Chapter 2

Literature Review

This research focuses on the income, capabilities and social capital of Chinese households in Chiang Mai. In this chapter, the theoretical foundations which the researcher has used in this field will be discussed.

2.1 Basic Welfare Theory

2.1.1 Utility

Before 1850's, utility refer to the pleasure and pain of people, it was mainly popularized as "the principle of the greatest happiness of the greatest number", actions are right if they tend to promote happiness. In the history of economic thought, utility first served as an ethical principle replacing the classical rule-base (deontological) ethics, which came from the Christian background. As from 1850 by the work of Gossen, and later on as from the 1870s by Jevons, Walras, and Carl Menger utility served as the basis for the subjective value theory, which became the leading paradigm of neo-classical economics. The utility of a good or service is the satisfaction or pleasure of one gets from consuming it. Human production factors, in particular labour is traditionally seen as causing disutility and has no value in itself beside leading to the fulfillment of other goals. This is in harmony with the daoist efficiency principle of Wuwei.

From the new-economics period (1970's), utility depends on the behavioral context economics. Classical utility theory of von Neumann and Morgenstern (1944) is challenged by deviating patterns of behavior, which are not completely random, but are inconsistent with the neo-classical theory. Utility is now more linked to decision in probabilistic and game-theoretical context than to consumption behavior.

The marginal utility is diminishing. Suppose utility depends on income. It's a concave function of income. That means utility increases with income but when you have a lot of income, more income gets less important. The following figure shows the relationship between utility and income.

Figure 2.1: The Relationship between Utility and Income

Another rule is utility-maximizing rule. It supposes that of all the different combinations of goods and services a consumer can obtain within his or her budget. To maximize satisfaction, the consumer should allocate his or her money income so that the last dollar spent on each product yields the same amount of marginal utility. According to utilitarian, the utility -happiness or pleasure- should be focused on.

Utilitarianism is often described by the phrase "the greatest goodness for the greatest number of people", and is also known as "the greatest happiness principle".

2.1.2 Classical Welfare Theory

The classical welfare theory can be simply explained as the utility of each person depends only on his/her own share of allocation.

Samuelson (1967) argues that a social welfare function belongs to "mathematical politics" rather than to economics. Consider a social welfare function in the sense of Bergson (1938) and Samuelson (1975):

$$W(x) = W (U_1(X), U_2(X), \ldots, Un(X))$$

$$= F (U_1(X), U_2(X), \ldots, Un(X)) \tag{1}$$

$W(x)$ represents a real number social utility value.

F is a function that yields a real number.

Ui is a cardinal, interpersonally comparable utility value yielded by some procedure for individual i, and i = 1, 2… n.

n is the total number of individuals.

The standard choice is the sum, or total utility.

$$W(x) = W (U1(X), U2(X), Un(X))$$

$$= U_1(X) + U_2(X) + \ldots + Un(X)$$

$$= \sum_{i=1}^{n} U i(X) \tag{2}$$

2.1.3 Pareto Efficiency

In 19th century neoclassical informed argumentation, total utility satisfies the Pareto-principle: if any U_i increases without the other decreasing, welfare W $(U_1(X), U_2(X), ..., U_n(X))$ increases. By the First Theorem of Welfare Economics, "any competitive equilibrium is Pareto efficient". Thus when welfare is studied Pareto efficiency should also be considered.

Pareto efficiency, or Pareto optimality, is named after Vilfredo Pareto who used the concept in his studies of economic efficiency and income distribution. It is an important concept in economics with broad applications in game theory, engineering and social sciences.

In economics, given a set of alternative allocations of goods or income for a set of individuals, a change from one allocation to another that makes at least one individual better off without making any other individual worse off is called a "Pareto improvement" or a "Pareto-optimal move". An allocation is Pareto efficient or Pareto optimal when no further Pareto improvements can be made, and this allocation is called a "strong Pareto optimum (SPO)".

Weak Pareto optimum (WPO) implies that "there are no possible alternative allocations whose realization would cause every individual to gain when an allocation is WPO". An allocation is WPO if it is strictly preferred by all individuals (i.e., all must gain with the WPO allocation). The conditions for WPO status are weaker than SPO status, it means that the cases "at least one individual gains" which

is defined by SPO including cases like "all individuals gain", the later cases is considered by WPO.[1]

2.1.4 Pareto Frontier

Pareto frontier shows dependency between welfare of people. Given a set of choices and a way of valuing them, the Pareto frontier or Pareto set is the set of choices that are Pareto efficient. A simple example is shown as following.

