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## **RELATIVE INCOME AND HAPPINESS**

### **Abstract:**

Most of the literature confirms link between relative real income and happiness, but few research study the link of income perception. This empirical study aims to investigate the linkage between relative income and happiness. We conducted a survey and then estimated happiness using the ordered logit model. Results showed that individual happiness is not only related to absolute relative income, but is also associated with the attitude toward relative income in two dimensions, namely, individual's needs and compared with those of other people. Moreover, self-esteem, trust, and community specification factors can influence individual happiness. Policy implication should concern real inequality together with perception on inequality.

### **Keywords:**

Happiness, Well-being, Relative income, Attitude, Thailand

**JEL Classification:** A12, D01, I31

## Introduction

The pursuit of happiness is a central aspect of human behavior (Frey and Stutzer, 2008). Happiness has been a topic of considerable research attention for decades. Conventional economics indicates that individual happiness or utility is assumed to depend on what an individual has in absolute terms. Therefore, economists have focused on the role of absolute income and consumption. Many studies proved that poverty is a state or condition of unhappiness (Ahuvia and Freedman, 1998; Veehoven, 1991).

However, the idea that absolute income leads to increased happiness cannot account for the well-known finding of the “Easterlin-Paradox.” Easterlin (1974) observed that average per capita income increased in the USA after World War II, but subjective well-being remained constant. This circumstance indicates that absolute income and happiness are positively associated in a country at a given time, but happiness does not increase with income in a long-term relationship (Easterlin et al., 2010). The comparison effect is one of the explanations of Easterlin Paradox.

Ferrer-i-Carbonell (2005) used the difference between the logarithm of the individual’s own income and the logarithm of the average income of the reference group as relative income to study actual relative income. He found that a person is happier when his/her income is higher than that of the reference group. Blanchflower and Oswald (2004) found that relative income in Britain and the USA has a positive relationship with individual happiness. They defined actual relative income as the ratio of individual income to the state income per capita. Layard et al. (2009) defined actual relative income as the average income in the same year of the same type of household in the USA and as the average income of all people in the same age, sex, and education groups in the case of West Germany. Their results are similar to those of previous studies. Oshioa, Nozakib, and Kobayashic (2011) applied the method of Ferrer-i-Carbonell (2005) to calculate actual relative income in China, Japan, and Korea. They defined the reference group in three dimensions, namely, gender, age, and educational accomplishment. They found that actual relative income has a positive effect on happiness in all countries.

The present study uses two aspects of attitude toward relative income. The first is perceptions about comparing actual income with adequate income level in individual mindsets that are different from one another. The second is attitude toward relative income compared to the income of others in the same community. The rest of the paper is organized as follows. Section 2 presents the data and methodology. In Section 3, the empirical results are discussed. Conclusions are drawn in Section 4.

## Data and methodology

A survey via a questionnaire was conducted in October 2016 with 850 respondents in Chiang Mai and Nakhon Ratchasima, Thailand. These provinces are representative

of the Thai people due to the same pattern of income distribution. In each sample household, a member—normally the household head—answered the questionnaire.

Individual self-reported happiness is a proxy measure for human utility that was determined by the respondent's answer (a seven-point scale with 1 being "Not happy at all" and 7 being "Completely happy") to the question "Considering everything, how happy were you 12 months ago?".

We constructed two measures of an individual's attitude toward relative income, namely, relative income compared with the individual mindset and compared with those of other people. The "enough" variable is a proxy for the attitude toward relative income to compare actual income with adequate income level in the individual mindset. Respondents were asked: "Is your regular income adequate for you and your family?" The answers were coded as inadequate = -1, adequate = 0, and more than adequate = 1. People are happier when they feel that their incomes are sufficient so the coefficient is positive.

The respondents were asked about their perception on relative income compared with others in the same community with the following: "What would you say about your household income compared with those of the other households in your own community?" The choices for this question were coded as follows:

- Much less income than other households = -2
- Less income than other households = -1
- Equal income as other households = 0
- More income than other households = 1
- Much more income than other households = 2

We hypothesized that individuals who feel they have more income than others should be happier. Thus, the coefficient is positive.

Household income was reported on 12 income categories ranging from "less than THB 217,500 per year" to "more than THB 4,350,000 per year." Then, the actual household relative income was computed. Actual household relative income is a proxy of actual social comparison. This variable is the difference between the category of household income and the category of average household income in the same district because reference group is defined as people who live in the same district. A high level of actual household relative income indicates a rich family.

For self-esteem, this study used 10 questionnaire items with a seven-point Likert scale to measure the self-esteem index of the individual (one for "not true at all" to seven for "true nearly all the time"). Self-esteem was hypothesized to be positively associated with happiness.

