The Concept of Happiness: The Bridge between Western and Eastern Thought, and Empirical Evidence of Bangkokian's Happiness Determinants[*]

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Abstract

Happiness is born from not only 'self' but also 'environmental' elements which influence the human feeling of happiness. Following the concept of Buddhist Economics, the ecosystem relationship consisting of body-mind, human-human and human-nature is used for this analysis. In addition, there are three dimensions of happiness: 'man,' 'mind' and 'environment.' The 'man' dimension is an observed happiness model with self-reported evaluation. The 'mind' dimension is explained by a descriptive analysis of the relationship between proxies of the Noble Eightfold Path using Thai proverbs and happiness factors such as age, gender, marital status, educational level. The 'environmental' dimension consists of two parts: social environment and natural environment. In terms of the pilot study, this study uses a random sampling survey using a happiness questionnaire. Bangkok citizens who were over 15 years old, and were living in Bangkok in March

2007 make up the sampling frame. Two statistical methods are chosen: Ordered Response for the 'man' dimension, and Chi-square test for the 'mind' dimension.

Introduction

In Western studies, even though economics and psychology are two distinct disciplines, in recent decades many economic studies on happiness have developed under assistance from psychological theories for topics of definition and measurement, including framework and pattern of happiness. For instance, Easterlin (1974) studied the relationship between happiness and wealth by examining the population of the U.S. from 1946-1970. His findings question traditional principle that economic prosperity provides happiness to a society or individual, and this became known as the 'Easterlin paradox.' Furthermore, Brickman and Campbell (1971) based the concept of hedonic treadmill on a notion of adaptation level to explain the phenomena of adaptation in perception and judgment.

Eastern philosophy, especially Buddhist, does not directly explain happiness, but reducing suffering is considered a parallel of increasing happiness. Buddhist Economics as alternative theory in economics has scientifically been developed since Ernst Schumacher's essays, 'Buddhist Economics,' (1966)[1], that were later compiled into the book 'Small is Beautiful: Economics as if People Mattered.' It is used almost exclusively by followers of Schumacher and by certain Theravada Buddhist writers such as Prayudh Payutto and Phrabhavanaviriyakhun. Later, Apichai Puntasen explained Buddhism as an alternative of economic theory in 2001 with his writing, 'Buddhist Economics: Evolution, Theory and Application in Economics.'

'Happiness' is an interesting topic for both academics in economics, psychology and neuroscience, as well as policy makers. At present, economists, psychologists, scientists and policy makers have attempted to push theory, methodology and policy option relating with happiness, or subjective wellbeing, to be well-known. Thailand is a country which is very interested in

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[1]See in Wikipedia, http://en.wikipedia.org/wiki/Buddhist_economics

development concentrating on peoples' happiness as a goal and has tried to develop some kinds of indicators beyond GDP.

For example, Office of Economic and Social Development Board (NESDB) has recently constructed the Green and Happiness Index. However, happiness studies in Thailand, especially in economics concerning scientific exploration, still lacks knowledge, understanding and education in terms of using experiments to support human behaviours. Likewise, there is a lack of comprehension in methodology for happiness studies in economics which is an important impediment in the development of economic research and policy options. Therefore, a goal of this study is to find what the suitable happiness pattern is for Thais. This study benefits from scientific explanations from Western studies in synthesis with Buddhist Economics as representative of Eastern culture.

There are three parts in this paper: conceptual framework, methodology and results. Understanding the concept of happiness is so important, but has been ignored in most studies in Thailand in recent years. This study concentrates on constructing a proper happiness framework under cultural constraint, and then tests it. This framework adds some factors following the concept of Buddhist Economics, and expands the frontier in analysing not only 'self' but also 'mind' and 'environmental' elements which influence human happiness.

1. Conceptual framework of human happiness

The objectives of this study are to construct a theoretical framework and to test it. The theoretical framework should be able to answer two questions: What is happiness? How do we measure it? This part initially explains happiness concepts and the psychological mechanisms creating happiness in order to get a clear happiness definition for this study.

1.1 Concept of happiness

In many literatures, the focus of happiness, or the so-called subjective wellbeing, is on two aspects: affect and cognition. 'Affect' is the label attached to moods and emotions, representing people's instant evaluation of the events that occur in their lives.

Whereas the cognitive component refers to the rational or intellectual aspects of subjective wellbeing, it has been shown that pleasant affect, unpleasant affect and life satisfaction are separable constructs. Even though its definition looks like a component or source to the concept of happiness, the difference is that its elements are constructed theoretically.

Most definitions of happiness are related with emotional states, for example, Layard (2002) defines happiness to mean feeling good, enjoying life and feeling that it is wonderful, but in contrast unhappiness means feeling bad and wishing for things. Similarly, Vermunt et al. (1989) defines happiness to be an emotional state, which is sensitive to sudden mood changes. Another source defines life satisfaction as a cognitive and judgmental state which questions an assessment of life as a whole. However, most economists who conduct studies over this issue are more interested in its determinants rather than the definitions. According to the American Heritage Dictionary, satisfaction is gratification of a desire, need, or appetite, and the pleasure derived from such gratification. On the other hand, wellbeing is the state of being healthy, happy or prosperous and welfare. Happiness can also be seen as good fortune, and as having, showing or being marked by pleasure.

Secondly, Western psychological tradition, for example, has generally left the hard question of 'What is happiness' to philosophers for debate, and gone on to study 'perceived' happiness and its correlates. In so doing, researchers have achieved a general consensus to operationalise happiness in terms of (1) positive affect; (2) life satisfaction; and (3) absence of negative affect, a part of cognitive ones such as Andrews and Withey (1976), Diener (1984), Argyle (1987), Lu (1995) (cited in Lu (2001), p.408).

From the above literature reviews, this study follows a subjective notion of happiness. It is useful to look at two polar concepts of happiness: subjective happiness and objective happiness.

Frey and Stutzer (2002b, p.4-6) explain that objective happiness refers to physiological approaches, which endeavour to capture subjective wellbeing, especially by measuring brain waves

of human beings. This approach comes close to the idea of a hedonometer, which is directly a measure of cardinal utility. Besides, as another concept of happiness in between the polar extremes of subjective and objective happiness, experience sampling measures are typically carried out several times a day for many days to ascertain moods, emotions, and other feelings at random moments in individuals' everyday lives.

Figure 1 Concepts of Happiness
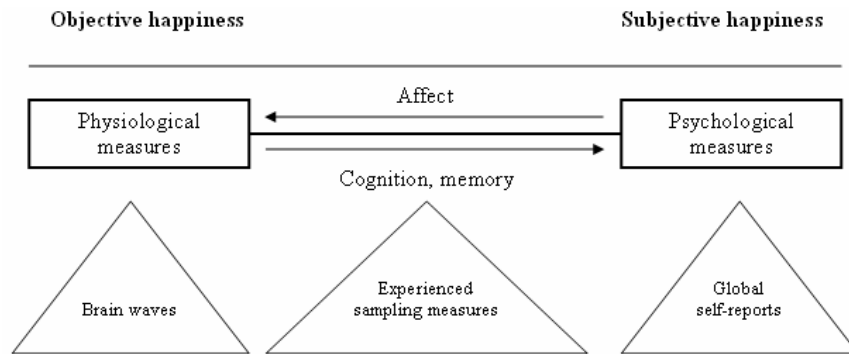
Source: Frey and Stutzer (2002b), p. 4

The hedonic, which is an objectively oriented concept, is useful for many of the intricate questions posed by some psychologists. The more objective methods can reduce the memory biases that in turn affect retrospective reports of experience in global self-reports. Moreover, these approaches have the advantage of being precise in terms of measurement. To a large extent, these measures assess an individual's level of affect. The subjectively oriented concept which is necessarily less precise in terms of cognitive processes may be differed among individuals and over time plays a major role, but cognition brings to subjective happiness. These concepts are useful for issues connected with happiness, which have a bearing on social aspects. Moreover, physiological and moment-based measures rely on strongly normative judgments in the sense that happiness is assessed according to fixed rules. However, our attitude toward

particular pleasures and pains is not a priori given.[2] Individual wellbeing is not an isolated feeling, but strongly depends on the conditions in which the persons concerned live. Thus, social comparisons are of great importance and have to be taken into account. Similarly, individuals have not a fixed, once and for all given grid for measurement; they adjust to changing circumstances. A case in point is the effect of earning higher income on happiness. At first, individuals indicate a higher degree of happiness, but after some months, this increase tends to evaporate, and the level of happiness is not much higher that it was before the increase in income. These, and related aspects of subjective happiness, will be extensively discussed in this study.

