Sociologists have long accepted that people's behavior, evaluations, and aspirations are not individualistically determined but that they do depend on people's immersion in society and, thus, are affected by comparisons and social positions (Weber, 1922; Suls and Wills, 1991). The literature on reference groups studies whom do people compare themselves with and what kind of comparisons they do make (Merton and Kitt, 1950; Hyman, 1960; Runciman, 1966). Sociologists distinguish among different kinds of comparison groups: there are groups of competition so that comparisons are made in order to evaluate if one is doing better than others; there are groups of aspiration so that comparisons are made to define evaluation norms and to form aspirations; there are groups of membership so than comparisons are made to form

⁴ The importance of relative concerns is also recognized by other disciplines. Marmot (2004) shows that health and life expectancy are related to a person's relative standing in society. Bio-science has shown that status is related to specific biological activity in human males (Mazur and Lamb, 1980); while Brosnan and De Waal (2003) shows that even primates react to relative rewards. Thus, it is possible for relative concerns to be entrenched in human evolution.

expectations; and there are groups of social distance so that comparisons are made to define what a worst performance means.

The nature of the information which is provided by comparisons has been widely studied in the literature (Senik, 2004; Gandhi Kingdon and Knight, 2004; and Hirschman, 1973). Similarly, the object of comparison, whether it is income or any other observable variable, has received attention from some researchers (Michalos, 1985; Frank, 1985, 1989; and van Praag et al., 1979)

2.4 Relative income and subjective well-being

The importance of relative income in subjective well-being assessments is first studied by Richard Easterlin in his 1974 pioneer study. Easterlin (1974) shows that a raise in a person's income increases her happiness as long as the income of other people does not change; however, if everybody's income also rises then there is little impact on this person's happiness. Thus, Easterlin shows that there is a positive relationship between income and happiness in cross-section studies, but the relation is practically nil in longitudinal studies. Easterlin concludes that relative income is important in explaining a person's happiness. Many subsequent studies (Ferrer-i-Carbonell, 2005; Clark and Oswald, 1996; Luttmer, 2005; Binswanger, 2006) do find that relative income does have a significant influence on a person's assessment of her well being and, probably, on her behavior.

Bernard van Praag, another pioneer in the study of subjective assessments of well-being (van Praag, 1977 and 1993) shows that both relative income and aspiration gaps (difference between current income and that income considered as sufficient to satisfy all material needs) are important variables in the assessment of income satisfaction and in human decisions. van Praag finds that a person's satisfaction with her income does depend on her relative income; thus, a rise in satisfaction takes place when absolute income increases, but a drift occurs if everybody's income also increases. van Praag also shows that aspirations are endogenous to absolute income and that they tend to rise as income increases; thus, a person's aspiration gap does not necessarily decline when her absolute income rises. Subsequent studies (Stutzer, 2004; McBride, 2005; Senik, 2007a) have arrived to similar findings. van Praag (1971) and collaborators (van Praag and Ferrer-i-Carbonell, 2004) show that income-evaluation norms are based on aspirations and comparisons; which are not independent of their absolute income.

Clark and Oswald (1996) find that relative wages are also important for workers' reported satisfaction; thus, job satisfaction does depend on relative wages as well as on absolute wages. Similar results are found by Sloane and Williams (2000) using Canadian and British data, respectively.

2.5 Methodological issues in the study of relative income

There are many methodological considerations when studying a relative-income concept (Clark, 2007; Clark et.al. 2008). Three issues emerge when dealing with relative income: The definition of a person's reference group, the definition of a reference income, and the construction of a person's relative income.

