



Analysis of the Socioeconomic Well-Being Inequities in Costa Rica: Unlike Health, Is Happiness Something That Money cannot Buy?

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Costa Rica, Health and Well-being

Costa Rica stands apart as one of the most interesting cases of the effects of income on well-being. With an income much lower than the developed countries, Costa Rica has achieved the highest level of happiness in the world. However, research on the relationship between happiness and income in this context is limited. One possible factor which could modify a relatively linear positive relationship between well-being and income is the role of health status, which is the focus of this research. Worldwide literature has shown that the level of health is distributed unequally, with better health status being associated with the richest part of the population. In addition, health and well-being are likely to be related.

Data

Costa Rican National Health Survey (ENSA) collected in 2006 (2004 households from the non-institutionalized population). Well-being module located at the end of the survey and was applied only to one family member. The number of observations for our use is 1375.

Objectives

1. Analyse the effect of health status on well-being to compare this with the effect of other possible well-being determinants.
2. Examine whether there are significant differences in well-being between the income groups.
3. Investigate the role that health has in the creations of socioeconomic inequalities in well-being in comparison with other factors.

Definition of Well Being

Subjective well-being approach

- Happiness.
- Life Satisfaction.
- Satisfaction of nine domains of life:
Health, Economic, Partner, Children, Other Family Members, Friendship, Personal, Job and Housing.

1. Well-Being Determinants

Ordered Logit Model

$$y_i = f(x_{1i}, x_{2i}, \dots, x_{ji})$$

Where :

y_i is the well-being measure.

X_{1i} is a negative measure of health:

1. Self-Reported Health.
2. Activity Limitation.
3. Any Chronic Disease.

X_{ji} ($j = 2, \dots, 7$) other determinants.

11 equations:

- Happiness, Life Satisfaction, 9 domains of life.

3 models :

- One model for each health measure.

2. Well-Being Socioeconomic Inequalities

Concentration Index:

$$CI = 1 - 2 \int_0^1 L_h(p) dp$$

Distribution range is $[-1, 1]$: Negative Well-being totally concentrated in:

- 1 \rightarrow the richest people.
- 1 \rightarrow the poorest people.

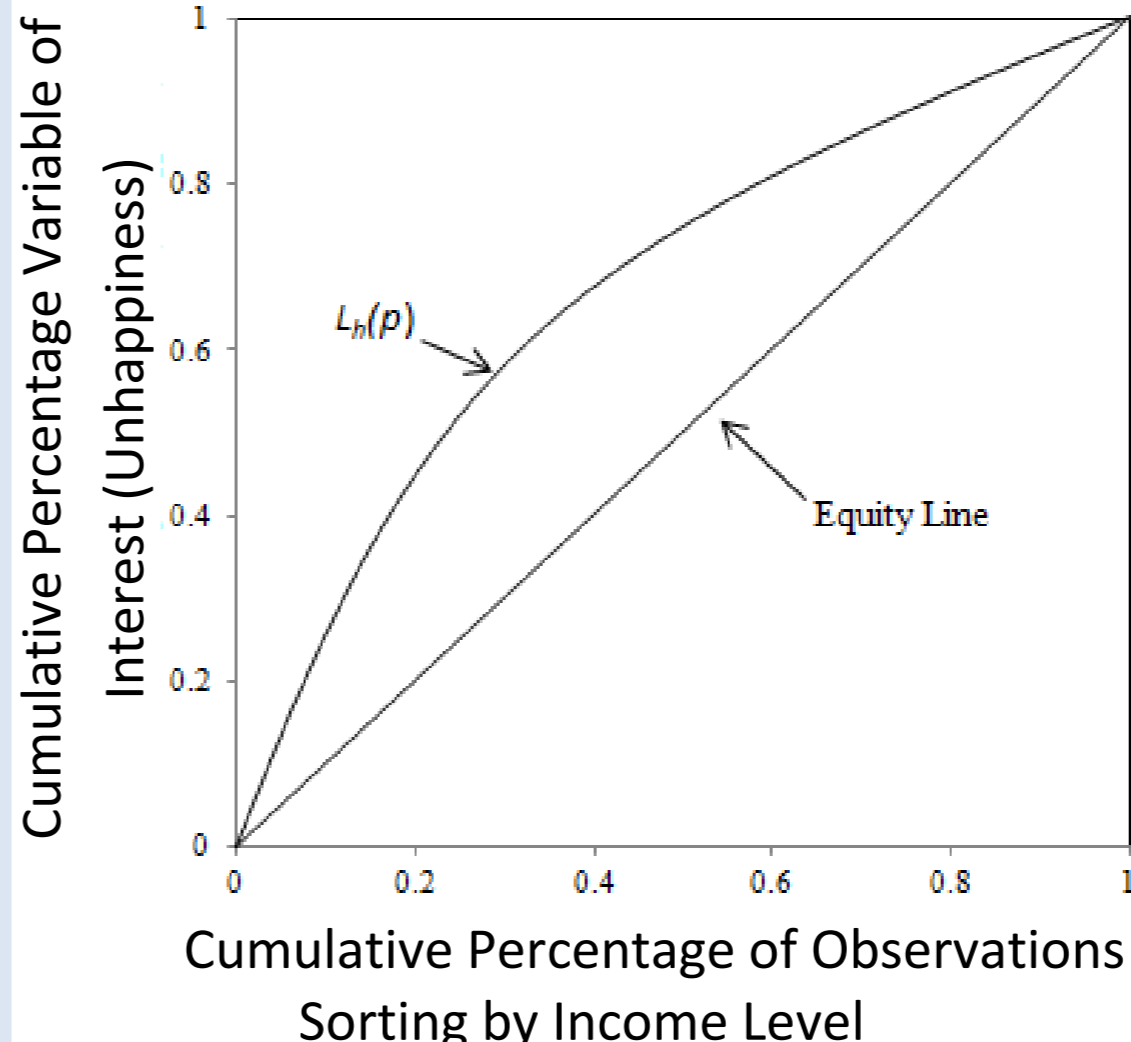
95% confidence interval:

Kakwani, Wagstaff and van Doorslaer (1997). Approximation of CI in which is possible to obtained a variance

$$CI^{\pm} \left[H \sqrt{\text{var}(\widehat{CI})} \right]$$

Erreygers Concentration Index (ECI):

$$ECI = 4\mu CI / (\text{lowerbound} - \text{upperbound})$$



3. Socioeconomic Inequalities Determinants

Decomposition of the ECI:

Break down the ECI into the contribution of the individual factors. (Rao, 1969; van Doorslaer et al., 2004; Wagstaff et al., 2003).

Linear additive regression model:

$$y_i = \alpha_0 + \sum_{j=1}^7 \alpha_j x_{ji} + \varepsilon_i$$

The decomposition

$$ECI = \sum_{j=1}^7 \left(\frac{\alpha_j \bar{x}_j}{\mu} \right) ECI_j + G$$

METHODOLOGY

RESULTS

Figure 1
Results of the Ordered Logit: Values of the Odds Ratios for health (X_{1i})

Independent Variable (11 equations)	Model 1	Model 2	Model 3	
	Activity Limitation (Yes=1)	Any Chronic Disease (Yes=1)	Self-Perceived Health Status (Base Category: Very Poor or Poor)	Very Good or Good.
Happiness	0.84	0.86	1.18	2.04 ***
Life Satisfaction	0.85	0.81 *	1.65 **	3.08 ***
Health	0.71 ***	0.56 ***		
Economic	0.91	0.66 ***	0.94	2.16 ***
Partner	1.03	0.98	0.89	1.49
Children	0.76 **	0.73 **	1.02	1.82 **
Other Family Members	0.77 **	0.82	1.08	1.92 **
Friendship	1.21	0.98	1.06	1.68 *
Personal	1.07	1.19	0.88	1.29
Job	0.96	1.14	1.25	2.05 ***
Dwelling	0.95	0.88	0.20	0.19 ***

Other Results:

- Significant positive relationship between income and well-being.
- Education: Higher education leads to higher well-being.
- Unemployed people are less satisfied with their overall life.
- Women have a lower probability of having middle or high levels of well-being than men.
- Divorced or separated people are happier than those that are married.

Figure 2
Socioeconomic Inequalities in Well-Being Measured using the ECI by Age

	Total	18-30.	31-40.	41-50.	51-60.	61-70.	>70.
Happiness	-0.03 *	-0.05 *	-0.01	-0.01	-0.02 *	-0.05 *	-0.04
Life Satisfaction	-0.04 *	-0.09 *	-0.03	-0.02	-0.04 *	-0.05 *	-0.03
Health	-0.04 *	-0.14 *	-0.03	-0.04	-0.04 *	-0.04 *	-0.01
Economic	-0.07 *	-0.10 *	-0.07 *	-0.03	-0.09 *	-0.09 *	-0.03
Partner	-0.02	-0.06 *	0.00	0.04	-0.01	-0.03	-0.02
Children	-0.01 *	-0.08 *	-0.03	0.01	-0.02	-0.01	-0.03
Other Family Members	-0.03 *	-0.07 *	-0.04 *	-0.04	-0.03 *	-0.02	-0.03 *
Friendship	-0.02 *	-0.06 *	-0.01	0.01	-0.03 *	-0.03	0.00
Personal time	0.00	-0.08 *	0.03	0.01	0.00	-0.03	-0.02
Job	-0.04 *	-0.13 *	-0.01	-0.04 *	-0.01	-0.04 *	-0.05 *
Vivienda	-0.04 *	-0.08 *	-0.02	0.00	-0.05 *	-0.07 *	-0.03 *

Decomposition of the ECI:

1st determinant of inequalities is Income.

- High ECI of income.
- High $\alpha \rightarrow$ strong relationship with well-being.

2nd determinant is Education

- University or para-university \rightarrow increases the inequalities in well-being pro-rich.

Health

- The contribution to well-being inequalities is negative, meaning increase in the inequalities pro-rich.
- When health is assessed using self-perceived health, the contribution to inequalities is (in absolute value) higher than when the other two measures are used.

CONCLUSIONS

- Costa Rican rich people have better well-being than the poor people, but well-being is more equally distributed than income.
- Health has a significant relationship with well-being. Its socioeconomic distribution affects negatively the inequalities in well-being.
- The young people is the group most affected by the inequalities in well-being, where the highest inequality is in health satisfaction.
- After health, education has the most important effect on well-being and its socioeconomic inequality.
- A better access to university is necessary to decrease the inequalities and to improve well-being.
- Self-perceived health: The literature has proven a strong link between self-perceived health and other health measures (e.g. recovery from illness, functional decline, life expectancy and mortality). Could be that the findings reflect the effect of other more objective health measures?