1.2 Psychological mechanisms producing happiness

Frey and Stutzer (2002b, p.11-13) explained that subjective wellbeing or happiness is an attitude consisting of the two basic aspects of cognition and affect. 'Affect' is the label attached to moods and emotions. Affect presents people's instant evaluation of the events that occur in their lives. The cognitive component refers to the rational or intellectual aspects of subjective wellbeing. It is often assessed with measures of satisfaction by showing that pleasant affect, unpleasant affect, and life satisfaction are separately constructed.

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[2] Kahneman and Krueger (2006, p.7-8) reported that: 'Findings from neuroscience research also lend some support for the view that life satisfaction measures are related to individuals' emotional states. By way of background, note that there is strong clinical and experimental evidence that activity in the left prefrontal cortex of the brain is associated with the processing of approach and pleasure, whereas the corresponding area in the right hemisphere is active in the processing of avoidance and aversive stimuli. In particular, the left prefrontal cortex is more active when individuals are exposed to pleasant images or asked to think happy thoughts, while the right prefrontal cortex is more active when individuals are shown unpleasant pictures and asked to think sad thoughts. A recent study using several measures of psychological well-being reported a statistically significant correlation of 0.30 between survey reports of life satisfaction and the left-right difference in brain activation (Urry et al., 2004).'

The cognitive aspect involves a component of judgment and comparison. Happiness is thus not given and immutable, but is constructed within the person concerned and heavily depends on the social environment within which each person has been socialised and within which he or she lives. There are, in particular, three psychological processes that have to be taken into account: aspiration, adaptation and social comparison.

Aspiration, or satisfaction treadmill, demonstrates that people always evaluate their situation with regard to an aspiration level that is systematically formed by their hopes and expectations. It has a negative relation between aspiration level and happiness report.

Adaptation, or hedonic treadmill, explains that people get used to new circumstances and accordingly adjust their subjective level of wellbeing. This refers to a lot of different mechanisms; in the case of habituation, it is an automatic passive biological process.

Social comparison, or relative theory, is a relative measuring stick with respect to subjective happiness. People compare their status with those of relevant other persons.

1.3 Theoretical framework

Economists have had a long-standing preference in studying peoples' revealed preferences by looking at individuals' actual choices and decisions rather than their stated intentions or subjective reports of likes and dislikes. Yet people often make choices that bear a mixed relationship to their own happiness. A large number of literature from behavioural economics and psychology find that people often make inconsistent choices, fail to learn from past experience, exhibit reluctance to trade, base their own satisfaction on how well their situation is compared to the satisfaction of others and depart from the standard model of the rational economic agent. If people display their bounded rationality when it comes to maximise their utility, then their choices do not necessarily reflect their 'true' preferences, and an exclusive reliance on choices to infer what people desire loses some of its appeal. Direct reports of subjective wellbeing may have a useful role in measuring consumer preferences and social

welfare, if they can be done in a credible way (Kahneman and Krueger, 2006, p.3).

This part will discuss how to construct a happiness framework in economics from individuals' responses to subjective wellbeing. While various measures of wellbeing are useful for some purposes, it is important to recognise that subjective wellbeing measures features of individuals' perceptions of their experiences, not their utility as economists typically conceive of it. Those perceptions are a more accurate gauge of actual feelings if they are reported closer to the time of, and in direct reference to, the actual experience (Kahneman and Krueger, 2006, p.3).

On the other hand, to answer both well-known problems in economics, Experienced Utility[3] is the proper theory to assess subjective wellbeing. In order to construct a Thai happiness pattern, Buddhist Economics is an appropriate theory to support the cultural constraint. Whereas, the definition of happiness under Buddhist philosophy is reducing suffering which brings an increase in happiness, and opposites from Western thought using the concept of consumption.

(1) To answer 'How to measure?'

The earliest popular conceptions of utility, from Jeremy Bentham through Francis Ysidro Edgeworth and Alfred Marshall, were as a continuous hedonic flow of pleasure or pain. Kahneman calls this conception experienced utility, and it is also similar to what Juster, Courant and Dow (1985; Kahneman and Krueger, 2006, p.4) call process benefits.[4] Edgeworth defines the happiness of an individual during a period of time as the sum of the momentary

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[3] Moreover, 'Procedural Utility' is an extended utility from 'Experienced Utility' in terms of utility from a process. Participations in family and politics are factors as a process utility in this study.

[4] Juster, Courant and Dow define process benefits as the 'direct subjective consequences from engaging in some activities to the exclusion of others. For instance, how much an individual likes or dislikes the activity 'painting one's house,' in conjunction with the amount of time one spends in painting the house, is as important determinant of well-being independent of how satisfied one feels about having a freshly painted house.'

utilities over that time period; that is the temporal integral of momentary utility.

Bentham (1789; Kahneman et al., 1997, p.375, Stigler, 1950) points out what we ought to do, as well as determines what we shall do. This usage was retained in the economic writings of the nineteenth century, but it was gradually replaced by a different interpretation. In current economics or called decision theory by Kahneman et al. (1997), the utility of outcomes and attributes refers to their weight in decisions. Decision utility is inferred from observed choices and used to explain these choices. To distinguish the two notions, Bentham's concept shall be referred to as 'experienced utility' and the modern usage as 'decision utility.'

Pleasure and displeasure are seen as attributes of each moment of experience, but the outcomes at which people set their value are normally extended over time. The basic building block of experienced utility in this analysis is instant utility; a measure of hedonic and affective experience, which can be derived from immediate reports of current subjective experience or from physiological indices. From the writings of Bentham, Jevons and Edgeworth, the instant utility is explained to correspond to the dimension of 'intensity.' This analysis is focused on the evaluation of 'temporally extended outcomes' (TEOs), such as a single medical procedure or a concatenation of a Kenya safari and subsequent episodes of slide-shows and storytelling. There are two measures of the experienced utility of temporally extended outcomes. Remember utility is a measure on past TEOs, or is inferred from a subject's retrospective reports of the total pleasure or displeasure associated with past outcomes. Total utility is a normative concept. It is a measure on possible TEOs, which is constructed from temporal profiles of instant utility according to a set of normative rules. Decision Utility is a measure on TEOs which is inferred from choices, either by direct comparisons of similar objects or by indirect methods, such as elicited willingness to pay. Finally, predicted utility refers to beliefs about the experienced utility of outcomes. The relations among the various utility concepts define a complex agenda for this study since experienced utility can be referred to pleasure and pain, reflecting on happiness. Furthermore, this study will add the two important

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representatives of procedural utility by participation and relationship factors such as politics and family. Procedural utility was developed from experienced utility by Frey et al. (2003). It extends outcome orientation of experienced utility to a process topic under thought that not only outcomes derived utility, but also utility originates from the process.

In summary, although these two main theories were created from the roots of Western thought, the instant utility definition is the hedonic value of a moment of experience which is immediately reported or recorded under respondents' transformation function. As those respondents are Thai people, their transformation function is built from Eastern culture. In other words, the endowments of their thought are created from the Thai culture. This is an essential reason why these theories can be applied to happiness studies in Eastern culture. Since these theories are only used to answer the question 'How to measure happiness?' in technical terms.