It is clear that the definition of the reference group does play a crucial role in relative-income studies. It has been argued that people may compare themselves to different groups and that they may use different comparison criteria. Stutzer (2004) assumes that persons do compare their income to that of people in their Swiss region. Similar regional criteria is used by Luttmer (2005) and Persky and Tam (1990). Ball and Chernova (2005) assume that this comparison takes place with respect to everybody in the country. Senik (2004) assumes that the comparison takes place with respect to a person's professional/occupational groups. McBride (2001) uses age-cohorts criteria. Gandhi-Kingdon and Knight (2004) emphasize the role played by ethnicity; they do distinguish between a comparison made by a person with respect to her own ethnic group (membership comparison) and that made with respect to other ethnic groups (competition comparison). Ferrer-i-Carbonell (2005) works with comparisons within a person's socio-demographic group.

The construction of a relative-income variable is handled in diverse ways in the literature; for example, as the ratio of a person's income to the mean income of her reference group, or even to the mean income in some income deciles of her reference group (Ferrer-i-Carbonell, 2005). It is also possible to define relative income as the distance (in monetary units or in standard-deviation units) between a person's income and her reference income. Comparison do not have to be symmetric, upward and downward comparisons may differ and, in consequence, the impact of a person's relative income position on her well-being may depend on whether she is above or below her reference income.

2.6 Relative income and economic policy

The importance of relative income may have many economic-policy implications.

First, generalized income rises have smaller impacts on people's well-being than person-specific income rises. Economic growth faces treadmills that are not contemplated by individualistic-based models (Easterlin, 1974; Biswanger, 2006; Frijters, Haisken-DeNew and Shields, 2004; Clark, Frijters and Shields, 2008). A person's raise in income may emerge from systemic factors that also raise the income of most people in her reference group; thus, absolute income could rise with little impact on relative income. In addition, a person's raise in income may lead her to change her kind of comparison; if this person compares her income to that of a wealthier group then her relative income may even decline (Falk and Knell, 2004). Schor (1999, 2002) and Frank (2000) have shown that social trends may alter the focus of comparison, leading to changes in relative income (as well as in aspirations) even when a person's absolute income does not change.

Second, it is important to distinguish between absolute income changes and relative (to reference group) income changes. It may be possible for absolute income to rise while relative income declines; people's well-being could decline in this case. Graham and Pettinato (2002) argue that in this case people may have significant absolute achievements, but that they may become frustrated as a consequence of comparison effects. Economic reforms and social-program design and evaluations should take into consideration both the absolute and the relative impact of income rises. It may be possible for people to reject policies that raise their absolute income because of relative-income implications (Graham and Sukhtankar, 2004)

Third, the sense of exclusion and deprivation may be reference-group based rather than country-level based. If people's well-being does depend on within-reference-group comparisons then deprivation measures based on country indicators are of little relevance for understanding their well-being and their sense of deprivation (Bossert and D'Ambrosio, 2006; D'Ambrosio and Frick, 2004; and Bossert, D'Ambrosio and Peragine, 2007)

3. THE DATABASE

3.1 The Gallup survey

The Gallup survey is applied yearly in many countries in the world. It is a representative survey at country level. In the year 2007 the Latin American and Caribbean survey incorporated a subjective well-being module as well as a question regarding household income. The following countries are considered in this investigation: Argentina, Bolivia, Brazil, Chile, Colombia, Costa

Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela. About 14000 observations are available for the empirical analyses.

3.2 The information

a. **Subjective well-being variable: Life evaluation.** The Gallup 2007 survey includes two commonly used subjective well-being questions. The first one is the life-satisfaction question and it is phrased as “*Taking everything in your life into consideration, how satisfied are you with your life?*”; the response scale goes from 0 to 10 and for practical purposes it can be treated as a cardinal scale. The second question in the Gallup survey is the so called best-worst life question (life evaluation); the specific phrasing of the question is: “*Please imagine a ladder/mountain with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder/mountain represents the best possible life for you and the bottom of the ladder/mountain represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time assuming that the higher the step the better you feel about your life and the lower the step the worse you feel about it? Which step comes closest to the way you feel?*”. The response scale goes from 0 to 10 where 0 is the least possible and 10 the highest possible life evaluation. In principle, this life-evaluation variable is categorical; however, for practical purposes it can be treated as a cardinal variable.⁵