Consider, there are two households, household A and household B in a country and suppose every household includes only one person. If all goods were given to household A, he would perceive 70 units of utility. Household B would get nothing and his utility would be 0. If all of the goods were given to household B, he may perceive 50 units of utility and household A would get 0 utility. Pareto Frontier is the black curve connecting these two points. It depicts the maximum possible welfare of this pair of people.
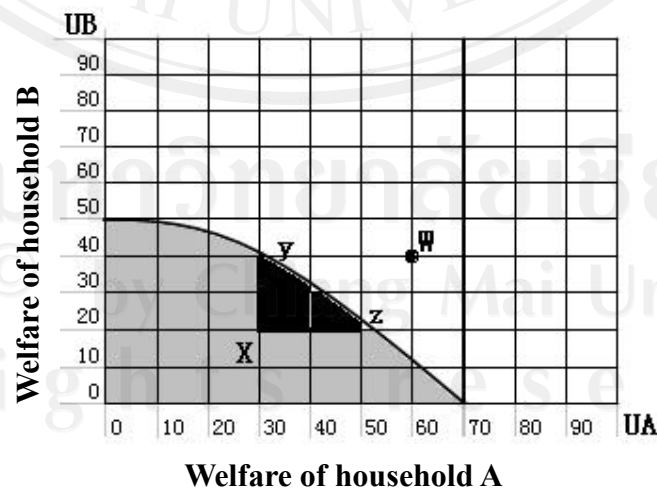

Figure 2.2: An Example of Pareto Frontier

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[1] From Dr. Schoch, D.'s lecture- Microeconomics.

In this case, any point in an area between points x, y, and z represents Pareto improvement over point x. For example point x representing 30 units of welfare for household A and 20 units of welfare of household B is inefficient, because some changes (the allocations in the black area) in the allocation of resources, technology and/or distribution of consumer goods can improve the welfare of one or both of them. All the points bellow the Pareto frontier- in the interior of the gray area- are inefficient.

Point w, which is 60 units of utility for household A and 40 units for household B is infeasible, it cannot be achieved with existing resources and technology.

Starting from the point x it would be possible to double the welfare of household B from 20 to 40 units without affecting the welfare of household A(point y) or similarly to increase the welfare of household A without affecting the welfare of household B(point z).

2.2 The Theory of Income

According to Amartya Sen's Tanner Lecture, Welfarism is the view that the goodness of a state of affairs can be judged entirely by the goodness of the utilities in that state.[2] This view is that the goodness of the utilities must be judged by their sum-total. In other words, it devotes to the total utility equality.[3] The point is the

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[2] See Sen (1977), and also Amartya Sen's "Welfarism and Utilitarianism", *Journal of Philosophy* 76 (1979).

[3] Amartya Sen (1979), "Equality of What?" *Tanner Lecture delivered at Stanford University.*

disparity between a percentage of population and the percentage of resources (such as income) received by that population.

Income, as a personal attribute, is suitable for inequality measurement in quantity. It defined as the increase in a person's command over resources during a given time period. The "inequality" of individuals or households relates to the unequal distribution of total household's "income" – an index that will serve to represent generally a household's well-being in society.

2.2.1 Gini-Coefficient

The Gini-coefficient is the most commonly used measure of inequality. It is normalized between 0, which indicates complete equality and 1, which indicates complete inequality (one individual or household has all the income, all others have none).

Gini-coefficient is classified into normalized and unnormalized. The unnormalized Gini-coefficient is defined as a small g($\vec{x}$) and the normalized as a big G($\vec{x}$). These are their definition which for a distribution $\vec{x} \in Rn$.

$$g(\vec{x}) = \sum_{i=1}^{n}(n+1-i) \cdot \vec{x}_{[i]} ,$$ (3)

$$G(\vec{x}) = \frac{1}{n}\left(n+1-2 \cdot \frac{g(\vec{x})}{\sum_{i=1}^{n}\vec{x}i} \right)$$ (4)

Where,

i   = rank order of ith individual

x   = income of individual

$\vec{x} = (\vec{x}_{[1]}, \vec{x}_{[2]}, \ldots, \vec{x}_{[n]})$ is the rank-ordered permutation of $\vec{x}$ with

$\vec{x}_{[1]} \leq \vec{x}_{[2]} \leq \ldots \leq \vec{x}_{[n]}$.

n   = number of observations

$\sum \vec{x}$ = total income

The unnormalized Gini-coefficient satisfies the Pareto-principle, while the normalized Gini-coefficient does not. Both indices satisfy anonymity, such that the outcome does not depend on the name of the person, but only on its social rank. Thus the unnormalized coefficient qualifies as a Welfare measure, while the normalized Gini-coefficient only represents the inequality aspect of the income distribution. A Pareto improvement might sometimes lead to a deterioration of the normalized Gini-coefficient. Therefore, the normalized Gini-coefficient $g(\vec{x})$ more adequately represents the moral value of the distribution.

