

# Wealth and Happiness: Empirical Evidence from Indonesia<sup>1</sup>

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**July 2010**

## Abstract

The economics of happiness is an interesting way to provide broader concept of wealth. It is able to provide insight on relative utility that is not only depending by income as mediated by individual choices or preferences within monetary budget constraint but also non monetary factors. Recent economic studies on happiness or subjective well being, most of them in developing countries, are able to give us some insight what makes individuals satisfied with their lives. Some of the studies in developed countries also found that within countries, higher level of income contribute on higher level of reported well being. Unfortunately, economic studies on happiness in developing countries, including Indonesia, are limited because of data limitation. Therefore, this paper analyzes the determinants of subjective well being in Indonesia assess whether there is positive association between individual wealth and happiness. Using Indonesia Family Life Survey Data Set, logistic regression analysis is used to identify the source of happiness from both economic and not economics variables.

Key word: Happiness, wealth

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<sup>1</sup> This paper was presented at 10<sup>th</sup> Indonesian Regional Science Association (IRSA) International Conference that was held on July 28-29, 2010 at Faculty of Business and Economics of Airlangga University in Surabaya Indonesia. Many thanks for Nur Hidayat and Taufik Hidayat for discussion and providing some reading materials. Also thanks for Rossanto Handoyo and Rumayya for providing working space in Laboratorium Pengkajian Ekonomi Pembangunan, Faculty of Economics and Business, Airlangga University when the authors preparing this paper.

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## 1. Introduction

*“Those who say that money can’t buy happiness don’t know where to shop.”*

*- Anon-*

Does money buy a lot of happiness, not much, or none? Is economic growth really causing Indonesian better off? These are important but tickle questions. Life has ups and downs. It would not be thought profound to say that someone who becomes unemployed or has little income generally becomes less happy, or that someone who gets married or becomes richer generally becomes happier. Which is better: a large pay rise or getting married? Until recently, there has been no way to assess the size of different life events upon psychological health and well-being.

There is little economic theory in this area. Authors like Rayo and Becker (2007), Wilson and Gilbert (2005) and Graham and Oswald (2005) sketch theories of happiness adaptation. The research highlights factors other than income that affect well-being. The economics of happiness is an approach to assessing welfare which combines the techniques typically used by economists with those more commonly used by psychologists.

The economics of happiness does not purport to replace income-based measures of welfare but instead to complement them with broader measures of well-being. These measures are based on the results of large-scale surveys, across countries and over time, of hundreds of thousands of individuals who are asked to assess their own welfare. The surveys provide information about the importance of a range of factors which affect well-being, including asset but also others such as health, marital, education, and age.

The only comprehensive evaluation of quality of life that does not require mixing various indicators in a more that individuals make themselves when asked about their level of happiness or how satisfied they feel with the life they lead. However, for these very reasons, politicians and leaders must try to understand how perceptions are formed and how they influence the attitudes of individuals and their relations with institutions and public policies.

To answers the questions, this paper is divided into 5 sections. Section 1 provides a brief introduction about happiness. Section 2 discussing how happiness index is usually measured and constructed, followed by results. Then, section 3 outlines the data used in this paper and presents some validations for the use of the data we collected. Section 4 will provide some findings and section 5 concludes.

## 2. Literature Review

Together with other social scientists, economists have begun to research the patterns in subjective well-being data. Easterlin (1974) suggested a test for whether greater riches had made Americans happier. He looked at whether reported happiness rose as national income did. His paper concludes: "... in the one time series studied, that for the United States since 1946, higher income was not systematically accompanied by greater happiness" (p.118). This result would mean that economic growth fail to buy well-being. A number of social observers have pointed out that the enormous increases in income in the industrial democracies over the last century do not seem to be accompanied by differences in happiness. In a seminal paper, Easterlin (1974) showed that one could approach these issues using what are now called "happiness data", namely the responses that individuals give concerning a simple well-being question such as "*Are you Happy?*" Using data for the US, he showed that happiness responses in a particular year were positively correlated with an individual's income. But over time, the average happiness response was untrended in spite of a sharp increase in average income levels. More recently, Blanchflower and Oswald (2000) have showed a similar pattern for the period following the publication of Easterlin's paper (see also Easterlin (1995)). Similar findings, or with very slight detectable trends, have been observed in a variety of countries (see, for example, Veenhoven (1993), Inglehart and Klingemann (2000), *inter alia*).