Subjective well-being information is used only for those people for whom there is also income information. Table 1 presents descriptive information on subjective well-being variables. It is observed that on average Costa Ricans report the highest well-being in the region, with a mean life satisfaction of 8.48 and a mean life evaluation (best-worst question) of value of 7.41. It is also interesting to observe that in all countries mean life satisfaction is much higher than mean life evaluation; which suggests that affective experiences play an important role in the well-being of Latin Americans (Rojas and Veenhoven, 2013)

⁵ The assumption of cardinality allows for simplifying the presentation of descriptive statistics as well as the implementation of simple econometric techniques, such as ordinary least squared regressions. It is important to state that the treatment of these variables as ordinal –such as using ordered-probit econometric techniques- does not imply any significant change in the main results from this investigation.

Table 1 Subjective Well-being in Latin America 0 to 10 scale Descriptive Statistics				
	Life Satisfaction		Life Evaluation	
Country	Mean	Std. Dev	Mean	Std. Dev
Argentina	7.09	1.85	5.92	2.11
Bolivia	6.27	1.90	5.33	1.93
Brazil	7.53	2.04	6.11	2.40
Chile	6.45	2.11	5.69	2.16
Colombia	7.35	2.13	6.19	2.52
Costa Rica	8.48	1.74	7.41	2.20
Dominican Rep	7.42	2.36	4.94	2.79
Ecuador	6.35	2.04	4.88	2.12
El Salvador	6.68	2.03	5.21	2.22
Guatemala	7.85	1.77	6.11	2.06
Honduras	7.04	2.46	5.21	2.72
Mexico	7.76	1.63	6.50	2.04
Nicaragua	7.07	2.50	4.88	2.83
Panama	7.76	2.02	6.90	2.22
Paraguay	6.77	2.04	5.20	2.02
Peru	5.98	1.91	5.27	2.20
Uruguay	6.72	2.01	5.62	2.08
Venezuela	<i>na</i>	<i>na</i>	6.57	2.16

Source: Gallup 2007 Survey

b. Income variable. The Gallup survey includes one question about household monthly income. The information is captured in income brackets expressed in local currency units; thus, brackets are not homogeneous across countries when expressed in U.S. dollars adjusted for purchasing power parity. Gasparini et al. (2008) use the Gallup survey to calculate household per capita income figures which are comparable across countries; they make assumptions on household demographic composition and on the within-income-bracket distribution of household incomes. Their income figures perform well when contrasted with other income figures gathered by official country sources. Thus, they are confident about the quality of their income figures. This investigation uses Gasparini et.al (2008) computed figures on household per capita income expressed in U.S. dollars adjusted by purchasing power parity.

c. Other relevant variables. The survey also has information regarding people's age (in years), civil status (dummies for civil status were constructed; *single* is used as the category of reference), area where a person lives (categorical variables with the following options: rural,

small town, urban, and suburb. Dummies for area where the person lives were constructed taking *rural area* as category of reference), and education in categories.⁶

3.3 Reference-group construction: Country, age and gender

Based on the relevant literature and contingent on the availability of information, different group-formation criteria were explored. The survey had information regarding country, gender, age, and place of living of person (urban, semi-urban, small town, rural); and education. A country-age-gender criterion was followed in the construction of the reference groups.

People were first classified in different groups according to their age group, their gender, and their country of residence. Seven age-groups were formed (less than 20 years old, from 20 to 29, from 30 to 39, from 40 to 49, from 50 to 59, from 60 to 69, and 70 years old and more)⁷. A reference-group formation based on age groups and gender renders 14 reference groups within each country. Because there are 19 countries in the survey, this implies 266 groups, with an average of about 50 observations by group.⁸ There are substantial differences in average income across the reference groups; for example, the highest average monthly income is US\$ 929 dollars for men with ages in between 60 and 69 in Colombia; while the lowest average monthly income is US\$ 107 dollars for women with ages in between 30 and 39 in Peru. Because mean income for each age-gender-country group will be used as a proxy for reference income, it is important to have substantial variability in reference-group income across groups.