Figure 2: Conceptual framework for experienced utility
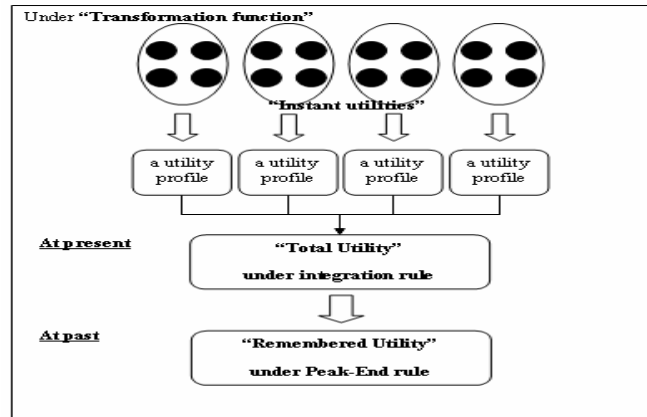
Source: The experienced utility concept from 'Back to Bentham? Exploration of Experienced Utility' by Kahneman, Wakker and Sarin (1997).

On the other hand, due to extensive work by numerous psychologists spanning many decades (recent surveys are Diener et al., 1999, Kahneman et al., 1999) the measurement of utility has made great progress (Frey and Stutzer, 2005, p.3). It is now possible to approximate individual utility in a satisfactory way by

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using representative surveys. With the help of a single question, or several questions on global self-reports, it is possible to get indications of individuals' evaluation of their life satisfaction or happiness. Behind the score indicated by a person lies a cognitive assessment to what extent their overall quality of life is judged in a favorable way (Veenhoven, 1993; Stutzer and Frey, 2003, p.2). The measures of reported subjective wellbeing can serve as a proxy for individual utility.

(2) To answer 'What is happiness?'

Under cultural constraints, Chaiaumporn and Samakkarn (1991) similarly define the meaning of the quality of life and happiness. The quality of life is life happiness, and happiness is generated in terms of physical and mind. Dalkey and Rourke (1972; Dasgupta, 2001, p.15) define wellbeing as a notion wider than welfare due to the inclusion of non-welfare characteristics of social states. However, Tiberius (2004), a moral philosopher interested in the concept of wellbeing, argues that any cross-cultural investigation of wellbeing must assume a universal definition of wellbeing.

In the 'Eastern' tradition, there is a saying, which states: 'No food, one problem. Much money, many problems.'[5] In Buddhist Economics, happiness is explained in terms of reducing pain or suffering for all living things as much as possible (Puntasen, 2006). Under the principles of sufficiency economics, happiness is defined in terms of self-sufficiency and appropriateness. If we are satisfied with living at a sufficient level, which is reasonable for our status, we will then learn the true meaning of happiness (His Majesty King Bhumibol Adulyadej of Thailand, 1997). On the other hand, Bhutan considers happiness the first goal in their national development, and the definition follows their four philosophic concepts. Definitions of happiness in Eastern culture concentrate on conditions of being appropriate and self-sufficiency.

Furthermore, Frey and Stutzer (2002b) explain the psychological mechanisms to happiness, the cognitive aspect involving a component of judgment and comparison. Happiness is thus not given and immutable, but is constructed within the

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[5]Phra Phaisan Visalo in *Your Money or Your Life* (in Thai), 2003, p.1

person concerned and largely depends on the social environment within which each person has been socialised and within which he or she lives. There are, in particular, four psychological processes that have to be taken into account: adaptation, aspiration, social comparison and copying; these are called the happiness theories in psychology.

In addition, Bostic and Ptacek (2001) concede that wellbeing is a personal experience, largely independent of the views of others. Moreover, positive and negative attitudes also include an index of life satisfaction. Perceptions of life satisfaction can be made globally (Diener et al., 1985), or can be made in reference to more circumscribed domain of life (Emmons, 1986; Zika and Chamberlain, 1987; Brunstein, 1993). However, in subjective wellbeing assessment, Diener et al. (1985) argues that life satisfaction should include endorsements of integrative statement about one's feelings about life over several dimensions.

In conclusion, happiness in this study is defined in terms of cognition because such definition is better than a mechanistic view, and suitable with economic assessment and descriptive results. Furthermore, with respect to cultural constraint, the concept of being appropriate in living and self-sufficiency should be included in our happiness definition.

Happiness analysis under Thai culture

The definition of happiness for this study is cognition of life satisfaction. Happiness is considered as different cognition and experience for individuals. It means that given everything equal, differences in an individual's cognition and experience can lead to difference in self-reported life satisfaction. Therefore, happiness pattern under a cultural constraint is a set of determinants leading to differences of individual's self-reported happiness. However, in fact, human's happiness is composed of many elements which can be divided into three dimensions based on Buddhist Economic explanatory analysis: man, mind and environment, and they are related. Happiness is influenced not only from 'self,' but also 'mind' and 'environment,' both in society and in natural environment. Therefore, human happiness's analysis should use the holistic approach. Some happiness factors which are efficient in some Western countries maybe not applicable for Thailand, so this study will exclude some factors

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such as ethnicity (as a factor offered by Frey and Stutzer (2002b)) because under Thai society race discrimination is not violent problem, and most Thais are Mongoloid, and includes some proxies based from Buddhist Economics concept.

The applied theories under Thai culture are two main theories: experienced utility using psychological mechanisms and Buddhist Economics. This framework aims to analyse under the ecosystem in three balance concepts: human-nature, human-human and body-mind. Human-nature is a representative of 'self and nature,' human and human is that of 'self-society' and body and mind is that of 'self' (Petprasert, Comment)[6].

Therefore, these three dimensions can be called man, mind and environment; all of which are applied from the concept of Buddhist Economics. The first dimension of this study is a happiness model (or global satisfaction). In terms of happiness factors, there are two parts: (1) main factors: socio-demographic, political and economic factors; explained by psychological mechanisms as a tool of experienced utility, and (2) adding factors which are the so-called 'sufficient system' interpreted by Buddhist Economics. For the mind dimension, the Eightfold Path is used to examine individuals' Threefold Training by using proxies of moral and merit belief. Finally, the environment dimension is composed of two parts: society and natural environment. In terms of natural environment, the ecological footprint from the Living Planet report (2006) is used to explain the present natural status in Thailand. Social environment is explained by the relation of family and community factors.

In summary, in terms of interpretative process, there are two parts: micro and macro levels. First, the micro interpretation uses psychological mechanisms under concept of experienced utility to explain an influence of happiness factors on individual's happiness. Second, the macro analysis uses three balance concepts or ecosystem relationships in Buddhist Economics.

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[6] Narong Petprasert, a lecturer from Faculty of Economics, Chulalongkorn University, as a thesis committee commented it in the proposal presentation, 4 July 2006 at Faculty of Economics, Thammasat University.

Concepts of Buddhism for living happily

To comprehend the balance concept, understanding Buddhist Economics is important. Firstly, Buddhist Economics does not directly define happiness, but only explains it in terms of reducing suffering. Threefold Training and the Noble Eightfold Path are the core of Buddha; they are the same meaning in different views. This study chooses the Middle Way concept which is a key Buddhist explanatory structure.

Wisdom is one supreme quality of the mind. It means the ability to understand everything at its own nature. Most of the time people do not have wisdom because of a veil of the persons' own ignorance or the persons' liking or not liking causing distortion. Such a special quality of mind as wisdom must be continuously trained to achieve its status of neutrality so that it can learn and understand everything at the object's own nature.

Wisdom cannot be trained alone, it is conditioning to the training of 'morality,' subsequently known as 'good conduct,' and concentration. The simultaneous training of the three, known as Threefold Training, is the requisite condition. It begins with some basic faith that always having good conduct will result in a calm mind or a mind of concentration. Concentration will support the neutrality of the mind (clear mind) that will be able to learn and understand everything at its own nature. This latter mind is similar to the quality of right intention and right views, two of the Noble Eightfold Path known as wisdom.

Given the above quality, there will be increasing understanding why good conduct is necessary for a better life. The three components of good conduct are right action, right speech, and right livelihood. They are the three additional components of the Eightfold Path. Given the right conduct the mind can be more concentrated because it will not be disturbed by bad thinking and bad conduct. This quality of mind is known as concentration. It consists of the remaining three of the Eightfold Path. They are right effort, right mindfulness and right concentration. The Threefold Training is the training of the three functions of the mind: morality, concentration, and wisdom. They form into the Noble Eightfold Path or the way to be relieved from the suffering,

conflict, alienation, pain, and misery that all human beings try to avoid.

