วารสารเศรษฐศาสตร์และนโยบายสาธารณะ 5 (10) : 1 – 15

ISSN 1906 – 8522

An Analysis of Income and Expenditure of Households in one rural area of Thailand

Aotip Ratniyom[1]

Polapat Kotrajarras[2]

Abstract

On average households succeeded in generating a surplus; incomes were greater than expenditures. However, individual income depended on several factors which were different from one another depending on their family environment and individual preferences. Concerning necessary expenses; one who earns a lot of income may spend less and will be able to increase savings. Therefore, household budgets can play a vital role in knowing the source and amount of income and the amounts allocated to expenses and households should use the philosophy of “Sufficiency Economy” in order to manage financial household budgets. In addition, analyzes of factors affecting net savings are the gender, educational level and primary occupation of the head of the household.

Keywords : Household Income, Household Expenditure and Net Saving.

[1] รองศาสตราจารย์ สำนักวิชาเศรษฐศาสตร์และนโยบายสาธารณะ มหาวิทยาลัยศรีนครินทรวิโรฒ

[2] อาจารย์ สำนักวิชาเศรษฐศาสตร์และนโยบายสาธารณะ มหาวิทยาลัยศรีนครินทรวิโรฒ

1. Introduction

The ability of households to meet their basic needs is an important factor of economic stability and well-being. While households must monitor the balance between their income and expenditure and spend money more carefully. If they spend more than they earn, they will get into debt. In contrast, if they spend less than they earn, they will save money. Therefore, households ought to record both of income and expenditures all the time so they can plan to manage their financial household budgets.

Nakhon Nayok is a province in central Thailand, Covering some 2,130 square kilometers. It borders Saraburi and Nakhon Ratchasima Provinces to the north, Prachin Buri Province to the east, Chachoengsao Province to the south and Pathum Thani Province to the west and Ongkharak district is in Nakhon nayok province. Most of the people in Ongkharak work in rice farming and some are employed in the manufacturing sector or service sector. Because of the demonstration effects, many people are pressured to rapidly increase their access to material goods primarily because they "come into contact with superior goods or superior patterns of consumption, with new articles or new ways of meeting old wants." As a result, these people are "apt to feel after a while a certain restlessness and dissatisfaction. Their knowledge is extended, their imagination stimulated; new desires are aroused" (Nurkse quoted in Kattel et al. 2009, p. 141) The same is true fot the Ongkharak population who have demonstration effect and some have a debt ,household accounting can help to manage their finances with the ultimate goal of households contribute to the sufficiency economy.

2. Literature Review

This section provides a review of the literature regarding the philosophy of the sufficiency economy, the research involved in the income-expenditure of households and factors affecting the ability to save.

Philosophy and meaning of the "Sufficiency Economy"

Recording income and expenditure in households every day is one of the steps necessary for the household to explore their finances. When you know that the household net income is negative, you must bring the philosophy of the sufficiency economy to be applied in your way of your life. The philosophy "Sufficiency Economy" can start from the level of families, communities, as well as the level of the nation in development and administration as to modernize in line with the forces of globalization. "Sufficiency means moderation, reasonableness, and the need of self-immunity for sufficient protection from the impacts arising from internal and external changes. To achieve this, an application of knowledge with due consideration and deliberateness is essential. In particular great care is needed in the utilization of theories and methodologies for planning and implementation in every step. At the same time, it is essential to strengthen the moral fiber of the nation, so that everyone, particularly public officials, academics, businessmen at all levels, adhere first and foremost to the principles of honesty and integrity, In addition, a way of life based on patience, assiduousness, assiduousness, wisdom and deliberateness is indispensable to create balance and be able to cope appropriately with critical challenges arising from extensive and rapid socioeconomic, environmental, and cultural changes in the world. (NESDB, 1999)

Research involved in the income-expenditure of households

Solomon Bekure et al. (2010) analyzed income and expenditure patterns of Tuareg households in Mali. It found that the dominant sources of income was the sale of animals, representing 42 % of total income Salaries earned were a close second accounting for 35%, Income from cereals, other food and consumption items and clothing was not from the sale of these items as such, but represents the value of these items obtained in exchange. The purchase of food items accounted for 49% of total expenditures, the most prominent item being cereals (22%). Garry D. Camegie presents basic budgets for over 400 U.S. communities and six family types (either one or two parents with one, two, or three children). That the budgets differ by location is important, since certain costs, such as housing, vary significantly depending on where one resides. This geographic dimension to family budget measurements offers a comparative advantage over using poverty

thresholds, which only use a national baseline in its measurements. The following are major findings from this analysis: one of the first items of interest when looking at these budgets is the large share of costs that are from child care, and in some areas with very high property value, rental expenses exceed all other individual budgetary items.