4. RELATIVE INCOME AND WELL-BEING

4.1 Estimating the impact of reference income

The following general specification is used to study whether reference income does play a role in subjective well-being:

$$swb_{igk} = \alpha_0 ly_{igk} + \alpha_1 ly_{gk}^{ref} + \beta edu_{igk} + \delta area_{igk} + \gamma mst_{igk} + \theta country_k + \mu_{igk} \quad (1)$$

Where:

⁶ Information regarding education in categories was calculated and provided by Cárdenas et.al. (2008)

⁷ This is an arbitrary classification; McBride (2001) used a variation that assumes people compare with those who are in a range of (-5,+5) years their age. This criteria is also followed by Vendrik and Woltjer (2006)

⁸ If an additional criterion were considered, e.g.: a rural-urban criterion, then the number of groups would increase to 560; reducing the average number of observations in each group to about 25. Different criteria for group formation were followed: country-age-gender; country-age- gender-location; country-age-gender-education; and so on. It was found that the country-age-gender criterion provides clear results; while the country-age-gender-location criterion leads to similar results but with weaker significance tests, probably due to the reduced number of observations in each group.

swb_{igk} refers to either life satisfaction or to life evaluation (best-worst life) of person i who belongs to gender-age group g in country k .

ly_{igk} refers to the natural logarithm of household per capita income for person i who belongs to gender-age group g in country k . The use of the natural logarithm of income rather than raw income obeys to the well-established finding of the relationship between income and subjective well-being variables being concave.

ly_{gk}^{ref} refers to the natural logarithm of the mean income for people in gender-age group g in country k . This mean income is assumed to be the income of reference for everybody in the group.

$country_k$ refers to country fixed effects, it is a vector of dichotomous variables, with a value of 1 for the country of residence of person i and 0 otherwise.

edu_{igk} is a vector of dichotomous variables, with a value of 1 for the education category of person i and 0 otherwise. *No schooling* is the category of reference.

$area_{igk}$ is a vector of dichotomous variables, with a value of 1 for the area of residence of person i and 0 otherwise. *Rural* is the category of reference.

mst_{igk} is a vector of dichotomous variables, with a value of 1 for the area marital status category of person i and 0 otherwise. *Single* is the category of reference.

It is important to remark that the specification allows for the existence of country fixed effects; in other words, it contemplates the existence of country-level specificities that do imply differences in well-being across countries.

According to the literature, it is expected in equation (1) for $\alpha_0 > 0$ and for $\alpha_1 < 0$. It is also of interest to test whether $\alpha_0 + \alpha_1 = 0$. If this last hypothesis cannot be rejected then it would imply that a generalized increase in income (person i 's income raises in same percentage as her reference group's income) would have little impact in people's well-being. In other words, income raises do have an impact in well-being as long as they allow for a change in a person's relative position.

Table 2 shows the results from the econometric exercise when using ordinary-least squares regressions; the main results are mostly similar when treating the variables as ordinal and using ordered-probit techniques.

Table 2				
Relative Income and Subjective Well-Being				
Latin America				
Ordinary least squares				
	Life Satisfaction		Life Evaluation	
ly	0.401***		0.443***	
lyref	-0.228***		-0.304***	
Incomplete primary	0.46***		0.30**	
Complete primary	0.50***		0.51***	
Incomplete secondary	0.76***		0.72***	
Complete secondary	0.81***		0.91***	
Incomplete technical	0.53***		1.03***	
Complete technical	0.90***		1.12***	
Incomplete university	0.69***		0.87***	
Complete university	0.801***		1.11***	
Post-graduate	0.84***		1.27***	
Small town	-0.08		-0.11	
Large city	-0.04		-0.04	
Suburb	0.06		-0.10	
Married	-0.09**		-0.25***	
Separated	-0.45***		-0.48***	
Divorced	-0.26**		-0.34***	
Widowed	-0.31***		-0.31***	
Stable partner	-0.20***		-0.30***	
Observations	12859		13491	
R_sq	0.149		0.161	
Test $\alpha_0 + \alpha_1 = 0$	F-value	Prob>F	F-value	Prob>F
	4.11	0.043	2.21	0.137