According to Easterlin (1974), average happiness remains relatively constant over time in spite of large increase in income per capita, which means that wealth increase in life does not necessary increase the amount of happiness (see also Campbell, Converse and Rodgers (1976)). Oswald (1997), Easterlin (2003), Layard (2004) claim that the available collected data 'do not encourage the idea that economic growth leads to greater well-being.

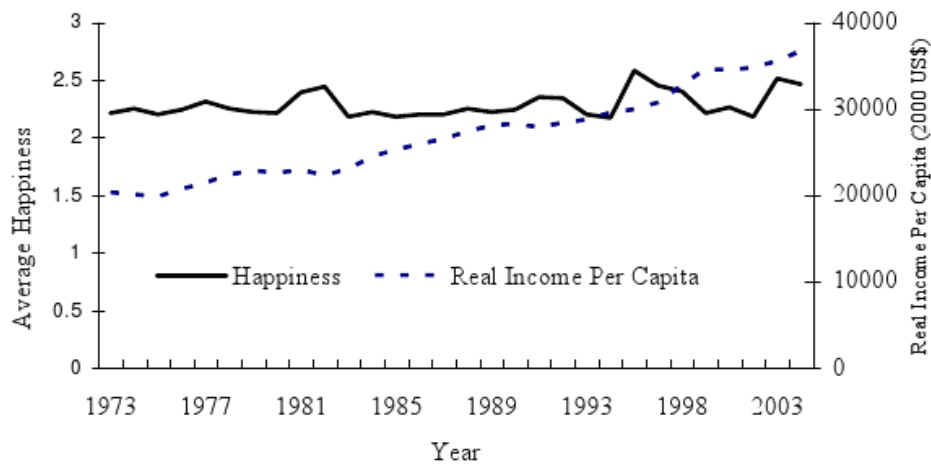


Figure 1: Happiness and Real Income Per Capita in the United States, 1973-2004

Source: World Database of Happiness and Penn World Tables.

Subjective well-being research has focused largely on developed economies, simply because adequate data are more readily available from these countries. Figure 1 clearly shows an Easterlin graph for the US over the period 1973-2004. While real income per capita almost doubles, happiness shows essentially no trend. From this figure, it looks as if individuals in the US are “flat of the curve,” with additional income buying little of any extra happiness. Lane (2000) has noted that once an individual rises above a poverty line or “subsistence level,” the main source of increased well-being is not income but rather friends and a good family life.

Scitovsky (1976) hypothesised that, beyond a certain level of material comfort, further wealth does not add to wellbeing – and may even detract from it – unless it is accompanied by satisfying social networks and intellectually stimulating leisure activities. In contrast, few prominent authors like Blanchflower & Oswald, (2004); Di Tella et al., (2007); and Stevenson & Wolfers, (2008) have done a research within country cross sectional and panel data, concluded that rising incomes “buy” additional satisfaction, although the magnitude of the within country cross sectional effect income on satisfaction is under dispute.

Some other factors that affect happiness, Oswald (1997) notes that “happiness is high among those who are married, on high income, women, whites, the well-educated, the self employed, the retired, and those looking after the home. Happiness is apparently U-shaped in age (minimizing around the 30s).” The results are not only consistent with the findings on the

literature of psychology (for instance, see Wilson, 1967) but also seem to hold across different countries, different time periods and even different measures of well-being (see, for example, Frey & Stutzer, 2000 for Switzerland; Gerdtham & Johannesson, 2001 for Sweden; Frijters *et al.*, 2004 for Germany).