Factors Affecting Net Income

In an empirical study taking primary data through a structured questionnaire, Abid&Afridi (2010) found that family size is inversely related to savings. One plausible explanation is that people in a large size family and especially with an increased number of non-working age family members and non-participating women tend to have lesser saving. also established that saving is inversely related to education. It may be a characteristic of the sample being chosen. One of the possible explanations could be that people who have just completed their higher education tend to start careers at nominal salaries and most have already accumulated debt from private sector education. Also, people with more education tend to spend relatively more on the education of siblings/children, health, and quality food supplies. Rehman et al. (2010) through a sample based micro-econometric study in Multan, established that female participation in the labor force had the highest positive nominal effect on saving. This shows that income earned when a female is the need of the household is mostly regarded as transitory income as a result, these household are more likely to save hence, it is mostly saved large. Lumton and Smith (2003) found that many aspects of the saving behavior were left unexplained even after controlling the socio-economic and demographic characteristic of households. The fundamental human capital proposed by Becker (1975) stated that women rationally chose to invest in human capital including less than men (including education), and job training affecting women's employment opportunities, skill and abilities to accumulate wealth. The choices that women make were different than men due to greater family responsibilities with gender division of labor within families resulting in women taking the responsibility for child care and housework (Bajtelsmit,1996)

3. Research Methodology

This section describes the research methodology employed in this study. It includes sources of data and data analysis.

Sources of Data

The present study capitalized on primary data and data sources for this study, which is a study of a representative sample of households in Tambon Ongkharak. The sample focuses on 8 villages (muban) consisting of 76 households as follows: 31 households from Village Number 4, 6 households from Village Number 5, 6 households from Village Number 6, 7 households from Village Number 7, 2 households from Village Number 8, 12 households from Village Number 9, 8 households from Village Number 11, 4 households from Village Number 13. The data covers the period of July 1, 2012 – July 31, 2012. And was collected by daily bookkeeping from the head of household.

Data Analysis

Data analysis is divided into two parts. Part I involves an analysis of income and expenditure of households. This part used descriptive statistics to analyze socio-economic characteristics of Samples, sources of household income, sources of household expenditure and net income. And part II used linear regression analysis to check factors affecting net income

The logistic regression model was used to analyze the determinant of net income. This model described below is used to estimate the effect between independent variables (gender,age, education,a household member, household member who earned income, primary occupation, and secondary occupation) and net income.

The logistic regression model can be written in term of function.

$$P(event) = e^{z} / 1+e^{z} \quad (1)$$

$$And\ P(event) = 1- P(event) \quad (2)$$

When P(event) means the probability of positive net income and Z is a linear combination independent variables (X_i) (see table appendix 1)

$$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \ldots + \beta_nX_n \quad (3)$$

Equation (1) and (2) can be used to find the odds value of net income saving

$$\text{Odds} = P(\text{event}) / 1 - P(\text{event}) = e^{\beta_0} + e^{\beta_1} + e^{\beta_2} + e^{\beta_3} + \ldots + e^{\beta_n} \quad (4)$$

From equation (4), take ln on both sides.

$$\ln \text{Odds} = \ln P(\text{event}) / 1 - P(\text{event}) = Z \text{ Odds} = \quad (5)$$

$$= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \ldots + \beta_nX_n \quad (6)$$

In present study

$$NI = a_0 + a_1GENDER + a_2AGE + a_3EDU + a_4MEM + a_5EARN + a_6PRI + a_7SECOND + e \quad (7)$$

Let $a_0, a_1, \ldots\ldots\ldots a_7$ = coefficient of variables

e = the error in a model

4.Results and Analysis

Socio-Economic Characteristics of Samples

The socio-Economic Characteristics of Samples is given in Table 1. The total sample for analysis included 76 households, with 61.84 % females (47 household heads) and 38.16 % males (29 household heads). The largest age sample was from 36-45 years old (27.63 %). As for educational level, most of them are educated at less than the primary school as well the secondary school (38.16 %). About the number of regarding household size, the largest of a group was that with 3-5 members (65.79%). As for household members who earned income, we find that the greatest percentage was 75% of households that had one or two members who earned income. 32.89 % of primary occupation were a general employee while 25% are farmers. (52.63%) . The majority of samples had a secondary occupation while 26.32 % have been employed as a general employee. The average income of households was 10,001 – 20,000 baht (39.47 %), followed by 4,000 – 10,000 baht with 27.63 percent. And the last characteristic is the average expenditure of household, the two highest the average expenditure of household are 10,001 – 20,000 baht with 38.16%, followed by 4,000 – 10,000 baht with 35.53

Table 1 The Socio-economic Characteristics of Household Heads

Characteristics	N=76	%
GENDER		
Male	29	38.16
Female	47	61.84
Age		
Less than 25	7	9.22
26 – 35	16	21.05
36 – 45	21	27.63
46 – 55	14	18.42
56 +	18	23.68
Education		
Less than the primary school	29	38.16
The primary school	10	17.10
The secondary school	29	38.16
The Tertiary school	8	10.53
Household member	12	15.79
1 – 2	50	65.79
3 – 5	13	17.11
6 – 8	7	1.32
8 +		
Household members who earned income		
1 – 2	57	75.00
3 – 5	18	23.68
6 – 8	1	1.32
8 +	0	0.00
Primary Occupation		
Farmer	19	25.00