The Gini-coefficient satisfies four principles: anonymity, scale independence, population independence and transfer principle.

2.2.2 Lorenz Curve

The Gini-coefficient is usually defined mathematically based on the Lorenz curve, illustrated following.
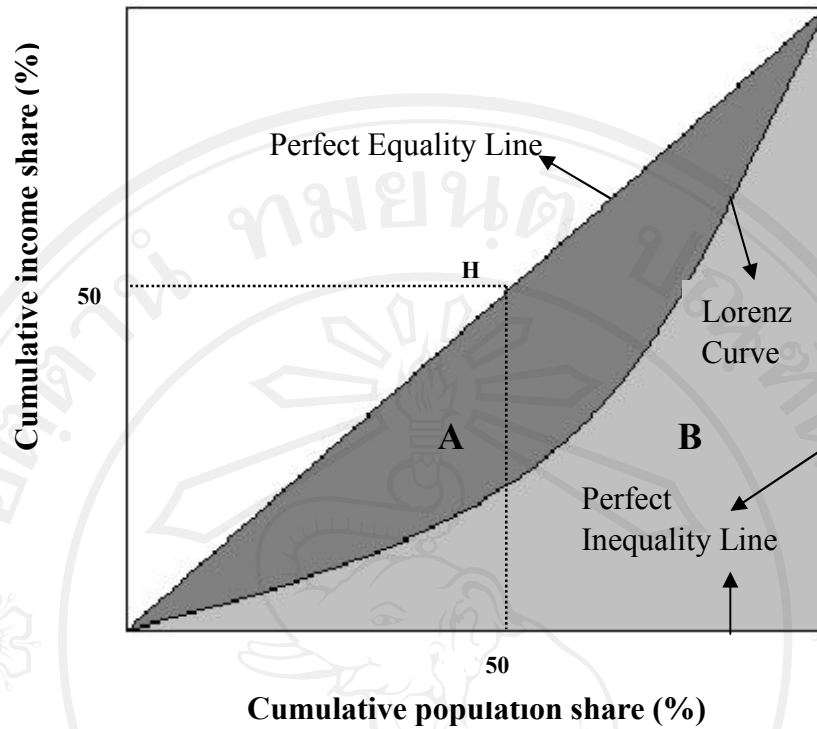
Figure 2.3: Graphical Representation of the Gini-coefficient

Horizontal axis shows the cumulative share of population from lower income, and the vertical axis shows the cumulative share of income. For example, point H stands for 50 percent of the population having 50 percent of the income. Denoting the Gini-coefficient by G, then

$$G = \frac{A}{A+B} \qquad (A+B = 0.5) \qquad (5)$$

Area A is Gini index and equal to normalized Gini-coefficient G ($\bar{x}$).The unnormalized Gini-coefficient g ($\bar{x}$) would correspond to area B, if the cumulative income was given in absolute monetary units instead of percentage. When there is total equality the Lorenz curve coincides with the 45°line, area A then disappears and G = 0. With inequality, area disappears and G = 1. Thus, the smaller of G (area A is

smaller) the more equal of distribution.

If the Lorenz curve is represented by the function Y = L (X), the function of

G is

$$G = 1 - 2 \int_0^1 L(X) \, dX \qquad (6)$$

The properties of Gini-coefficient[4] are like following:

1. Anonymity: it does not matter who the high and low earners are. The calculation of income depends on the ordered income distribution rather than the name or label of household. In other words, income distribution is the object of Gini-coefficient analysis. The particular household in the economy has no impact on Gini-coefficient.

2. Scale independence: the Gini-coefficient does not consider the size of the economy, the way it is measured, or whether it is a rich or poor country on average. It means that the Gini-coefficient should be independent of the aggregate level of income in the country. For example, in a country X composed of two households, household A who has 70% of the income, and household B who has the other 30%. Now country X issues an economic policy that makes the income of every household in this country doubled. Then the Gini-coefficient (inequality) of this country should not change. And if every household's income is multiplied by a positive constant or the income is measured

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[4]   From Dr. Schoch, D.'s lecture- Welfare Economics.

in another way, the Gini-coefficient should not change. Thus the richer (poorer) economies (country) should not be automatically considered more (less) unequal by construction.

