

Analysis of indicators of perceived happiness of Venezuelan households

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Abstracts

The Survey of Household Sector Support for the System of National Accounts (ESH in Spanish) has incorporated perception variables in order to explore the opinion of households and their members on their living conditions.

One of these variables is referred to the level of happiness that declare household members, which has 4 response categories: "Very happy", "Happy", "Little Happy" and "Unhappy". This variable has allowed the creation of an alternative indicator of subjective well-being of the population happiness. The happiness index measures the change in the average perception of households declaring happiness over time based on the quarter III-2010 to record their progress.

Keywords: happiness, MCA, perception.

1. Introduction

Sector Household Survey for the System of National Accounts (ESH) is a new source of statistical information produced by the Management of Economic Statistics Central Bank of Venezuela, designed to obtain information necessary to estimate changes quarterly about consumption expenditures, revenues, socioeconomic characteristics and special issues related to the country's households and component members.

The data obtained are utilized in many investigations, and they improve the estimates of this institutional sector of the economy.

The results presented in this document are homemade and are the responsibility of the authors. This study doesn't represent the results of Venezuela Central Bank.

The general aspects of the ESH are:

- Type of research: Sample survey
- Type of sampling: Probabilistic design of panels rotating
- Geographic coverage: covers 11 cities in the country: (Caracas, Maracaibo, Barquisimeto, Maracay, Valencia, Puerto La Cruz, Maturin, Puerto Ordaz, Merida, San Cristobal and Barinas)
- Size quarterly sample: 2,500 homes
- Basic units sampling: houses, homes and people
- Target Population Research: persons 15 years and over

Indicators of happiness

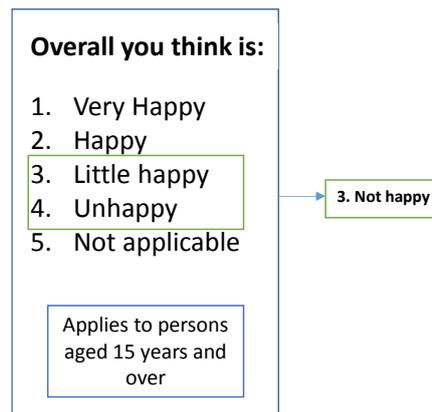
Happiness indicators are inside indicators of well-being that go beyond attention to

situations of physical need.

Happiness is a subjective concept, specific to each individual, about what it mean and feel every person in relation to its existence, the reality of the physical and cultural environment, and life goals.

In this context, we used the forefront of ESH to measure new dimensions that indicate the welfare of the population and provide new studies to deepen the economic and social analysis of the country.

How capture the happiness?



Socioeconomic Questions:

- Quartiles of income: per capita income divides the population into four parts quartile 1 (lowest income), quartile 2 quartile 3 and quartile 4 (highest income).
- Property type: Fifth or country house, house, apartment (in building), apartment (in fifth or country house), house rustic peasant, rustic house and another.
- Age: (15-18), (18-30), (30-45) and (45 and over).
- Sex: female and male.
- Household size: 1, 2, 3, 4 and 5 and more people inside home.
- Level of education: no education, primary, secondary and university.
- Condition of housing: rented, owner and occupied.
- Location of home: suburb, not suburb.
- Labor status: employed and unemployed.
- Home type: single-person households, couples without children, couples with 1 child, couples with 2 children, couples more than 2 children, single women with children, childless couples seniors, couples with or without children living with one or both parents and rest.

Questions of perception:

- Feeding: Very good, good, regular, bad, very bad
- Health: Excellent, good, regular, bad, precarious.
- Education contribute with income household: much, moderate, little, not contribute.
- Subjective poverty (assessment of income to keep monthly expenses for food, services, health and education): level 1(very easily-easily), level 2(some difficulty), level 3(much difficulty)

The happiness index (IF in Spanish)

It measures the change in the average perception of happiness that members report feeling households over time. Is constructed as follows:

$$IF = \frac{\sum_{h=1}^H f_{ht}}{\sum_{h=1}^H f_{h1}} \cdot 100$$

Where:

$\sum_{h=1}^H f_{ht}$ Happiness average household in quarter t

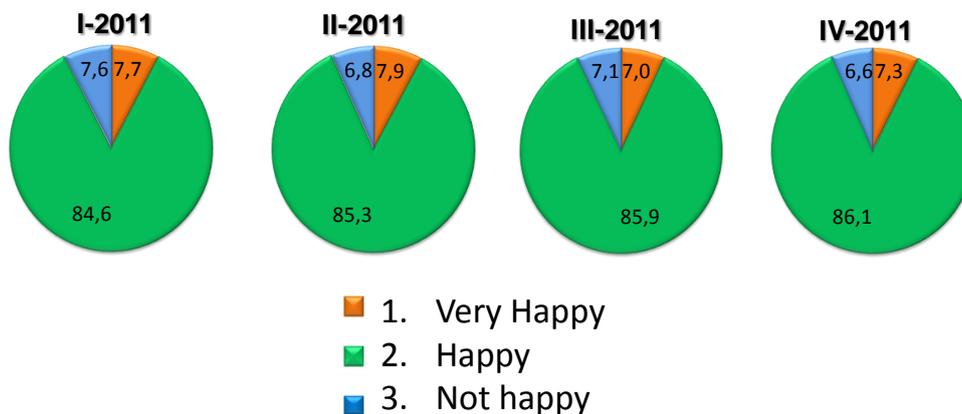
$\sum_{h=1}^H f_{h1}$ Happiness average household in the first quarter

2. Results

**IF households
(III quarter 2010 = 100)**

Quarter	Happiness (Avg)	IF
III-2010	2,0043	100
IV-2010	1,9988	99,7
I-2011	2,0064	100,1
II-2011	1,9966	99,6
III-2011	2,0046	100,0
IV-2011	2,0012	99,8

Perception of happiness by quarter (% Persons aged 15 years)



Transition probability of happiness by quarter (% Households)

- Measures happiness state transition in pairs households declaring.
- The main diagonal indicates the probability of staying in the same state.
- Happy people tend most to maintain their status.
- The Freeman and Tukey test estimates the probability of maintaining the state of happiness between two consecutive

A

Start: IV-2010	End:I-2010			Total	Prob. Freeman-Tukey
	Very Happy	Happy	Not Happy		
Very Happy	61,8	37,5	0,7	100	0,5080
Happy	2,8	93,4	3,8	100	
Not Happy	1,7	36,4	61,9	100	

B

Start: I-2010	End:II-2011			Total	Prob. Freeman-Tukey
	Very Happy	Happy	Not Happy		
Very Happy	57,9	41,3	0,8	100	0,6339
Happy	4,8	92,4	2,9	100	
Not Happy	0,8	48,7	50,4	100	

C

Start: II-2011	End:III-2011			Total	Prob. Freeman-Tukey
	Very Happy	Happy	Not Happy		
Very Happy	39,4	59,9	0,8	100	0,5133
Happy	4,3	92,2	3,5	100	
Not Happy	0,9	50,9	48,2	100	

D

Start: III-2011	End:IV-2011			Total	Prob. Freeman-Tukey
	Very Happy	Happy	Not Happy		
Very Happy	49,1	48,2	2,8	100	0,5088
Happy	4,4	91,1	4,5	100	
Not Happy	1,0	58,1	41,0	100	

Multiple correspondence analysis (MCA)

MCA was performed to summarize data in a small number of dimensions, with the least loss of information.

The decomposition of inertia Benzecri adjusted in ACM showed that the first two factors collect 86.92% of the total variance of the variables.

The evidence resulting factorial plane three distinct groups.

A. “Very Happy”

- Feeding: Very good
- Property type: Apartment (building or home) and fifth or fifth house
- Quartile: 4 (Higher income)
- Level of education: University
- Health: Excellent
- Condition of housing: House Rental
- Location of home: Suburb
- Home type: Couples with 1 or 2 children
- Education contribute: much to moderate with household income level
- Subjective poverty: level 1

B. “Happy”

- Feeding: Good
- Age: 18 to 45 years
- Quartile: 3
- Education: High school
- Health: Good
- Sex: Male or female
- Condition of housing: Owner
- Home type: Other
- Education contribute: Little to household income level
- Property type: House
- Subjective poverty: Level 2

C. “Not Happy”

- Health: Bad
- Subjective poverty: Level 3
- Education: Without level
- Quartile: 1
- Feeding: Bad
- Property type: house rustic peasant

5. Conclusions

The happiness index shows the perception of households about their state of being.

Happiness can be interpreted through analysis of assessment set of variables that describe the objective reality and subjective well-being.

In 2011, 85.5% of people over 15 years pleaded happy, and the likelihood of maintaining the state exceeded 50% in all periods.

Happiness don't discriminate gender, age, occupation or education.

The variables that best describe the state of material well-being are the property and

type of housing while perception variables provide further explanation to the health and happiness are feeding real income and subjective income are related to happiness , but provide secondary information to determine how prevalent states needs explaining happiness.

References

- Anderson, T. W. (1984), *An Introduction to Multivariate Statistical Analysis*, Second Edition, New York: John Wiley & Sons.
- Benzécri, J. P. (1973), *L'Analyse des Données: T. 2, l'Analyse des Correspondances*, Paris: Dunod.
- Greenacre, M. J. (1984), *Theory and Applications of Correspondence Analysis*, London: Academic Press.