Significance levels: 0.01 (***), 0.05 (**)

Estimated coefficients for country variables are not presented

Source: Gallup 2007 Latin America Survey

It is observed in Table 2 that reference income does play a significant and large role in explaining well-being. A person's satisfaction with life raises with own income and declines with the income of his or her group of reference. An increase in income of 100 percent would increase life satisfaction in about 0.40 while an increase of 100 percent in the average income of his or her reference group would reduce life satisfaction in about 0.23. The same trend is observed with respect to the life evaluation question; people judge their life as moving closer to the best

possible life when their income rises; however, they judge their life as moving farther away from the best possible life when the income of their reference group increases.

4.2 The importance of absolute and relative income

Equation 1 can also be expressed as:

$$swb_{igk} = (\alpha_0 + \alpha_1)ly_{igk} + \alpha_1(ly_{igk}^{ref} - ly_{igk}) + \beta edu_{igk} + \delta area_{igk} + \gamma mst_{igk} + \theta country_k + \mu_{igk} \quad (2)$$

This equation separates the absolute from the relative effect of an increase in income. In other words, there are two effects when a person's income rises:

First, there is an absolute effect which emerges from the role of income as providing access to satisfactors which affect people's well-being in an absolute way, independently of the context these people are located in. This absolute effect reflects the commonly accepted view in economic theory that well-being is a matter of a relation between a person and his or her objects; in equation (2) the absolute effect is captured by $\alpha_0 + \alpha_1$.

Second, there is a relative effect which holds because the increase in income implies an upward movement in a person's relative situation -as long as the reference income remains constant-. This relative effect emerges because people's well-being depends on their status in society and, in most societies, it is income -and the objects it can purchase- which mark people's status. The relative effect is captured by the absolute value of the parameter α_1 , and it shows how a person's relative standing affects his or her well-being.

Thus, the absolute effect (as measured by $\alpha_0 + \alpha_1$) holds even when there is a generalized increase in income, because it reflects the well-being impact of income which does not depend on the social context; however, the relative effect (as measured by $|\alpha_1|$) holds only when the raise in income is exclusive to the person rather than generalized. In consequence, the impact of income on people's well-being is expected to be smaller in processes of economic growth, where the raise in income is expected to be generalized.

Furthermore, in a completely egalitarian society the value of the parameter α_1 would become irrelevant; however, in very unequal societies α_1 becomes a relevant parameter in understanding people's well-being; it is also an important parameter reflecting the intrinsic well-being relevance of income inequality.

Table 3 presents the estimated coefficients for absolute and relative income effect on the basis of the estimated parameters presented in Table 3.

Table 3 Subjective Well-Being and Absolute and Relative Income Effects Latin America		
	Life satisfaction	Life evaluation
Absolute income effect	0.173**	0.139
Relative income effect	0.228***	0.304***
Significance levels: 0.01 (***), 0.05 (**)		
Based on estimated coefficients from equation (1); see Table 4.		
Source: Gallup 2007 Latin America Survey		

The $\alpha_0 + \alpha_1 = 0$ hypothesis (significance of the absolute-income effect) is rejected at 5 percent for the life-satisfaction variable and it cannot be rejected for the life-evaluation variable. This means that absolute income does play a positive and significant role in life satisfaction, and a positive –but smaller and not statistically significant- role in life evaluation (a more cognitive-oriented variable which is highly influenced by social comparisons and aspirations). The relative-income effect is of greater importance, and it is statistically significant for both the life satisfaction and the life evaluation variables. This finding shows that income inequality has intrinsic well-being relevance in Latin America.