3. Population independence: it does not matter how large the population of the country is. So we can not automatically say a country with only a few people is more equal than a large country with lots of people. The Gini-coefficient is independent of the level of population.

4. Transfer principle: if income (less than the difference), is transferred from a rich person to a poor person the resulting distribution is more equal. This property satisfies the Pigou-Dalton redistribution. For the following example, the original income distribution is the thin bars. Now the income is transferred from the rich person D to the poor person B (the arrow), while still preserving the order of income ranks. Then in Pigou-Dalton weak form, the new cumulative distribution (the thick level) should not increase; in its strong from, the inequality should decrease.

2.2.3 Lorenz Half-Ordering

A dominance relation between 2 vectors $\vec{x} \trianglelefteq \vec{y}$, $\vec{y}$ is dominant over $\vec{x}$, iff $\vec{y}$ can be obtained from $\vec{x}$ through a serious of Pareto- improvement and Pigou-Dalton redistribution.

In other words, $\vec{x} \trianglelefteq \vec{y}$ iff for all k = 1, …., n

$$\sum_{i=1}^{k} X_{[i]} \trianglelefteq \sum_{i=1}^{k} Y_{[i]}$$

The Pigou-Dalton redistribution says that if some income is transferred from a rich to a poor person, while still preserving the order of income ranks, then the equality will increase.
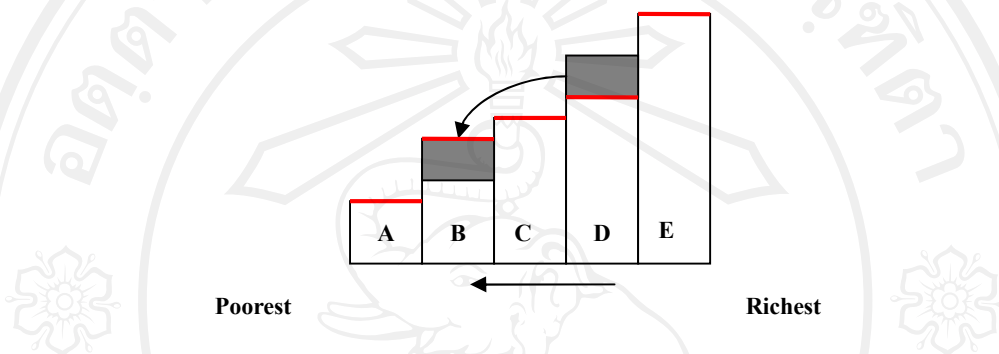

Figure 2.4: Pigou-Dalton Redistribution

After the Pigou-Dalton redistribution, the new cumulative distribution (the thick level) is more equal.

2.2.4 Intersection Lorenz Curve

According to the Pigou-Dalton Principle, the higher of non-intersecting Lorenz curve is preferred. However, Lorenz curves may intersect in applied economics.

A Lorenz curve L_1 is said to first-degree dominate a Lorenz curve L_2 if

$$L_1(u) \geq L_2(u) \text{ for all } u \in [0,1]$$

And the inequality holds strictly for some $u \in \langle 0,1 \rangle$

Where $L(u) =$ the share of total income received by the poorest 100u percent of the population.

To further compare intersecting Lorenz curves, we observe that first-degree dominance implies two other conditions:

A Lorenz curve L_1 is said to second-degree upward dominate a Lorenz curve L_2 if

$$\int_0^u L_1(t)\,dt \ \geq \ \int_0^u L_2(t)\,dt \quad \text{for all } u \in [0,1]$$

And the inequality holds strictly for some $u \in \langle 0,1 \rangle$

The second-degree upward dominance focuses on the inequality of the lower part of income distribution.

A Lorenz curve L_1 is said to second-degree downward dominate a Lorenz curve L_2 if

$$\int_u^1 (1 - L_2(t))\,dt \ \geq \ \int_u^1 (1 - L_1(t))\,dt \quad \text{for all } u \in [0,1]$$

And the inequality holds strictly for some $u \in \langle 0,1 \rangle$

The second-degree downward dominance focuses on the inequality of the richer population.