Figure 3: Conceptual framework for Buddhist Economics analysis
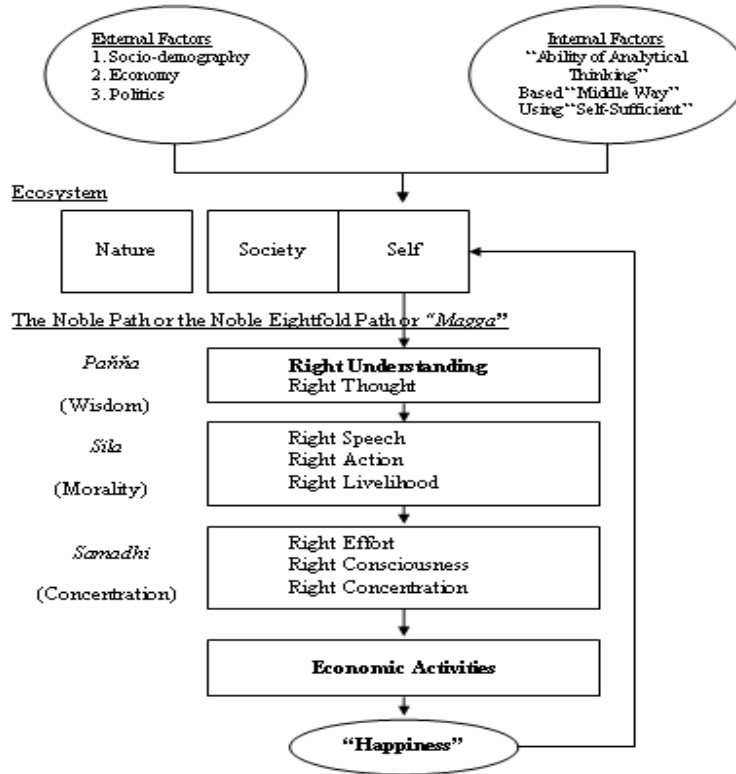
Source: Prayukvong, 2005, p.1175

According to Buddha Dharma, a human being who has wisdom will not seek to maximise pleasure or utility but will seek to be relieved from pain as much as possible. With less pain, one will gain more peace or happiness. Pain in Buddha Dharma is like a temperature. It contains both heat and cool at the same time with more heat their will be less cool and vice versa. Similarly, with less pain there will be more peace or happiness in the sense of Buddha Dharma. Happiness in this case can be equated to peacefulness rather than joyfulness or gladness.

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The main objective of consumption in Buddhist Economics is not to maximise pleasure or utility but to maintain good physical and mental health, the strong foundation for the generation and accumulation of wisdom, the fundamental tool to be relieved from suffering. Maximising pleasure or utility will not always lead to less pain. Most of the time, it leads to more pain.

In summary, this study uses two principles of Buddhist Economics. First, the concept of Threefold Training is used to explain mental dimension. Second, the study adds sufficient system factors under the Middle Way concept, and, to answer real world situations, self-reported assessment is used. Evaluation on sufficient income and basic income is a tool to construct moderation and reasonableness proxies.

Happiness concepts and conceptual framework in this study

Happiness is created from both outcome and process; therefore, it is difficult to evaluate its value completely. This study attempts to explain happiness under cultural constraint scientifically. Therefore, this research uses both western and eastern economic theories:[7] experienced utility and Buddhist Economics. Core logic of combination between experienced utility and Buddhist Economics is shown in their aspect on happiness as cognition alike. From both theories, the used framework can be applied on the below figure based from Puntasen (2006).

From the happiness framework, there are three dimensions. In terms of environment, it refers to the structure of both social and natural environments, which influence human beings and human happiness. The mind part is in relationship between input conditions, the right principles of living as understood by Buddhism, and internal factors, which is the result from understanding the right principles of living that lead to happiness or suffering. Finally, the man dimension is statistical and uses econometric tests of happiness factors influencing self-reported happiness.

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[7] Besides, Capability Approach is used to support explanatory variables in some factors such as health, family and education.

Human happiness is both outcome and process, not only output. There are four sections in this analytical process which are input, internal factors, external factors, and outcome and process. Under the discriminating perspective of Buddhist Economics, there is a positive view in humans which believes that humans can improve their opinion on their own life.

Input process, then, is an important process because in the Buddhist philosophy, the Noble Eightfold Path is an essentially practical way to reduce suffering, or increase happiness in parallel. Then, humans will have their endowment in right and reasonable living. After being practiced in the right way, the human capability of analytical thinking will comprehend a fact that more aspiration brings more suffering because the set point of a person with more aspiration is higher than a person with less aspiration; this reduces his/her happiness. Therefore, under the middle way in the Eastern thought, humans can distinguish by using their rationality in what is necessary in their lives and what they want.

External factors are based on Frey and Stutzer (2002b), who use experienced utility concept and develop it into procedural utility; therefore, psychological mechanisms are used to analyse these factors on human happiness. Besides, most of them are objective factors, and differences are individual. There are three groups: socio-demographic, economic and political conditions. Finally, every process influences human happiness, and this is an essential reason why happiness is the outcome and process, not only output, and why it is so difficult to evaluate factors in happiness results in factorizedly.

1.4 Model construction

From three dimension analyses, model construction is divided into three parts. The first part is the happiness model as man dimension. The second part is mind dimension aiming to examine the relation between moral-merit proxies and happiness factors. The third one is the environment dimension of which only natural environment is taken into account, aiming to show the present situation of Thailand's natural resources.

Figure 4: Conceptual Framework for This Happiness Study[*]
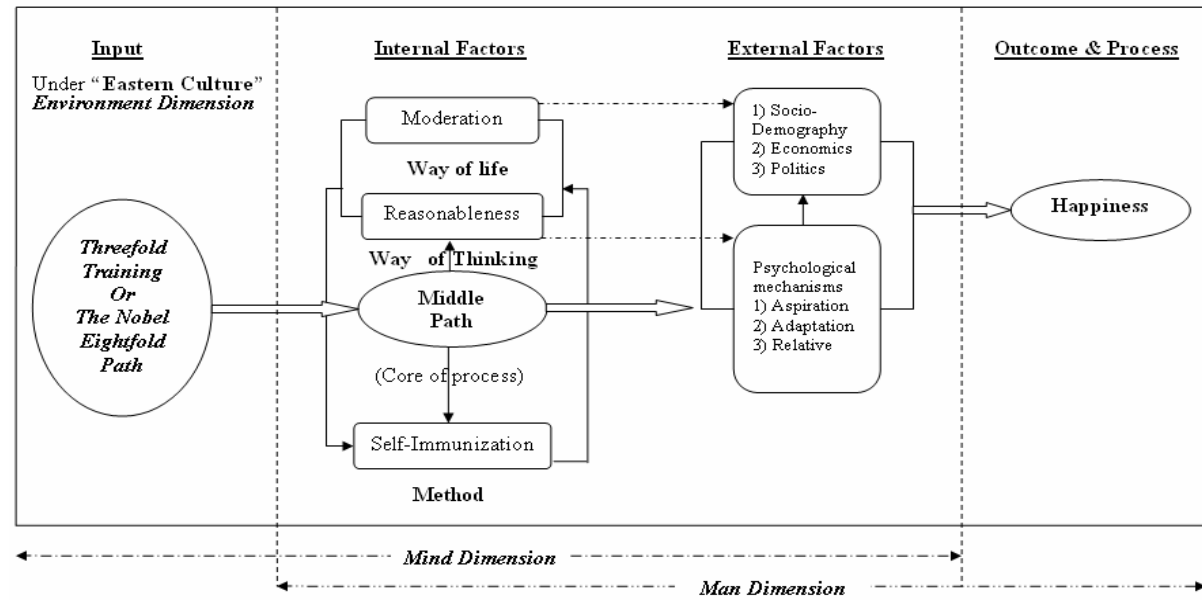
[*] This framework is based on Puntasen (2006). Besides, a target of direction in man and mind dimension is only scope of the study in each one.

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(1) Man dimension

There are two parts in this section: the happiness model as man dimension, and the definition and descriptive analysis of factors.