4.3 Asymmetric comparisons

It has been postulated that comparisons may be asymmetric. Ferrer-i-Carbonell (2005) finds that Western Germans show asymmetric comparison; she concludes that “*the coefficient for richer is non-significant and smaller than the coefficient for poorer. The coefficient of the variable poorer is significant for both subsamples. This yields the conclusion that for West Germans comparisons are, as postulated by Duesenberry (1949), asymmetric and upwards.*” (p. 20) In other words, people who are beneath their group’s reference income are strongly influenced by their relative position, while people who are above their group’s reference income are not. New variables are constructed in order to test this hypothesis; let’s define:

$$D^{below} = \begin{cases} (ly_{igk}^{ref} - ly_{igk}) & \text{if } y_{igk} < y_{igk}^{ref} \\ 0 & \text{if } y_{igk} \geq y_{igk}^{ref} \end{cases} \quad (3)$$

$$D^{above} = \begin{cases} (ly_{igk} - ly_{igk}^{ref}) & \text{if } y_{igk} > y_{igk}^{ref} \\ 0 & \text{if } y_{igk} \leq y_{igk}^{ref} \end{cases} \quad (4)$$

On the basis of equation (2), the following regression specification is used to estimate the asymmetric impact of relative income on people's well-being; it distinguishes between people who are above their reference income and people who are beneath it.

$$swb_{igk} = \phi y_{igk} + \lambda_1 D^{below} + \lambda_2 D^{above} + \beta edu_{igk} + \delta area_{igk} + \gamma mst_{igk} + \theta country_k + \mu_{igk} \quad (5)$$

In principle, based on the results from Ferrer-i-Carbonell (2005) it is expected for $|\lambda_1| > \lambda_2$, indicating that the relative-income effect is larger for people who are in the bottom half of their reference-group income distribution. This would imply for upward income comparisons to have a larger well-being impact than downward income comparisons.

Table 4 presents the results from the econometric exercises.

Table 4 Subjective Well-Being and Relative Income Asymmetric comparison specification Latin America				
	Life Satisfaction		Life Evaluation	
ly	0.172**		0.141	
Dbelow	-0.225***		-0.316***	
Dabove	0.241***		0.263***	
R-squared	0.15		0.16	
Test $ \lambda_1 = \lambda_2$	Fvalue	Prob>F	Fvalue	Prob>F
	0.07	0.79	0.59	0.44

Significance levels: 0.01 (***), 0.05 (**)
Estimated coefficients from equation (5)
Estimated coefficients for control variables are not shown.
Source: Gallup 2007 Latin America Survey

It is observed that the general hypothesis of $|\lambda_1| = \lambda_2$ cannot be rejected, neither for life satisfaction nor for life evaluation. The relative effect of income is similar whether people are beneath or above their reference income. In other words, within reference groups there are both upward and downward income comparisons which impact people's well-being. This is an important result which suggests that income distribution may have both positive and negative effects in well-being depending on whether people end up in the top section of the distribution (making downward comparisons) or in the bottom section of the distribution (making upward comparisons).

These findings are consistent with the positional goods literature, which stresses that positions are a matter of relatively well-off people; but they contradict Duesenberry's argument about people looking upward but not downward when assessing their situation.

4.4 Is the absolute-income effect more relevant for those classified as poor?

The literature on income poverty has stressed an absolute-income view; this is: persons are classified as poor on the basis of a threshold income (a poverty line), e.g.: person with less than US\$ 1 dollar of daily household per capita income. The literature suggests that the explanatory structure of people's well-being differs for those who are beneath the absolute poverty line. People below the poverty line are assumed to be worried about satisfaction of material basic needs, and their well-being is not expected to depend on comparison or relative effects. This is a crucial assumption when justifying the goodness of policies and development strategies that stress the economic growth factor while neglecting their distributive effect. Within this absolute-poverty view, the well-being of those classified as poor will rise with their income independently of what happens with their relative standing.