2.2.5 Theil Index

Theil index is another indicator to measure inequality, and it defined by

$$T_1 = \frac{1}{N} \sum_{i=1}^{N} \left(\frac{x_i}{\bar{x}} \bullet \ln \frac{x_i}{\bar{x}} \right) \tag{7}$$

Where N= the number of individual or household, x_i= the income of ith individual or household, $\bar{x} = \frac{1}{N} \sum_{i=1}^{N} x_i$ is the average income. The first term inside

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the sum is the individual's share of aggregate income, and the second term is the

person's income relative to mean. If everyone is equal, the index is 0. If one person

has all the income, then the index is lnN.

The advantage of the Theil index is that it considers the weighted average of

inequality within and among subgroups:

Suppose that the population is divided into m subgroups,

$$T_2 = \sum_{k=1}^{m} s_k T_k + \sum_{k=1}^{m} s_k \ln \frac{\overline{x_k}}{\overline{\overline{x}}} \qquad (8)$$

Where s_k=the income share of group k, T_k=the Theil index for subgroup k,

$\overline{x_k}$=the average income in group k.

The between group element of the Theil index is defined as:

$$T_3 = \sum_{i=1}^{m} \left\{ \left(\frac{p_i}{P} \right) * \left(\frac{\overline{x_i}}{\mu} \right) * \ln \left(\frac{\overline{x_i}}{\mu} \right) \right\} \qquad (9)$$

Where p_i=the population of group i, P=the total population, $\overline{x_i}$=the average

income in group i, μ=the average income across the entire population.

2.3 Capability Measurement

Capabilities are about what people are free to do, such as the ability to live to

old age, satisfy with life, engage in economic transactions or participate in political

activities. The theory applies welfare research of the value of subjective wellbeing

data.

Sen (Commodities and Capabilities, 1985) provides the basis of capabilities

approach. Utility as the happiness derived from doing or being a set of things is

defined as:

$$u = h \, (f \, (c(x)) \qquad (10)$$

Where h is a "happiness" function, f is a function that maps goods characteristics onto functionings achieved, and c is a function that maps the consumer's bundle of goods onto a vector of characteristics.

Sen discuss the distinction between functionings (what people are or do) and capabilities. To identify this concept, he defined a set Q:

$$Q = \{f(c(x))\} \qquad (11)$$

This set represents a person's capability set or freedom as a set of functionings from which one could be chosen. Then the approach models life satisfaction as a function of the freedom:

$$SWB = g \, (Q) \qquad (12)$$

Where g is a different "happiness" function to that described in (10). If there is an intrinsic value to freedom, or process aspects to experienced utility, then (12) is a superior specification to (10).

Sen defined a function which relates to the value of wellbeing v

$$v = h' \, (f \, (c(x))) \qquad (13)$$
$$v = h''(Q) \qquad (14)$$

Equation (13) allows for the possibility that people might have high levels of functioning, and yet not place much value on them.

For measuring the capability set, Q, Nussbaum (2000) provides a series of statistical indicators to measuring capabilities. The indicators are summarized in ten items: life expectancy, bodily health, bodily integrity, senses imagination and thought, emotions, practical reason, affiliation, other species, play and control over the environment. According these items, researchers design some surveys (e.g. BHPS (British Household Panel Survey)) to analyze the data of capabilities.

2.4 Happiness

Veenhoven(2000) distinguished four qualities of life like following:

Table 2.1: Qualities of Life

	Outer qualities	**Inner qualities**
Life-chances	Livability of environment	Life-ability of the person
Life-results	Utility of life	Satisfaction

The word "happiness" is now used in the sense of subjective wellbeing, that is, the "satisfaction" quadrant in the above table. The "satisfaction" was also given full meaning and divided into the following distinctions:

Table 2.2: Kinds of Satisfaction

	Passing	**Enduring**
Part of life	Pleasure	Part-satisfaction
Life-as-a-whole	Peak-experience	Life-satisfaction

Veenhoven focused on the Life-satisfaction, which is defined as "the overall appreciation of one's life-as-a-whole".

Happiness cannot be measured by physical indicators as weight or blood pressure. But extreme states of happiness and unhappiness manifest in non-verbal behavior, such as smiling and body-posture. Thus the measurement of happiness should focus on the following dimensions: self-reports, direct questioning, common survey questions, validity, reliability and comparability.

When applied to medical decision making, a self-report is operated by clinical interview, by content analysis of diaries and by using projective methods such as the Thematic Apperception Test. This direct questioning yields the same information at a lower cost.

Direct questioning uses multiple item questionnaires. It reduces the error because of the difference in interpretation of key words.

Common survey questions are set in the form of scale choice. It has been used among the general population in many countries. The responders' are asked optional questions like "how satisfied or dissatisfied are you currently with your life as whole?" And there are several (seven or ten) scales with two extreme value-satisfied and dissatisfied.