Giving is another remarkable factor. Following the psychological view, giving increases people's happiness because it builds trust, creates a larger sense of community, and creates a warm glow effect. Therefore, people who volunteer more should be happier. The frequency of volunteering without any compensation in any social activity in one week were coded as follows: never/hardly = 0, once a week = 2, several times a week = 3, and almost every day = 4.

Trust and community happiness are proxies of social capital. Respondents were asked the question, "In general, what do you think about Thai people?" The answers were coded as follows: must be careful when making a connection = 0 and most people can be trusted = 1. By contrast, the happiness levels in communities that present social quality showed average happiness levels. Moreover, the socio-demographic characteristics were controlled for the analysis as discussed below.

Age was calculated from year of birth, and age square was included in the model to control potential non-linearities in the relation with happiness. Gender was indicated by a binary variable and coded as 1 = male and 0 = female. Marital status was assigned to three dummies, namely, "married or living as a couple," "widowed, divorced, or separated," and "single."

Education level was reported on a scale of six education level categories following the Thailand education system: 0-elementary school, 1-junior high school, 2-senior high school, 3-diploma, 4-Bachelor's degree, and 5-higher than Bachelor's degree.

Four dummy variables were generated for occupation as follows: business owner, housewife/student/unemployed, employee, and retired and others. Finally, the dummy variable "children" was coded 1 if the respondents have children and 0 otherwise.

## **Result and discussion**

### **Descriptive analysis**

Before discussing the ordered logit model analysis, this part presents a rough picture of the descriptive analysis of the variables. First, Figure 1 shows the distribution of individual happiness levels and Table 1 shows the basic statistics of all dependent and independent variables.

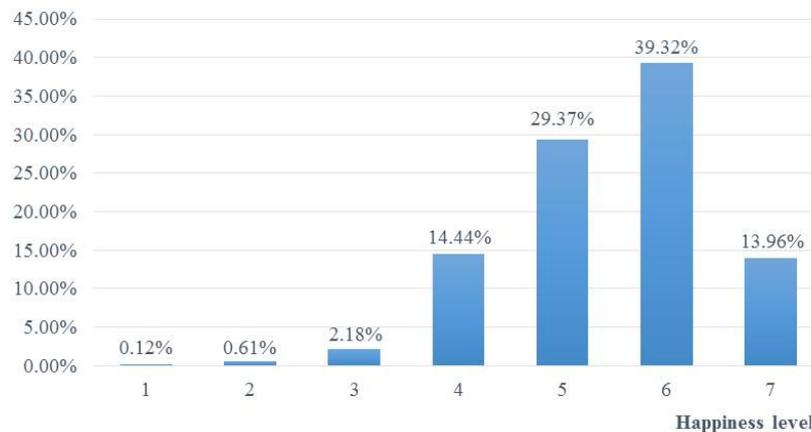
**Figure 1: Distribution of individual happiness**

Figure 1 shows that the respondents are mostly satisfied. Approximately 39% of the respondents are happy (happiness level 6) and 14% of them are completely happy (happiness level 7). By contrast, the responses in the lowest and low happiness levels are markedly lower.

Table 1 presents the basic statistics of variables in this study. On the average, respondents are “happy” with their lives (5.46 out of 7 score). A total of 47% of respondents are male and 63% are married or living together as a couple, and 27% are single. The average age of respondents is 43 years old. The youngest is 18 years old and the oldest is 84 years old. Most graduated from senior high school. A total of 40% and 35% of the respondents are business owners and employees. In addition, 65% have children.

**Table 1: Basic statistics of variables**

Variable	Definition	Mean	SD.	Min	Max
Happiness level	Subjective happiness level (1–7)	5.4612	1.02	1	7
Enough	Perception on relative income compared with adequate income level in the individual mindset (–1 to 1)	-0.2233	0.4610	-1	1
Perception on relative income	Perception on relative income compared with others in the same community (–2 to 2)	-0.0560	0.6353	-2	2
Actual relative income	The category of average household income in same district – the category of household income	0.1638	0.8713	-10	1
Self-esteem	Self-esteem score (1–7)	5.3054	0.6562	3.4	7
Volunteer	Dummy variable that presents the frequency of volunteering without any compensation (0–3)	0.3556	0.7201	0	3
Trust	Trust (0,1)	0.0752	0.2639	0	1
Community Happiness	Average happiness level in district (1–7)	5.4727	0.0875	5.3	5.6

To elucidate the factors behind individual happiness, ordered logit models are estimated. Table 2 presents the results of eight estimated models with robustness checks. The signs of the coefficients of each independent variable show the direction of the relationship between explanatory variables and individual happiness levels.