This investigation works with the frequently used poverty line of US\$1.25 dollars of daily household per capita income. This criterion would imply that about 9 percent of people in the database end up being classified as poor. The following specification is used to test the hypothesis of absoluteness being more important for people at the bottom of absolute income:

$$swb_{igk} = \omega_0 ly_{igk} + \omega_1 (ly_{igk} * d_{poor}) + \lambda_1 D^{below} + \lambda_2 D^{above} + \beta edu_{igk} + \delta area_{igk} + \gamma mst_{igk} + \theta country_k + \mu_{igk} \quad (6)$$

Where:

$$d_{poor} = \begin{cases} 1 & \text{if } y_{igk} < US\$1.25 \\ 0 & \text{if } y_{igk} \geq US\$1.25 \end{cases}$$

In order to support the hypothesis of absoluteness being predominant for poor people $\omega_1 > 0$ is expected; which means that absolute-income effect is larger for those classified as poor on the basis of an absolute-income criterion. Table 5 shows the results from the econometric exercise.

Table 5
Subjective Well-Being and Relative Income
Absolute and relative-income effects and people in poverty
Latin America

	Life Satisfaction	Life Evaluation
ly	0.176**	0.155*
dpoor	0.011	0.039
Dbelow	-0.228***	-0.318***
Dabove	0.236***	0.240***
R-squared	0.15	0.16

Significance levels: 0.01 (***), 0.05 (**), 0.10 (*)

Estimated coefficients from equation (6)

Estimated coefficients for control variables are not shown.

Source: Gallup 2007 Latin America Survey

The results in Table 5 show that those people classified as poor on the basis of a US\$ 1.25 poverty line criterion do not have a larger absolute-income effect than the rest of people (the $\omega_1 = 0$ hypothesis cannot be rejected). Thus, those classified as poor tend to have lower well-being not only because their income is absolutely low but, fundamentally, because their income is relatively low. This would imply that a generalized increase in income that raises the income of those at the bottom of the income distribution but which does not change, or even increases, income inequality may end up having little impact in the well-being of those classified as poor. On the other hand, policies that take into account the distribution of income and which promote egalitarianism may contribute to raise the well-being of those classified as poor, because they take into account the relevance of the relative-income effect.

5. FINAL CONSIDERATIONS

5.1 Main findings

This paper has found that relative income matters for people's well-being; that relative-income effects are larger than absolute-income effects; and that this happens at all income levels and in all points of the income distribution. Absolute income does also play a significant, although minor, role.

The specific findings from this research are:

First, comparison's and aspiration formations within a person's group of reference are important for people's well-being. The mean income of a person's reference group significantly matters for her well-being.

A raise in a person's income has two effects in her well-being (life satisfaction and life evaluation): First, an absolute effect which emerges from this person having access to more satisfactors; second, a relative effect which emerges from this person attaining a better relative standing in her group of reference. This investigation shows that in Latin America the absolute effect is smaller than the relative effect, and that in the case of life evaluation (a cognitive-oriented variable highly influenced by social comparisons) the absolute effect is nil.

Both upward and downward comparisons within reference groups are relevant. People with a relative high income do benefit from their better status while people with a relative low income are harmed by their worse status.

The absolute-income effect is not greater for those classified as being in income poverty than for the rest. The larger importance of the relative-income effect holds even for those classified as poor. Thus, those classified as poor tend to have lower well-being not only because their income is absolutely low but, fundamentally, because their income is relatively low.

5.2 Findings' implications

The main findings from this research imply that:

Generalized increases in income do have a much smaller impact in people's well-being than person-specific increases in income. This happens because a large portion of the impact of income on well-being is due to its role as status marker. Hence, even though it is important, economic growth may not be as important as it seems from estimated cross-section regressions of the relationship between well-being and income.