To solve the paradox, how can something intangible like *HAPPINESS* be measured? The literature has strongly focused on self-reported measures of happiness, and employed survey data (see Frey and Stutzer 2002a, 2002b; Clark *et al.* 2008). The literature has attempted to fill utility with content and has assumed that utility can be cardinally measured in the form of subjective well-being (Frey and Stutzer 2002a). Easterlin (1974) first used cross-sectional comparison across nations with differing levels of GPD per capita.

## **2.1 Measuring Happiness and its Limitation**

In the past literature, a regression of happiness on income using cross-section survey data from one country and generally produces a significant positive estimated coefficient on income, this holds for both developed and developing countries. It results the income-happiness slope is larger in developing or transition than in developed economies (Clark *et al.* (2008)). From the microeconomic perspective, growth of the empirical literature on income and happiness has produced much information in this respect as well. In the past studies, British Household Panel Survey (BHPS), the German Socio-Economic Panel Study (GSOEP), and the Russian Longitudinal Monitoring Survey (RLMS) have largely been investigated and these panel studies allow researchers to track individuals' income and happiness over long periods. Economists have also come to the argument that individuals are not always able to choose the greatest amount of utility for themselves. The empirical results of this appear in Duesenberry (1949), Hirsch (1976), and Clark & Oswald (1998). They came to agreement that comparison of one's own income to that of friends or colleagues, can affect individual's utility of outcomes in a great way.

## 2.2 Constructing the analytical model

To identify the determinants of happiness, we adopt a happiness model function comes from Blanchflower and Oswald (2004) in the following form:

$$(1) \quad r = h(u(y,z,t) + e)$$

we take the terms well-being, utility, happiness, life satisfaction, and welfare to be interchangeable and measured by the answer to a question such as that asked in the Indonesian Family Life Survey (IFLS). Because there are some independent variables that not captured in the models, so we adopt it and become a following form:

$$(2) \quad r = h[u(\textit{education}, \textit{health}, \textit{lnasset}, \textit{marriage}, \textit{age}, \textit{lnexpen}, \textit{sex}) + e]$$

- Where  $r$  denotes whether individuals happy or not.
- $h(\cdot)$  denotes a non-differentiable function relating actual well-being to reported well-being;
- $u(\dots)$  denotes thought to capture the individual's true well-being or utility;
- *education* denotes last individual education level. In this section, we classify into two groups -- basic education and high education. Elementary school and junior high school are included in basic education group. Senior high school until college are included in high education level.
- *Health* denotes thought to capture whether individuals healthy or not. Let me start with health. The critical issue is whether significant changes in health have a lasting effect on happiness.
- *lnasset* denotes as logarithmic natural ( $\ln$ ) of total asset that represent as proxy of the wealth of each household. How many value of jewelry, saving, land, vehicles, and other asset of households.
- *marriage* denotes marriage status of each individual. Let me turn to the effects of marriage and marital dissolution. One might suppose that establishing close and intimate relationships of the sort represented by marriage would typically make the partners in such a relationship happier and more satisfied with life in general.
- *Age* denotes age of each individuals.

- The total expenditure, *lnexpen*, denotes logarithmic natural (*ln*) of total consumption of household. This variable perform as proxy of income of household.
- *Sex* denotes gender of each individuals.
- The error term, *e*, denotes thought to subsume among other factors the inability of human beings to communicate accurately their happiness level.

Ferreri-Carbonell & Frijters (2004) reported, qualitatively similar results can still be obtained by using OLS (ordinary least squares) but there are limitations to econometric inferences at the cross-section. One issue is the identification problem involved in the modelling of happiness regression equations such as that of equation (1). For example, are people more satisfied with their life because of their economic conditions, or do happy people assess their economic conditions more favourably? The problem of reversed causality may also exist at the individual level in the relationship between marriage and happiness. Does marriage make people happy, or are intrinsically happier people more likely to find a partner and get married? In addition, with respect to the influence of average characteristics of relevant others in the community, there may be a Manski-type reflection issue if, say, others' unemployment or crime affect the reported life satisfaction at the household level directly, rather than indirectly as we have portrayed them throughout our analysis (Manski, 1993).