Happiness model or global satisfaction

$$H = H (U(SocDems, ECs, Pols, BudEC)) + e \qquad (1)$$

where:

H is some self-reported number indicating happiness or satisfaction level on a given scale, 5 is completely satisfied level, 4 is satisfied in life, 3 is normal level, 2 is level of unsatisfied feel and 1 is completely unsatisfied stage in life.

U(.) is to be thought of as the person's true subjective wellbeing or happiness.

H(.) is a continuous non-differentiable function relating actual to reported subjective wellbeing or happiness.

SocDems is a set of socio-demographic factors consisting of age, gender, settlement, close relationship and marital status, education, health and religion.

ECs is a set of economic factors: personal income and unemployment.

Pols is a factor of political participation which this study uses as a self-report in political criticism.

BudEC an added factor in this study is a 'self-sufficient' system by using NESDB's notion, and uses the self-reported method.

This function has a set of psychological mechanisms to explain happiness function, and make differences from the classical utility functions. It comprises aspiration theory, hedonic treadmill and relative interpretation.

The model in this study is called the global satisfaction or the happiness model. A model pattern consists of four groups: socio-demography, politics, economics and sufficient systems. In the first group, there are seven determinants: age, gender, Bangkok settlement, marital status, education, health, religion. The second group is only political criticism. In the third group, there are only two factors used in an individual study: unemployment and personal income. The last determinants are constructed from Buddhist Economics using the Middle Path concept are

moderation, reasonableness and self-immunity. There are 13 used factors in this framework.

The subjective approach to utility offers a fruitful complementary path to study the world. A subjective view of utility recognises that everybody forms his or her own ideas about happiness and the good life and that observed behaviour is an incomplete indicator for individual wellbeing. Accepting this view, individuals' happiness can nevertheless be captured and analysed: people can be asked how satisfied they are with their life. It is a sensible tradition in economics to rely on the judgment of the persons directly involved. Therefore, people are reckoned to be the best judges of the overall quality of their life, and it is a straightforward strategy to ask them about their wellbeing. With the help of a single question, or several questions on global self-reports, it is possible to get indications of individuals' evaluation of their life satisfaction or happiness. People evaluate their level of subjective wellbeing with regard to circumstances and comparisons to other persons, past experience and expectations of the future. Measures of subjective wellbeing[1] can thus serve as proxies for 'utility.'

To evaluate global or domain satisfactions, the self-reported method is a vital economic tool in some happiness studies. This study follows the World Values Survey since it is an internationally used questionnaire. However, the set of choices deploy a descriptive style like the Eurobarometer with five choices. Although, odd choices have weak points in which a high probability is chosen by no idea respondents, by experienced utility of neither good nor bad feeling is an important concept to interpersonal comparison of personal satisfaction.

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[1] Subjective wellbeing is an attitude consisting of the two basic aspects of cognition and affect. 'Affect' is the label attached to moods and emotions. Affect reflects people's instant evaluation of the events that occur in their lives. The cognitive component refers to the rational or intellectual aspects of subjective wellbeing. It is usually assessed with measures of satisfaction. It has been shown that pleasant affect, unpleasant affect and life satisfaction are separable constructs (Lucas, Diener and Suh 1996; Stutzer and Frey (2003), p.5).

In terms of satisfaction questions, the global satisfaction uses the question: 'All in all, how satisfied were you with overall life in the last 2-3 months?' Five choices are given: 'very satisfied,' 'satisfied,' 'neither good nor bad,' 'dissatisfied' and 'very dissatisfied.'

As subjective survey data are based on individuals' judgments, they are prone to a multitude of systematic and non-systematic biases. It therefore needs to be checked whether people are indeed capable of and willing to provide meaningful answers to the questions concerning their wellbeing. Moreover, reported subjective wellbeing may depend on the order of questions, the wording of questions, scales applied, actual mood and the selection of information processed. The relevant errors, however, depend on the intended usage of the data. Often, the main use of happiness measures is not to compare levels in an absolute sense, but rather to seek to identify the determinants of happiness. For that purpose, it is neither necessary to assume that reported subjective wellbeing is cardinally measurable, nor that it is interpersonally comparable. The subjective data can be treated ordinally in econometric analyses, so that higher reported subjective wellbeing reflects the higher wellbeing of an individual. Whether happiness measures meet this condition has been widely assessed in psychological evaluation studies.[2] It has, for example, been shown that different measures of happiness are correlated well with one another. Reliability studies have found that reported subjective wellbeing is fairly stable and sensitive to changing life circumstances. Consistency tests reveal that happy people are more often smiling during social interactions, are less likely to commit suicide and that changes in the electrical activity of the brain and heart rate account for substantial variance in reported negative affect (see Frey and Stutzer 2002b, for references). Thus, Diener (1984, p.551; Stutzer and Frey (2003), p.6) concludes in an

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[2] Comprehensive discussions of measurement problems are, for example, provided in Andrews and Robinson (1991), Michalos (1991), Larsen and Fredrickson (1999), Schwarz and Strack (1999) and Veenhoven (1993) (cited in Stutzer and Frey (2003), p.6).

early survey that '[the] measures seem to contain substantial amounts of valid variance.'

Descriptive analysis of factors

There are four groups of factors: socio-demographic factors, economic factors, political factors, and sufficient system proxies. Psychological mechanisms – aspiration, adaptation, and relative concept – are the influenced factors in income by the subjective approach. Besides, health is a factor used by the other concept of capability approach to clarify its effect on happiness. Sufficient system is interpreted by Buddhist Economics.

On the other hand, the concept of utility in economics is based on a very simple psychological notion. Economics assumes that people always know what is best for them and that they make their decisions accordingly. Moreover, it is assumed that people's satisfaction depends on what they have in absolute terms. It is taken as self-evident that higher income and consumption levels bring about higher utility.[3]

However, a more psychologically sound concept of utility should take into consideration that human beings are unable and unwilling to make absolute judgments. Rather, they are constantly drawing comparisons from their environment, from the past or from their expectations of the future. Thus, people notice and react to deviations from aspiration levels.[4] There are two main processes forming individuals' aspirations, and producing the relativity in people's utility evaluation.

First, people make social comparisons, which drive their positional concerns for income. It is not the absolute level of income that matters most, but rather one's position relative to

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[3] There are, of course, academics who oppose this notion. Frank (1985a, 1999, this volume), Galbraith (1958), Hirsch (1976), Scitovsky (1976) and, more recently Schor (1998), studying consumer culture – in particular in the United States – emphasise the important role of socially formed aspirations and expectations for consumer satisfaction (Frey and Stutzer, 2003, p.8).

[4] The importance of relative judgments for happiness is e.g. shown in laboratory experiments (Mellers 2000, Smith et al., 1989 and Tversky and Griffin 1991).

other individuals. This idea of relative income is part of the more general aspiration level theory. Many economists in the past such as Marx (1849), Veblen (1899) and Duesenberry (1949) (Stutzer and Frey (2003), p.11-12) note that individuals compare themselves to significant others with respect to income, consumption, status or utility. People look upward when making comparisons. Aspirations thus tend to be above the level already reached. Wealthier people impose a negative external effect on poorer people, but not vice versa. As a result, savings rates depend on the percentile position in the income distribution, and not solely on the income level, as in a traditional savings function.

Second, people adapt to their new income or consumption level. Additional material goods and services initially provide extra pleasure, but it is usually only transitory. Higher utility from material goods wears off. Satisfaction depends on change and disappears with continued consumption. This process, or mechanism, that reduces the hedonic effects of a constant or repeated stimulus, is called adaptation. However, this study uses a cross-section study, or has only one survey. Therefore, the study is unable to recheck the respondents' adaptive behaviours.

(2) Mind dimension

A target of this dimension is to examine the relationships of internal moral and merit on happiness factors. This requires assessing whether differences in age, gender, education, job and income are influenced by moral and merit beliefs. If these factors as part of the happiness pattern are deviated from moral and merit, then we will know which types of moral and merit influence each happiness factor that can support an analytical process. Moral and merit are assessed by using proxies in terms of Thai proverbs.