Generalized income raises do not necessarily ensure generalized well-being increases. Some people may end up having lower well-being in circumstances where their absolute income increases while their relative income declines. This is particularly important in the Latin American region due to the high income-inequality situation.

The results from this research show that those in poverty are not only concerned about their absolute-income standing but, fundamentally, about their relative-income standing. Due to the high importance of relative income even at very low income levels (poverty), generalized income raises which imply increases in the absolute income of those in poverty do not necessarily ensure that their well-being is greater. Those in poverty may end up having lower well-being as a consequence of comparison and increasing-aspirations effects.

The distribution of income deserves greater attention –beyond its role of qualifying average income- because change in the distribution may have positive and negative effects in well-being, depending on how it affects people's relative standing and whether people end up in the top segment of the distribution (making downward comparisons) or in the bottom section of the distribution (making upward comparisons). It is also important to distinguish between country-level income distribution indicators and group-specific income-distribution indicators. Income distribution indicators should take into consideration intra-country, inter-group and intra-group inequality (see Subramanian, 2007)

Egalitarian concerns have usually being justified on the basis of some normative theories of justice. However, the shown importance of the relative-income effect at all income levels,

implies a new justification for holding egalitarian concerns, and it makes of egalitarian concerns a fundamental component of any strategy aiming to raise the well-being of those at the bottom of the income distribution.

The importance of relative income shows that human beings are not *out-of-context individuals* but *fully-immersed-in-society persons*. It also shows that some relevant factors for understanding well-being and human decision are neglected when agents are considered and modelled out of their social context.

5.3 Public-policy considerations

The paper's findings indicate that public policy should carefully review the standard assumption which states that well-being is a matter of a relationship between a person and his or her objects and which leads to the conclusion that higher income is always associated to greater well-being. There are many reasons that motivate a reappraisal.

It is imperative to move from policies that are mainly concerned with raising per capita income to policies that take into consideration the patterns of economic growth. The main issue is not whether to rise income or not, but how to enhance the impact of higher incomes on people's well-being. Development strategies which accept the same -or even greater- income inequality in order to promote rapid economic growth may harm those in poverty. Under this circumstance a an increase in the income of those in poverty may have a positive well-being impact (from the absolute-income effect) which may be more than compensated by the negative effects which emerges from the relative-income effect. Pro-poor growth may benefit more the well-being of those in poverty by generating both an absolute-income and a relative-income effect. However, this kind of growth may be detrimental to the well-being of high income groups because it reduces their relative standing.

Redistributive policies from the high income to the low income stratus may have a positive impact in the well-being of those in poverty due to the importance of the relative-income effect; however, it is important to take into consideration that an absolute-income effect does also exist. Hence, it is desirable for redistributive policies not hinder to income growth. It is clear that these redistributive policies do affect the well-being of those in higher income deciles through both the absolute and the relative-income effects.

Economic reforms that focus on raising absolute income but which neglect relative income may end up having little impact in economic satisfaction and in life evaluation. From a

well-being perspective these reforms are of little benefit. Furthermore, they may be condemned to political rejection and may even generate social conflict if intra-group inequality rises.

The importance of relative income in people's well-being implies that concepts such as deprivation, exclusion and relative poverty may deserve greater discussion in the design of social programs and in the public-policy discourse. Setting absolute-poverty reduction goals is insufficient to raise the well-being of low-income people.

Economic growth may have a larger impact on well-being if policies to increase the relevance of absolute income and to reduce the relevance of relative income are considered. This would require further consideration and research of private expenditure patterns. In addition, the provision of public goods, which are accessed by everybody, may reduce comparison and status effects.

The recognition that the relative-income effect is larger than the absolute-income one allows for understanding people's rejection of economic reforms that raise their absolute income but place them in a worse relative standing. It also allows for understanding people's acceptance of some policies which foster redistribution, even at an economic-growth cost.

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