Validity method measures happiness for the time being. Responses reflect how happy people think they should be rather than how happy they actually feel. It focuses on the expectation of happiness.

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Reliability is based on the findings that the responses are affected by minor variations in wording, ordering of questions and situational factors, such as weather. The same person may give different results in the different investigation. Thus the average happiness in groups should be compared.

Comparability roots in the theory of Smart and Williams (1973)-happiness depends on the realization of wants and that these wants differ across persons and cultures. It refers the happiness function.

2.5 Sufficiency

In Thailand, the philosophy of the sufficiency economy was developed by His Majesty King Bhumibol Adulyadej. Sufficiency economy is a philosophy that stresses appropriate conduct and way of life while incorporating moderation, due consideration in all modes of conduct, and the need for sufficient protection from internal and external shocks (Piboolsravut, 2004). The sufficiency economy philosophical framework is like following:

Balance & Sustainability

Moderation

Reasonableness   **Self-immunity**
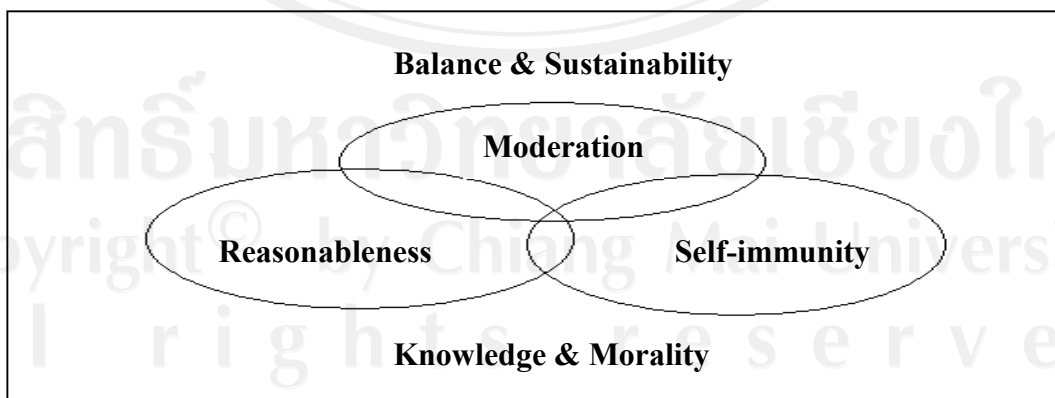
Knowledge & Morality

Figure 2.5: Sufficiency Economy Philosophical Framework

Source: Piboolsravut, 2004

The sufficiency economy philosophy entails three components—moderation, reasonableness, and requirement for a self-immunity system, and two underlying conditions— knowledge and morality (i.e. honesty and integrity). The aim is to boost positive creative force in order to achieve unity and a balanced and sustainable development. The sufficiency economy philosophy applies to all sectors such as agriculture, business and so on.

His Majesty's sufficiency ideology has a strong linkage to his New Theory, initiated in 1992, which consists of the three following phases:

Phase 1:   To live at a self-sufficient level which allows farmers to become self-reliant and maintain their living on a frugal basis.

Phase 2:   To cooperate as a group in order to handle the production, marketing, management, and educational welfare, as well as social development.

Phase 3:   To build up connections within various occupation groups and to expand businesses through cooperation with the private sector, NGOs and the government, in order to assist the farmers in the areas of investment, marketing, production, management and information management.

In short, sufficiency economy can be summarized by His Majesty himself, "Sufficiency Economy is a philosophy that guides the livelihood and behavior of people at all levels, from the family to the community to the country, on matters concerning national development and administration. It calls for a 'middle way' to be observed, especially in pursuing economic development in keeping with the world of

globalization."

2.6 Social Capital

Social capital, as discussed by Putnam (1993) and others, is the network of horizontal connections (members relate to each other on an equal basis) which leads to mutual commitment and trust and enables people and their institutions to function effectively. But Coleman (1988, 1990) has argued that social capital can include vertical associations as well, characterized by hierarchical relationships and unequal power distribution among members.

The research of social capital considers three dimensions of members of households: the level of participation by the household, the main function of the group, and the trust level of associations.

Estimate the empirical model with fixed effects as follows:

$$E_i = \alpha X_i + G_i\delta + G_iT_c\delta_T + G_iP_i\delta_P + G_iT_cP_i\delta_{TP} + \varepsilon_i \qquad (15)$$

Where

E_i = logarithmic per capita household expenditures

X_i = a set of controls including a constant, indicators for location, race, household size, gender and age of household head

G_i = the number of groups a household belongs to

T_c = the relative trust at the group level

P_i = the relative participation at the household level

The following table shows what the other indicators stand for.