**Table 2: Happiness equations**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Enough	1.0793*** (0.1451)		0.9076*** (0.1676)	0.9466*** (0.1690)	0.9881*** (0.1688)	0.9960*** (0.1692)	0.9849*** (0.1694)
Perception on relative income		0.5827*** (0.1392)	0.2546** (0.1195)	0.3272*** (0.1243)	0.2163** (0.1255)	0.2193* (0.1256)	0.2226** (0.1258)
Actual relative income				0.1905** (0.1690)	0.1921** (0.0824)	0.1978** (0.0826)	0.2032** (0.0830)
Self-esteem					0.4983*** (0.1026)	0.5020*** (0.1027)	0.5023*** (0.1028)
Volunteer						-0.1518* (0.0887)	-0.1756* (0.0898)
Trust							0.5120** (0.2541)
Community Happiness							1.5908*** (0.7377)
Log likelihood	-1128.4461	-1138.8351	-1124.0045	-1121.427	-1109.5765	-1108.1133	-1103.8119
Pseudo $R^2$	0.0245	0.0139	0.0267	0.0290	0.0392	0.0405	0.0442
LR $\chi^2$	56.58	32.06	71.72	66.88	90.58	93.50	102.11
Prob > $\chi^2$	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of observations	824	822	822	822	822	822	822

The first column of the table provides the coefficients of only one explanatory variable, which is the first dimension of attitude toward relative income. Relative income compares actual income with individual's feelings or individual's own mind criteria (all respondents have incomes higher than the poverty line). The positive sign of the "enough" variable significant shows that people who feel that their actual incomes are adequate are happier, *ceteris paribus*. When people feel that their incomes are inadequate (even though they have high actual incomes) feel insecure, nervous, stressed, envious, and ultimately unhappy.

By contrast, such a result implies an association with the aspiration level theory, in which individual happiness is determined by the gap between aspiration and achievement (Michalos 1991 and Inglehart 1990, ch. 7). In the present study, individuals who feel adequate have less income aspiration.

The second column indicates the relationship between the happiness level and the second dimension of attitude toward relative income. This relationship refers to the comparison between an individual and others in the society. We also find a positive relationship between the happiness level and the attitude toward relative income. The result confirms the social comparison effect, in which humans constantly themselves to others around them and make judgments about their life based on their observations. People feel better about themselves and their lives when making downward comparisons and feel bad about themselves when making upward comparisons.

When we add both dimensions of attitude toward relative income in the same equation, the third column in Table 2 reveals that attitude toward relative income influences individual happiness in the comparison with their own criteria and with others.

Subsequently, we add actual relative income into the model in column 4. We find that in addition to attitude toward relative income, actual relative income also relates to happiness level. The positive and significant coefficients on actual relative income imply that an increase in the actual income gap between a person and others in the society reduces the level of happiness. Being in the upper income class results in a higher level of happiness. This finding confirms the influence of income inequality on happiness.

In addition, individual self-esteem is tested. Self-esteem is a subjective indicator of a generic social value of the self (Sato and Yuki, 2014). Column 5 shows that a higher level of self-esteem leads to greater happiness. Self-esteem results in major life successes. People with high levels of self-esteem tend to have more positive thoughts about themselves, tend to be extroverted, are not afraid to create a life full of events, create personal values more over self-esteem mitigates the effects of stress (Baumeister et al., 2003), and can perceive challenges as problems to be solved (Graham, 2011). Therefore, self-esteem leads to happiness.

Furthermore, after controlling volunteer variable in equation 6 to determine the effect of giving to happiness level, we found that the frequency of volunteering has a negative effect on happiness. Individuals who frequently volunteer without any compensation are less happy. This result indicates that giving to others in terms of volunteering does not generate happiness.

Next, we determine the importance of social capital by controlling trust and community happiness. Trust is one of the defining elements of social capital (Coleman, 1988; Putnam, 1995). As expected, the result in column 7 shows that trust has a positively significant relationship with individual happiness, that is, people who trust in others seem happier. Trust relieves loneliness, creates a feeling of security, creates a sense of community, and creates warm connections. According to Coleman (1988), trust is built upon people's obligations to each other via help given and received.

Community happiness refers to a social characteristic. The estimated model shows that community happiness is a significant part of building happiness among all explanatory variables. Living in a happier society results in more happiness. As expected, living in a happy atmosphere, with low violence, peace, and low conflict, results in high well-being. Thus, living in a trustful and happy society induces individual happiness.

## Conclusion

Numerous empirical research conducted worldwide have revealed that many variables are involved in attaining happiness. This study aims to investigate whether a significant relationship exists between actual relative income, attitude relative income, and happiness in Thai society. The primary survey data used was gathered from Chiang Mai and Nakhon Ratchasima, Thailand in October 2016.

The main findings are as follows: (1) the attitudes toward relative income compared with own mindset and other people in the same society indicate a positive relationship with happiness level, and (2) the attitudes toward relative income and actual relative income contribute toward individual happiness level. The positive and significant coefficients on actual relative income imply that an increase in the actual income gap between an individual and others in the society reduces the level of happiness.

People with high self-esteem are happier. Moreover, trust and community happiness, which represent the quality of social capital, are significant factors in individual happiness.

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