More importantly, cross-sectional studies on happiness may be unreliable if individuals' subjective responses are dominated by personal latent psychological differences (Powdthavee 2007). The idea is that cross-section equations will be biased whenever unobserved personality traits are correlated with observable socio-economic factors (unemployment or education) and subjective well-being responses. As a result, we should always treat interpretation of cross-sectional estimates with care and be reminded by Layard (2005), that we need a "revolution" in academia, where every social scientist should be attempting to understand the determinants of happiness, and it should be happiness which is the explicit aim of government intervention.

### 3. Data and Methodology

#### 3.1. Data

The major data source for this thesis is Indonesian Family Life Survey (IFLS) from RAND Corporation in Santa Monica, USA. The data is longitudinal survey data at household and community level. To investigate the sources of happiness, the fourth wave of the Indonesia Family Life Survey (IFLS4) is used because availability of the question about respondents' happiness. The IFLS4 consists of two surveys – one household and one community and facilities. The data for this study is constructed based on variables that were combined from two data sets. After combined and cleaned, the data of 29,013 respondents age 15 years old and more were analyzed.

This study use data on age, education, health, asset, marriage, household expenditure and sex which are determined in happiness. Measuring in national level, try to addressing what determined happiness in Indonesia and how strong its determinant in their activity.

#### 3.2 Operational Definition

In this paper we estimate what may be the first econometric happiness equations in which education, total consumption, sex, age, marital status, and asset that they have, are independent variable. Like the rest of the recent wellbeing literature, we study the numbers that people report when asked questions about how happy they feel with their life. To identify the source of happiness, we classify variables as two. First are dependent variables, second are independent variables. Here they are:

<b>Dependent Variables</b>	<b>Description</b>	<b>Level of Measurement and Data Management</b>
Happiness	This variable measure respondents' subjective well being through indentify their self perception on happiness. Whether they are felling happy or not	Nominal 1= Happy 0= Not Happy
Age	Age is related to maturity, experience and the way to see live. Age also related to physical condition of respondent.	Ratio
Education	This variable refers highest formal school attended by respondents. In Indonesia, basic education is nine years education (graduate from junior high school or equivalent).	Nominal 1=have minimum basic education 0=not achieve basic education

Health	This variable is self perception of respondents' health status. It measure what is respondents' felling about their health	Nominal 1 Healthy 0 Not Healthy
Asset	This variable provide total value of non-business assets (e.g., land, livestock, jewelry), as well as asset ownership and ownership shares. To control variation between households, logistic natural are being used for regression analysis	Ratio
Marriage	Formal Marital status related to secure relation between couples. This relation are protected by law and should provide more stable relation	Nominal 1= Formal Marriage 0 =Unmarried, Non formal marriage and ever married
Household Expenditure	This variable combine expenditures for a variety of food and nonfood goods and services, including foods purchased and the value of foods consumed from self-production or transfers in the last week, personal care and household items bought during the last month, and durable goods bought in the last year. Quantities and purchase prices for the last purchase of several staples were also collected for various foods. To control variation between households, logistic natural are being used for regression analysis	Ratio
Sex	Sex related to difference physical condition between male and female. In some culture, sex related to difference gender role	Nominal 1= Male 0=Female

### 3.3. Methods

In this paper, we use two methods of analysis employed in this study. First, descriptive statistics described how characteristics in level individual and household, the descriptive statistics cover uni-variate and bi-variate analysis. Second, inference statistics cover bi-variate and multivariate analysis. The multivariate analysis focuses on examining the effect of intervention and independent variables on dependent variables. Logistic Regression is a major approach for multivariate analysis.

#### 4. Findings

The data (Table 1) shows that about more than 90% of respondents fell happy in their life. Its means that almost Indonesian are happy, and standard deviation is lower indicate that this variance are constant and good to use as variable.