Table 2.3: Trust and Participation Parameters in Groups

	Low participation	High participation
Low Trust	δ	$\delta + \delta_P$
High Trust	$\delta + \delta_T$	$\delta + \delta_T + \delta_P + \delta_{TP}$

The above equation has a set of interactions between the number of groups, Gi, and the dummy variables for relative trust at the group level and participation at the household level.

2.7 The Role of Chinese Migrants in Thailand

Chinese migrant has long history. During Qing dynasty (1644-1911), the Chinese state banned immigration. With the invasion of Japanese and civil war in China, in southeast China appeared large number of migrants. Until the time of Liberation in 1949, there were also a lot of male Chinese migrants left in Southeast Asia or Indonesia. During the 1950s and 1970s, the return visits were not encouraged and the connection between overseas Chinese and their mainland was cut off. Nowadays, overseas Chinese had played an important role in economy and development, especially in the Southeast Asia. From the early 1980s, Chinese government estimated a lot of projects to consummate the relations between China and other countries.

The main migration pressure of China was caused by high growth rate of working age population, unemployment and floating population[5]. In the Asia area, more than one million Chinese entered Pacific Asian countries in the period of 1980-2000. The number of Chinese migrants was 137,000 in Philippines in 2000 and 226,000 in Thailand in 1998.

In fact, the culture of Chinese and Thai impacted each other[6]. The relatively steady society in Thailand gathered more Chinese immigrants, comparing with other Southeast Asian countries. In contrast to the theory of Skinner (1957), recent researches argued that descendants of Chinese immigrants continued to regard themselves as Chinese and accepted Chinese culture well. Thus the researchers advanced the concept –alternative to assimilation.

The culture of Chinese and Thai tended to Western practices and ideas –modernization, development and industrialization. The early researchers defined the Chinese ethnicity as: 1. "The first belongs to the Chinese who went to Thailand before and after the Second World War"; 2.Thai-born Chinese whose parents were both Chinese; 3.Local-born Sino-Thai who have been raised in Sino-Thai families.

Although the Chinese culture and family had adopted many Thai practices, these practices were mostly combined with Chinese elements. With the development of the two countries, the effect of each country would change.

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[5] International migration in South-East Asia: the role of China, Jean Louis Rallu, 2002.
[6] Religion and family of the Chinese and Thai in Thailand and influences, Liang Chua Morita, 2007.

From the research of social capital of overseas Chinese who migrated from villages in Guangdong[7], the villages were the root of overseas Chinese, and then there was a motional connection between overseas Chinese and their native villages. In additional of the traditional Buddhist notions, overseas Chinese should donate to the villages.

There is a phenomenon in China- loving "face" (ai mianzi). Overseas Chinese gave gifts and money to their villagers when they returned to hometown, because it showed that they had better life and earned more money in other places than in hometown. Maybe this phenomenon will baffle some of Chinese go back to hometown since they can not afford this part of money or think it's a waste of money.

2.8 The Hypotheses of this Study

The followings are the hypotheses of this study (shown in Figure 3.1). The collected data is tested to explain weather they are accepted or not.

H1:   Most Chinese people living in Chiang Mai fled China for political reasons during the period 1947-1950. If this hypothesis cannot be rejected, then the whole sampling frame and sample size will go down, because they are all long-term migrants.

H2:   Even though they were not born here, the income of Chinese in Chiang Mai will be of significantly higher level compared with native Thai people. And this

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[7] Imaginary homecomings: Chinese villagers, their overseas relations, and social capital, Ellen Oxfeld, 2001.

phenomenon depends on the level of skill, education, the length of stay and economic environment in Chiang Mai of sample.

H3: The inequality of Chinese in Chiang Mai will be significantly lower than that of Thai residents. This is due to greater solidarity (social capital) among them.

H4: The key determinants of income per capita in Chinese households are education, gender of the household head, and horizontal social capital (bonding); while the determinants in Thai households are business and political alliances, no importance of education, and vertical social capital (bridging).