From the Threefold Training as a core of Buddhism, this study uses only four proxies following some concepts of the Noble Eightfold Path but including every concept of Threefold Training: morality, concentration and wisdom. They are right understanding (samm-dihi) and right thought (samm-sa kappa) in wisdom, right effort (samm-vyma) in concentration, and right speech (samm-vc) in morality:

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- 'Good deeds beget good results, while bad deeds beget bad results.' is a proxy of right understanding. It implies that belief in results of doing good is right understanding.
- 'You may step over a fallen tree; don't step over a fallen man.' is a proxy of right thought in only good will concept or thought free from cruelty (*avihimsaa-sankappa*).
- 'To apply gold leaf to the back of a Buddha image.' is proxy of right effort. It refers to the process of attempting to root out such an ill wish and replace it with a good wish, or sincerity of good actions.
- 'Better to die than to lie' is a proxy of right speech. It implies belief in trustworthiness is right.

Following Buddhist Philosophy, the Noble Eightfold Path and the Threefold Training are the core of Buddha's teachings on the path to reduce suffering in life. In Eastern culture, recognition of the influence of moral and merit on happiness factors leads to analysis and synthesis along sociological, demographic and economic dimensions.

(3) Environmental dimension

With regard to human and nature relationships, if humans understand moderation in consumption and natural cycle, they would not destroy natural resources. Then their health and environments would be better, and human well-being would improve as a result. This study uses Living Planet report (2006) to explain the present natural status in Thailand.

The Living Planet Report is the World Wildlife Fund (WWF)'s periodic update on the state of the world's ecosystems. It describes the changing state of global biodiversity and the pressure on the biosphere arising from human consumption of natural resources. It is built around two indicators: (1) The Living Planet Index reflects the health of the planet's ecosystems on account of the overall nature in three sides: terrestrial, marine and fresh water; and (2) The Ecological Footprint shows the extent of human demand on these ecosystems by consumption of natural resource in a given country. The ecological footprint is deemed suitable with Buddhist Economics interpretation of the human-nature relationship because it supports the natural

environment as a part of the three balance concepts in Buddhist Economics. Therefore, this study has chosen to use only the ecological footprint data.

2. Methodology

This study chooses global self-reported happiness because it has been accepted by many tasks as the self-reported measure of life satisfaction, especially on the issues economists are mostly concerned with. It is so far the best empirical approximation available to the concept of individual welfare used in economic theory. The measurement of happiness has been proved to yield useful insights to improve understandings of the economy and society. Therefore, using the ordered stage choices in global self-reported happiness, the ordered logit or probit model are technically suitable to this study, and used in most happiness studies. Two statistical methods are chosen: Ordered Response for man dimension, and Chi-square test for mind dimension.

In terms of the pilot study, this study uses a random sampling survey using a happiness questionnaire. Citizens of Bangkok who are over 15 years old, and are living in Bangkok in March 2007 is sampling frame. In sampling and data collection, most of questions are subjective data; therefore, most of the observations in this study use interview method.

3. Results, discussion, conclusion and suggestions

This study observed 400 observations at first; however, they had some incomplete observations from important causal factors, which was in conflict with the same meaning or in recheck questions. As a result, approximately 50 observations are cut off from this sampling.

3.1 Statistical and econometric results

(1) Data and descriptive analysis

A survey in Bangkok was conducted to cover 400 observations, but about 50 observations is grey-typed data because most of them were in conflict with cross-checked questions or had too many missing items in questions. For example, for health satisfaction, some respondents reply dissatisfied (=2) in the first

question, but satisfied (=4) in the second question. It can be interpreted that they do not concentrate on answering. In missing cases, most of them emerge from non-interviewed questionnaires. The remaining observations consist of 348 persons.

The proxy measure for individual utility is based on the answers to the following question: 'All in all, how satisfied were you with overall life in the last 2-3 months?' Therefore, happiness reports in this study are only covered over January to March, 2005 which correlates with the duration axiom in experienced utility. Simultaneously, the respondents were shown a table with a 5-point scale, of which only the two extreme values ('completely dissatisfied' and 'completely satisfied') were verbalised. A high general life satisfaction in Bangkok was found, with an average of 3.72 out of 5 points. Whereas, in terms of domain satisfaction, family is the highest score at average 3.96, and job is the lowest satisfaction at mean 3.25 points. Health satisfaction average is the second rank at 3.57 scores, and income satisfaction is 3.42 out of 5 points. Moreover, the average satisfaction in domains is related to a rank of domain satisfaction which can be implied from the respondents' concern.

In terms of factors, there are three groups. At first, the most concerned factors are health and basic needs which relate directly to their life. Later, political situations, life security, and job are the median group which are related to life and property securities in the social and economic dimensions. Education and right of political participation are the last topics.

The distribution of self-reported satisfaction on happiness factors is not different. Only the old people have a high proportion of complete satisfaction compared to the young and adult. People with earnings over 50,000 baht per month report life satisfaction at 'satisfied' and 'very satisfied' at about 75%. Most private employees perceive lower satisfaction levels, and higher dissatisfaction levels than the other job status. The other happiness factors on the satisfaction report are shown similarly at satisfaction levels over 60%.

Income, as a crucial economic factor, was classified into three types in this study: personal income, sufficient income and basic income. A median value of personal income under job and

education conditions ranges between 10,001 – 20,000 baht per month for both males and females. On average, basic income for males and females is not different at 10,500 – 10,700 baht per month. Sufficient income for males is more than 1,500 baht per month, while sufficient income for males ranges between 18,400 – 18,500 under job and education conditions respectively and for females ranges between 16,900-17,000. This information is from an average age of 33-34 years old.

Factors of sufficient system can explain a proportion of the life satisfaction report. Firstly, savings as part of self-immunity proxies shows that respondents with savings at about 70 – 80% reports 'satisfied' and 'very satisfied.' However, people with no savings have higher happiness scores than those with savings and borrowing respectively.

Second, private insurance such as American International Assurance (AIA), Bangkok Insurance, Thailife Insurance, etc., and bank insurance make people satisfied more than welfare or insurance from companies, government organisations. However, state employees with government welfare are more satisfied in their life than private employees and uninsured people. Uninsured people report levels of dissatisfaction more than the other groups.

Moreover, wanting as reasonableness proxies demonstrates that people with no wants have higher satisfaction levels (about 70%) than people with wants. There are six categories in wants: mobile phone, electrical appliance, computer, car, house and others. People wanting a house are the most dissatisfied group at about 26.47%.

On the other hand, in the extreme case, an observation at 'very dissatisfied' is a male student with 15-24 year old in high school level. His income from his parents is less than 5,000 baht per month. He has no savings and no insurance, but wants a car.

(2) Results of the econometric analysis and macro natural data

There are three parts: (1) happiness satisfaction models as the man dimension, (2) the relations of moral-merit proxies and happiness factors as the mind dimension, and (3) macro natural data from the *Living Planet Report* (2006).

Man dimension: happiness or global satisfaction model

It is non-linear model with contrasting result from most of the previous studies, which is U-shape pattern in happiness over life cycle. An important cause comes from different factors included in happiness model. Cultural difference may have some influence; but it may not be concluded here that cultural difference is the factor determining the deviation because this study employs cross-section data, and not panel data. Cross-section data, which focuses on only a certain moment, is static and may not accurately explain the dynamics of actuality, while panel data, which is a set of relatively more continuous data, may yield better result but is difficult to obtain. Hence, this analysis can explain only in terms of the relation between happiness report and factors on happiness model.

Table 1: Happiness results

Variables	Coefficient	Standard Error	P[|Z|>z]	Mean of X	Marginal effect (very satisfaction)
Female	0.1307	0.1228	0.2870	0.5462	0.0285
Age	0.0345	0.0159	0.0299**	33.5000	0.0076
Age^2/100	- 0.0002	0.0002	0.3767	13.4951	-0.0038
Married	0.1225	0.1687	0.4676	0.2832	0.0277
Education	0.3867	0.2402	0.1074***	0.9335	0.07
Earner	- 0.3498	0.1404	0.0127**	0.5520	-0.0784
Sick frequency	- 0.0103	0.0113	0.3618	3.0694	-0.0023
Income	- 0.0015	0.0028	0.5964	19.6312	-0.0003
Self-immunity	0.3353	0.1211	0.0056*	0.5462	0.0725
Threshold parameters for index					
Mu(1)	0.9028				
Mu(2)	2.41083				
Degrees of freedom	8				
Prob[Chi^2 > value]	0.10916***				
N	*346*				

*Remark:*1) Reference groups: (1) male; (2) single, divorce and widow; (3) less 12 years in education level; (4) student, housewife, unemployment and retire. 2) (*) is at 99% confident interval, (**) is at 95% confident interval, and (***) is nearly at 90% confident interval.