Besides, education is one of basic objectives of development; they are important ends in themselves. Education is essential for a satisfying and rewarding life; both are fundamental to the broader notion of expanded human capabilities that lie at the heart of the meaning of development. At the same time, education plays a key role in the ability of a developing country to absorb modern technology and to develop the capacity for self-sustaining growth and development. It is interesting since only 39% of respondents attend higher than basic education that means government need improve access to basic education.

Health is central of human being and one major components of human development. The data show that only 10% of respondent perceived that they are healthy. Besides self perception, healthy felling is theoretically determined also by intensity of public health support not only in urban but also in rural area. And lower prices of prescription so people could reach their healthy life more than before. Low level of healthy perception show that the respondents are not feels secure on their health.

Additionally, 63% of respondents have formal marriage, the rest of them are ever married, did not married or widowed. 47 % of respondents are male and 53 % of them are female. Minimum age of respondents is 14 years-old and maximum of it 97 years-old.

From the correlation result shown in Table 2, it is clearly be seen that age have highest correlation with being happy. It is interesting since the correlation between age and happiness is negative. The second highest are education with the positive value. Sex is variables with lowest correlation to happiness. Health, asset, marriage and expenditure, have the correlation values to happiness between education's and sex's.

The logistic regression show that age is one of major source of happiness. The odd ratio shows that the respondents with older age less likely being happy rather than young respondent (Odd Ratio: 0.9 with 99.9% confidence interval).

The respondents with who attended more than basic education/ senior high school or higher are more likely being happy rather than respondent who only achieve basic education/ junior high school or lower (Odd Ratio: 1.6 with 95% confidence interval).

The respondents with who fell healthy are more likely being happy rather than respondents who are not felling healthy (Odd Ratio: 1.3 with 99.9% confidence interval). Although from the data might people be happy even they are not feeling healthy, government need to pay more attention in provide basic service for health since only 10% of respondents felling healthy.

Asset ownership is one of source of happiness (Regression coefficient: 0.09-0.1 with 99.9% confidence interval). Person with higher values of asset are more likely to be happy rather than people with lower value of asset. It might happen because people with sufficient asset might feel more secure than people who has insufficient one. Asset can be used as investment as well as prevention.

The respondents with who have formal marriage are more likely being happy rather than respondents who are not married. It indicating that a couple with formal marriage are happier than single, may be its reason because they are couple that their life could share in a pair – ups and downs in life, rather than if he is a single, his life will be done and finished by himself solely. Additionally, formal marriages provide legal and social protection more than informal marriage.

Expenditure is also one of source of happiness (Regression coefficient: -0.08 with 99.9% confidence interval). We use this variable to addressing how much money did member spent by households. Interestingly, the regression coefficient is negative, it means person with higher expenditure are less likely to happy. It might caused by sources of expenditure itself. If the people have to borrow money to fulfill their need or they have to spend a lot of money because of inflation, they might be unhappy.

Sex differences did not affect to respondents' happiness. So we can conclude that sex differences, female or male, doesn't affect on happiness. There is no significant relationship between sex and happiness. It might happen because gender in Indonesia that give some balance role for women.

## **5. Conclusion**

Based on the analysis, there are some variables that are indicated as sources of happiness for Indonesian. The variables are age, education, health, asset, marriage, expenditure. And there is also variable which haven't impact on Indonesian happiness. That indicator is sex differences.

This nation could have more attention education and health to increase of the people's happiness, because although only 10% of respondents feel healthy and 39% of respondents attended higher than basic education, both of variables are have significant to respondents' happiness.

For the further research, we need to consider conducting specific study on the effect of education to happiness and identifying a specific impact of education level, type of education and government's intervention in education sector to people's happiness. Additionally, it will be also interesting identify the effect of specific health problem as well as public health service to people's happiness.