H5: At equal levels of income, Chinese in Chiang Mai will have more savings than Thai people.
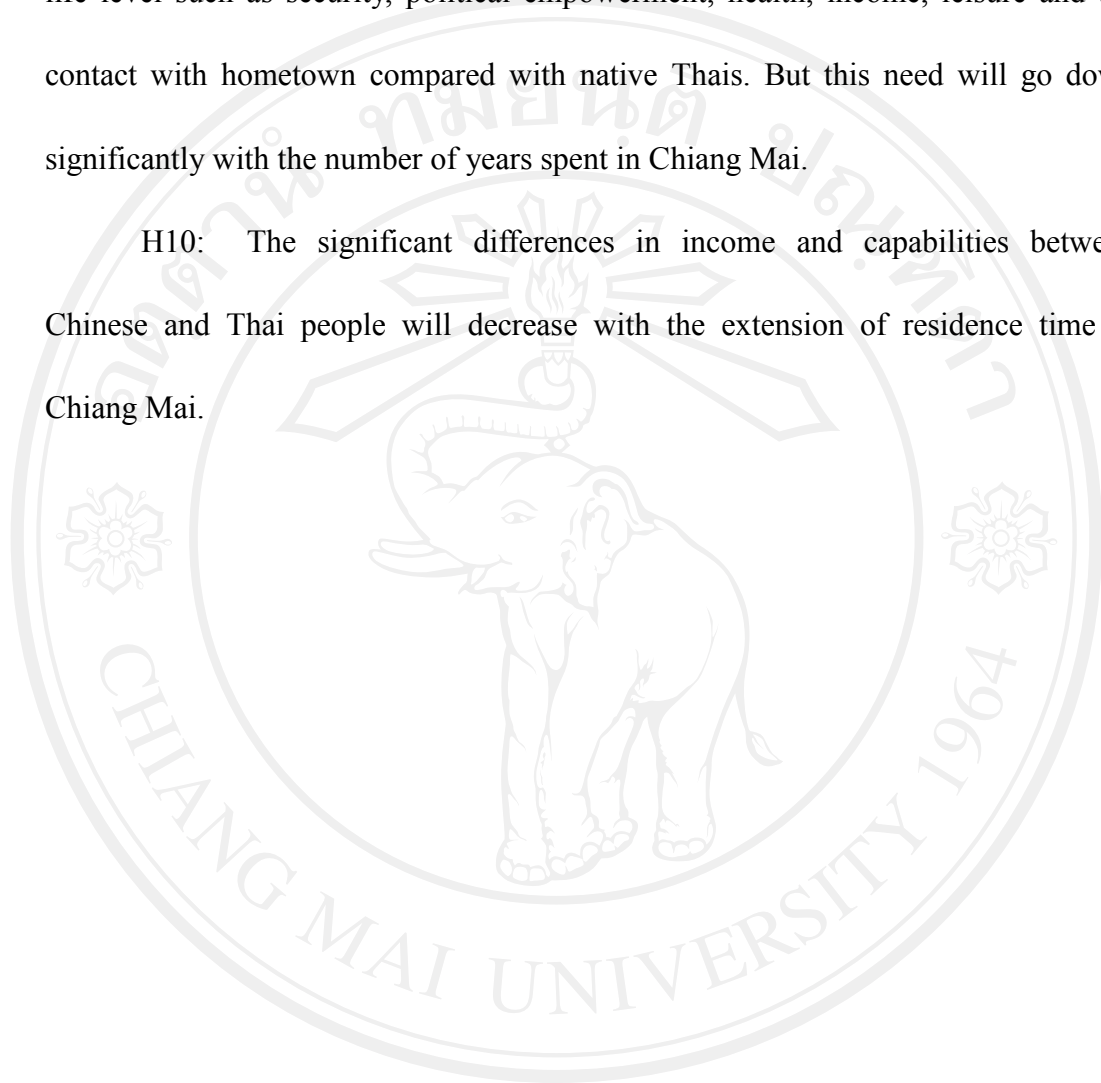
H6: The life satisfaction of Chinese in Chiang Mai will be lower compared to Thai people, because they miss living within a completely Chinese society and have higher demand of life overseas, and they don't know about the King's Philosophy which would make them feel better.

H7: The happiness is affected by capabilities and social capital more than by income.

H8: Chinese people in Chiang Mai achieve higher education, health and pressure resistance capabilities but significantly lower political power, employment, opportunities and contact with hometown.

H9: Chinese in Chiang Mai will express more need to improve their basic life level such as security, political empowerment, health, income, leisure and the contact with hometown compared with native Thais. But this need will go down significantly with the number of years spent in Chiang Mai.

H10: The significant differences in income and capabilities between Chinese and Thai people will decrease with the extension of residence time in Chiang Mai.