The results from this study suggest that age, self-immunity, earner, and education are significant factors in influencing happiness. Self-immunity representing people's concern on saving

and insurance has the largest effect on self-reported global satisfaction with 99% confidence interval. Age and earner are significant at 95% confidence interval. And education is significant at 90% confidence interval. In addition, the relationship between happiness factors and the estimate of people's satisfaction do support psychological explanations used in experienced utility and Buddhist economics.

The peak point between the relationship between happiness and life cycle is 33-34 years old. After this scale, it is adult period with belonging family or having full family responsibility. Then it is normally that they have high aspiration in life and many obligations.

For job status, this study includes 'earners'[5] instead of the unemployed people because the proportion of unemployed people is so small at about 4% of overall sample. The former is superior to the latter in that the former can be linked to family responsibility. At the complete satisfaction level, people, who have the status of being employed, tend to have a decreased life satisfaction, which may reflect that burden of family responsibility weighs more than the dignity of being employed.

Thirdly, self-immunity implies that saving and insurance as part of life security can be reflected in people's life satisfaction. Furthermore, this result reflects important issue in relative consideration. It appears that people do have more life satisfaction when it comes to having self-immunity, probably having to do with the sense of possessing more life security, but this does not always apply in all cases, particularly the wealthy, who may not have an increased life satisfaction from having self-immunity according to the definition employed in this study.

Finally, education as an important factor of happiness shows that at complete satisfaction level people with high school and university education are likely to be happier with 7% probability given other things being constant. Education level higher than high school does tend increase life satisfaction due to the

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[5]'Earner status' consists of working people such as government and corporate organizations, and owners.

possibility of opportunities for such things as work, earning and health, among others.

Mind dimension: the relation of moral and merit proxies and happiness determinants

In terms of moral and merit factors, for which we may use Thai proverbs in assessment as moral-merit proxies, a target of this part is to examine the relation between moral-merit proxies and determinants leading to different happiness levels among Thais. Contributions from this part are to comprehend which happiness factors are related to which moral-merit proxies.

'Good deeds beget good results, while bad deeds beget bad results' implies people's belief in demerit and merit, and the law of karma. In this empirical survey, most people comprehend these moral-merit proxies in a similar degree, excepting for age factor. At 90% statistically confident interval, age change affects this belief. Differences in gender, education, job and income are not statistically different concerning people's belief in demerit and merit, and karma rule.

'Better to die than to lie' refers to the belief in truthfulness. Differences in age and marriage status influence people's truth discrimination at 95% statistically confident interval, while job difference is at statistically 99% confident interval. It means that people who differ in age, marriage status or job, given everything equal, do differ in the truth belief. In other words, these people have probability to differ in moral interpretation of telling the truth.

'To apply gold leaf to the back of a Buddha image' averages around 3.33 or almost moderately. This proverb implies sincerity to make merit. Age, marriage status, education and job are happiness determinants, which contribute to difference in this belief category at 99% statistically confident interval. Dissimilarity in age, marriage status, education and job, given everything equal, leads to difference in sincerity of making merit. Finally, with regards to 'you may step over a fallen tree; don't step over a fallen man,' a majority of the people agree at the mean of 3.50 score, a short step from completely agree at 4 score. This proverb implies that the individual has kindness and mercy, and gives a chance to others. From statistical results, the implication is that if

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individuals differ in age and marriage status, this belief can be different at the level of 99% and 95% statistically confident interval respectively.

Table 2 Chi-square test against Thai proverbs

Description	"Good deeds beget good results, while bad deeds beget bad results"	"Better to die than to lie"	"To apply gold leaf to the back of a Buddha image"	"You may step over a fallen tree; don't step over a fallen man"
Gender	Chi-Square = 4.41 d.f. = 3	Chi-Square = 1.57 d.f. = 3	Chi-Square = 2.37 d.f. = 3	Chi-Square = 2.14 d.f. = 3
	Asymp.Sig. (2-sided) = 0.22	Asymp.Sig. (2-sided) = 0.67	Asymp.Sig. (2-sided) = 0.50	Asymp.Sig. (2-sided) = 0.54
Age	Chi-Square = 28.11 d.f. = 18	Chi-Square = 30.02 d.f. = 18	Chi-Square = 40.26 d.f. = 18	Chi-Square = 38.94 d.f. = 18
	Asymp.Sig. (2-sided) = 0.06***	Asymp.Sig. (2-sided) = 0.04**	Asymp.Sig. (2-sided) = 0.00*	Asymp.Sig. (2-sided) = 0.00*
Marriage status	Chi-Square = 11.16 d.f. = 9	Chi-Square = 18.10 d.f. = 9	Chi-Square = 23.77 d.f. = 9	Chi-Square = 18.20 d.f. = 9
	Asymp.Sig. (2-sided) = 0.26	Asymp.Sig. (2-sided) = 0.03**	Asymp.Sig. (2-sided) = 0.00*	Asymp.Sig. (2-sided) = 0.03**
Education Level	Chi-Square = 14.05 d.f. = 12	Chi-Square = 16.52 d.f. = 12	Chi-Square = 25.14 d.f. = 12	Chi-Square = 11.36 d.f. = 12
	Asymp.Sig. (2-sided) = 0.30	Asymp.Sig. (2-sided) = 0.17	Asymp.Sig. (2-sided) = 0.01*	Asymp.Sig. (2-sided) = 0.50
JOB	Chi-Square = 23.67 d.f. = 21	Chi-Square = 43.34 d.f. = 21	Chi-Square = 49.54 d.f. = 21	Chi-Square = 29.50 d.f. = 21
	Asymp.Sig. (2-sided) = 0.31	Asymp.Sig. (2-sided) = 0.00*	Asymp.Sig. (2-sided) = 0.00*	Asymp.Sig. (2-sided) = 0.10***
Personal Income	Chi-Square = 18.26 d.f. = 15	Chi-Square = 13.13 d.f. = 15	Chi-Square = 18.51 d.f. = 15	Chi-Square = 9.21 d.f. = 15
	Asymp.Sig. (2-sided) = 0.25	Asymp.Sig. (2-sided) = 0.59	Asymp.Sig. (2-sided) = 0.24	Asymp.Sig. (2-sided) = 0.87

Remark: (*) is 99% statistically confident interval, (**) is 95% statistically confident interval, and (***) is 90% statistically confident interval.

In summary, the chi-square test can only examine whether two factors are related, but cannot explain how they are related. From this testing, difference in age and marital status are the most influenced factors on people's opinions and beliefs, and non-similarity in job and education level is the second and third

conditions for distinction in the opinions and beliefs. Moreover, different belief in sincerity of making merit fluctuates the most from distinction in age, marital status, education level and job type. Differences in age and marital status are causes for differences in morale about truth, in sincerity of making merit, and in kindness, mercy and giving a chance to others. Differences in gender and personal income are not distinctive causes in every belief and opinion.

Environmental dimension (only natural environment)

The ecological footprint measures humanity's demand on the biosphere in terms of the area of biologically productive land and sea required to provide the resources we use and to absorb our waste.

The footprint of a country includes all the cropland, grazing land, forest, and fishing grounds required to produce the food, fiber, and timber that the country consumes, to absorb the wastes emitted in generating the energy it uses, and to provide space for its infrastructure. People consume resources and ecological services from all over the world, so their footprint is the sum of these areas, wherever they may be on the planet.