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## Annex

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
Happy	29013	0.913	0.282	0	1
education	29013	0.391	0.488	0	1
Health	29013	0.105	0.307	0	1
Inasset	28842	17.09	1.642	9.210	21.53
marriage	29013	0.636	0.481	0	1
lnexpen	28992	16.79	0.948	13.22	23.69
Age	29013	36.88	15.62	14	97
Sex	29013	0.476	0.499	0	1

Table 2. Correlation

	happy	education	health	Inasset	marriage	lnexpen	age
Happy	1						
education	0.0373	1					
Health	0.0292	0.0446	1				
Inasset	0.0437	0.210	0.0124	1			
marriage	0.0248	-0.0726	-0.0224	0.0313	1		
lnexpen	0.00370	0.281	-0.00120	0.360	0.0202	1	
Age	-0.0629	-0.310	-0.0898	0.0901	0.180	-0.0742	1
Sex	-0.00230	0.0750	0.0262	-0.00490	0.00360	0.00970	-0.00180

Table 3. Source of Happiness (Model 1-4)

	Model 1		Model 2		Model 3		Model 4	
	Coef.	Odd Ratio	Coef.	Odd Ratio	Coef.	Odd Ratio	Coef.	Odd Ratio
cons	2.863 (0.0542)		2.753 *** (0.0633)		2.707 *** (0.0641)		1.136 *** (0.212)	
age	-0.0134 *** (0.0013)	0.987 *** (0.00124)	-0.012 ** (0.00133)	0.988 ** (0.00132)	-0.0115 *** (0.00134)	0.989 *** 0.00132	-0.0132 *** (0.00136)	0.987 *** (0.00134)
education			0.152 *** (0.0466)	1.165 *** (0.0542)	0.149 ** (0.0466)	1.161 ** (0.0541)	0.0577 (0.0483)	1.059 (0.0512)
health					0.316 *** (0.0778)	1.372 *** (0.107)	0.313 *** (0.0785)	1.368 *** (0.107)
lnasset							0.0986 *** (0.0127)	1.104 *** (0.0140)
marriage								
lnexpen								
sex								
Log Likelihood	-8531		-8526		-8517		-8409	
LR Chi2	110.1		120.9		138.7		195.3	
Pseudo R Square	0.00640		0.00700		0.00810		0.0115	
Prob>Chi2	0		0		0		0	

Significance Levels: \*\*\* : 0.001, \*\* : 0.01, \* : 0.05

Table 4. Source of Happiness (Model 5-7)

	Model 5		Model 6		Model 7	
	Coef.	Odd Ratio	Coef.	Odd Ratio	Coef.	Odd Ratio
cons	1.066 *** (0.212)		2.292 *** (0.381)		2.315 *** (0.382)	***
age	-0.0138 *** (0.00135)	0.986 *** (0.00133)	-0.0141 *** (0.00135)	0.986 *** (0.00133)	-0.0141 *** (0.00135)	0.986 *** (0.00133)
education	0.0639 (0.0485)	1.066 (0.0517)	0.099 * (0.0494)	1.104 * (0.0545)	0.103 * (0.0495)	1.108 * (0.0549)
health	0.315 *** (0.0785)	1.371 *** (0.108)	0.309 *** (0.0786)	1.362 *** (0.107)	0.31 *** (0.0786)	1.364 *** (0.107)
lnasset	0.0953 *** (0.0127)	1.1 *** (0.0140)	0.109 *** (0.0132)	1.115 *** (0.0147)	0.109 *** (0.0132)	1.115 *** (0.0147)
marriage	0.23 *** (0.0433)	1.259 *** (0.0545)	0.236 *** (0.0433)	1.266 *** (0.0549)	0.238 *** (0.0434)	1.269 *** (0.0551)
lnexpen			-0.0869 *** (0.0228)	0.917 *** (0.0209)	-0.087 *** (0.0228)	0.917 *** (0.0209)
sex					-0.0415 (0.0423)	0.959 (0.0406)
Log Likelihood	-8395		-8381		-8380	
LR Chi2	223.3		235.2		236.1	
Pseudo R Square	0.0131		0.0138		0.0139	
Prob>Chi2	0		0		0	

Significance Levels: \*\*\* : 0.001, \*\* : 0.01, \* : 0.05