Table 3: Thailand's ecological footprint

Ecological Footprint (global hectares per person, in 2003 gha)	
Per capita Ecological Footprint (gha/person)	1.4
Biocapacity (gha/person)	1
Ecological reserve (+) or deficit (-) (gha/person)	-0.4
Footprint change per person(%) 1975-2003	60
Biocapability change per person(%) 1975-2003	-4
Water withdrawals	
Water withdrawals (% of total resources)	21
Population (million)	***62.8***

Source: Living Planet Report (2006), p.32-33

Thailand's footprint index defines that per capita ecological footprint (gha/persons) is lower than biocapacity (gha/person), and may imply ecological deficit in Thailand. In a period of 1975-

2003, footprint change per person is more than biocapability change per person. It means that nature is used more than her restoration. Moreover, water withdrawal[6] as an ecological index explains that freshwater decrease is in moderate stress.

3.2 Discussion on relationships analysis in the ecosystem: body-mind, human-human and human-nature

In fact, environments in which an individual lives, such as family, community, and society are reinforcing factors that have influences on an individuals' feelings such as happiness, sadness, cheerfulness, and other emotional states. Therefore, happiness elements are more than self, which consists of body and mind, but also include topics of social and natural environments. Under Buddhist Economics, ecosystem interpretation can be used to consider human happiness in material, mental and environmental dimensions.

(1) Human-nature relationship

At the level of the human-nature relationship, the natural environment is an important element to support and enrich human physicality and mentality. For a long period of time, the Thai state has attempted to develop Thailand to the level of a developed country. As a result, they used many reinforcing

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6 Freshwater is not included in the ecological footprint because the demand for and use of this resource cannot be expressed in terms of the global hectares that make up the footprint. It is nonetheless critical to both human and ecosystem health. Although freshwater is not considered a scarce resource globally, much of it is geographically inaccessible or not available throughout the year. Of the annual freshwater runoff that is readily accessible to human populations, about 54 percent is withdrawn for domestic water supply, industrial use or, most importantly, irrigation. Freshwater resources are far from evenly distributed around the world, and many countries withdraw more than can be sustained without placing pressure on freshwater ecosystems. A widely used indicator of water stress is the withdrawals to availability (wta) ratio. This measures a population's total annual water withdrawals against the annual renewable water resource available to it: the higher the ratio, the greater the stress being placed on freshwater resources. According to this measure, withdrawals of 5–20 percent represent mild stress, 20–40 percent moderate stress, and above 40 percent severe stress.

policies in investment, consumption and export. From these policies, the result is destruction of natural resources. From 1975 to 2003, the usage of natural resources per person increased at around 60%, but the bio-capability rate (per person) decreased at 4%. This means that Thais destroy natural resources such as soil, water, air and forest at a rate faster than the rate of natural restoration. This leads to impacts such as waste water, air pollution, and toxic soil, among others. These problems affect humans in terms of poor physical and mental health.

However, to support the topic of human impact on natural resources, this study chooses the Happy Planet Index to explain this topic. For example, if Thailand has higher life satisfaction, a similar rate in life expectancy and a greater footprint than Vietnam, then Thailand's Happy Planet Index rating is less than Vietnam. Singapore has more life satisfaction and life expectancy than Thailand, but the Happy Planet Index is less because of the effect of a higher footprint on natural resources .

(2) Human--human relationship

Humans as social animals concern themselves with social environments such as family, community and society. The relations between human and human are an important condition in the happiness of living together. Moreover, sacrifice is an implied element that should be used in living together because it is the foundation of a peaceful society. If individuals can sacrifice and reduce their selfishness, a society can be good and sympathetic.

In terms of family, frequencies of family participation in this study have an influence and affect the report of family satisfaction to a high level. Besides, pertaining to married status in the happiness model, its sign on satisfaction level is positive. This means that married people have the probability to be happier than the other statuses because they have partner in their life, and the number of family participations relates to higher reported family satisfaction scores.

(3) Body-mind relationship

The mind and body relationship, according to Buddhist Economics, has its base in consumption moderation. Balance in mind and body is important to consumption decisions. For

example, smoking is a result of desire, or preference, but the body is affected by negative externality, in addition to affecting others' health and environment. Conceptually, if individuals can balance their life under the right understanding, they can have good wellbeing and will not incur any externality on society and the environment.

On the mentality side, the belief in moral and merit can have an influence on many happiness factors such as age, marital status, educational level and job type. Besides, from the happiness model, frequencies of illness, which functions as a factor on the physical side, can have a negative effect on human happiness.

In summary, under the concept of Buddhist Economics, happiness, at a 'self' level, or body and mind relationship, can be obtained from practice in perception, concentration and wisdom, which are core elements of the teaching of Buddha. However, environments such as family, community, society and nature do encourage human happiness because humans are social animals. Happiness analysis should thus consider and incorporate both internal and external factors.

3.3 Conclusion and suggestions

(1) Conclusion

It is generally acknowledged that human happiness is complex and varies from person to person and that we cannot explain happiness only in physical terms but have to take into account environmental factors, which are significant in shaping the perceptibility of various levels of happiness and suffering. Hence, certain ideas offer themselves as alternatives to the question of happiness in such theoretical frameworks as Buddhist Economics and experienced utility, the latter which chooses to employ tools in psychology to explain various forms of satisfaction. These ideas, though not fully sufficient as the answer to the question of happiness, are of great importance to the understanding and explaining of subjective dimension of happiness.

The study, which adopts Buddhist Economics as one of its main frameworks, focuses on the idea that balance can be

achieved in three aspects, which are man, mind and environmental. This is known as Balance Concept, and, for this study, the aspect of man, or physical state, is explored in form of the happiness model, which is constructed from the survey and employs self-reported method as the main methodology. The study considers the aspect of mind as the defining factor in explaining relationship between ideas and attitudes of individuals toward the question of happiness in order to understand whether different attitudes and perceptions have any effect happiness. Finally, the environmental aspect can be separated into two divergent perspectives, which are, firstly, environment defined in social terms such as society, community and family; and, secondly, environment that is defined in terms of natural resources, which are considered in accordance with information from Living Planet Index in order to provide a general picture of environmental aspect in physical term.

Looking at these three levels of relationships, if an individual can live with balance in terms of body, mind and environment, such balance can lead to happiness. Hence, the implication is that not only variables within the self dimension matter; environment, society and nature, also have significant influence on human happiness.

(2) Suggestion and limitations of this study

A limitation of this study is the sample size of observations, which is part of the pilot study that empirically tests happiness pattern. Therefore, further studies should test this framework with a larger sample.

Considering the empirical evidence in Thailand's happiness study, there are two social benefits: Thailand's happiness index and public policies. Firstly, by examining happiness patterns for Thais and using macro data such as processes from NESDB's Green and Happiness Index (2007), this study brings relevant components into the happiness model to find the results of Thailand's happiness level. However, this pattern should be adjusted in every period such as four, five or six years depending on the suitability of social, cultural and economic conditions because social and cultural conditions are likely to change. The advantage of updating to realistic conditions can help in

measuring Thai happiness levels at every period. Secondly, after recognising what factors lead to happiness and how people are concerned with each factor, policy makers should be careful to formulate and implement policies related to those happiness factors. However, happiness is also an outcome, not only an output. Difficulties are expected in assessing the policy impacts. Policy makers can only support policies leading to happiness.

Lastly, an essential aspect for research, academics and people interested in this topic is for them to keep in mind that happiness is not the answer for alleviating poverty and enhancing social welfare. Many happiness reports in the past, using happiness indices such as Happy Planet Index, found that Thais are happier than people in the US, England and other richer countries. This point should be considered with care because it may lead to some misinterpretation in applying happiness indices. It may also become an unfair justification for policy makers to neglect their responsibilities on such issues as poverty and social welfare.

Besides, with careful attention in applying GNH, we should be cautious because social, cultural and economic structures of Thailand and Bhutan are significantly different. At any rate, constructing happiness models and developing happiness concepts along with traditional but still effective indicators such as Green GDP and wellbeing indices may be an intelligent choice. These indices can still reflect some facts of happiness conditions within our society, even though they ignore the subjective approach. However, adding subjective indicators and interpretations in these efficient indices can be an acceptable method for most of the relevant organisations, academics and communities.

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