General employee	25	32.89
Merchant	12	15.79
Employee in factory	9	11.84
Work incorporation	7	9.21
Private business	4	5.26
Secondary Occupation		
Farmer	7	9.21
General employee	20	26.32
Merchant	12	15.78
Private business	1	1.32
None	36	47.37
Income per month (Baht)		
4,000 – 10,000	21	27.63
10,001 – 20,000	30	39.47
20,001 – 35,000	15	19.74
35,000 – 50,000	5	6.57
50,000+	5	6.57
Expenditure per month (Baht)		
4,000 – 10,000	27	35.53
10,001 – 20,000	29	38.16
20,001 – 35,000	8	10.53
35,000 – 50,000	8	10.53
50,000+	4	5.26

Sources of Household Income

Table 2 shows the sources of household Income during July 1- July 31, 2012. Informal sector employment 53.07 % is the highest percentage of income source , while

18.24 %, 15.22 %, 10.36 %, 1.82 %, 1.18 % and 0.11 % are the sale products, wages and salaries, other income, transfer from descendants, loans, and social pensions, respectively. For trade and employee, some people are merchants and have small businesses as that sell miscellaneous goods. Other people who don't own land are employees in factories, service sector of the agricultural sector. The examples of general employees in the agricultural sector are injected pesticides in a rice field, harvesting rice, and fertilizer. According to the of sale products, these are agricultural products such as paddy, vegetables, fruit, plants and livestock. Many people in Ongkharak district work in the agricultural sector especially on rice farms. The other income sources are earnings from special jobs, selling of food, beauty salons, laundries, motorcycle repair and photocopying.

Table 2: Sources of Household Income

Sources of Income	%
1.Informal Sector	53.07
2. Sale Products	18.24
3. Wage and Salaries	15.22
4. Other Income	10.36
5.Transfer from Descendants	1.82
6. Loan	1.18
7. Social Pension	0.11

Source of Household Expenditure

The sources of household expenditures are divided into sources of necessary and unnecessary household expenditures. Table 4 shows necessary household expenditure. Most household expenditures were used for buying food with 42.01 %, while 17.17 %, 16.17 %, 10.46%, 8.75 %, 4.73 %, and 0.70 % was used for children is expenses, household tools and equipment, fuel and

transportation, electricity/water/telephone service, respectively. The items of food expenditure were rice, meat, eggs, vegetables, tea, coffee and water. While children are expense were pocket money for school, clothing children, toys, and children schooling uniforms. The tools and equipment involved in the agricultural sector are harvesters, pushcarts, pumps, and tractors. Cleary, the expenses for food were the most important.

Table 3 Sources of Necessary Household Expenditure

Sources of Expenditure	%
1. Food	42.01
2. Children expense	17.17
3. Household tools and equipment	16.17
4. Fuel and transportation	10.46
5. Electricity/Water/Telephone Service	8.75
6. Medicine	4.73
7. Rent	0.07

Table 4 shows unnecessary household expenditures. Most unnecessary household expenditure was used for debt and interest at 78.46%, while14.86% and 6.68 % are used in Lottery/gambling and Cigarettes/alcoholic drinks, respectively. In this section of other unnecessary expenses except loan and interest]. Households must not buy (lottery, tickets) gambling, liquor, beer, cigarettes or engage in other to have a better quality of life.

Table 4 Sources of Unnecessary Household Expenditure

Sources of Expenditure	%
1. Debt & interest	78.46
2. Lottery/gambling	14.86
3. Cigarettes/alcoholic drinks	6.68

Net Income of household

Table 5 shows income, expenditure and net income in each household in July 2012. It notices that most of them had positive net income and only ten households had negative net income. Household 5 had the highest positive net income and Household 15 had the highest negative net income. When you look occupations in table 1, there are many differences among households. Some heads of household were the mill owners, some were a small farmer and others houses had only one elderly person. Table 4 shows that unnecessary household expenditures come mostly from debt and interest. And that is policy makers ought to realize this matter. When researchers asked about the household debt, most of them didn't provide accurate information. For our analysis, we can divide the amount of net income into two groups the first had positive net income and the second group had negative net income. These two groups are used as the dependent variable in the logistic regression model. However, household bookkeeping is important the part of the philosophy of the sufficiency economy. If you are aware of the classify necessary and unnecessary expenditures, you are more likely to save you money. You can plan to reduce your expenditures such as not taking out reduce the loan, not buying lottery or engaging in other gambling and don't smoke cigarettes or drink alcohol. You can use the three pillars of the philosophy of the sufficiency economy such as moderation, reasonable and risk management.

Table 5 Income, Expenditure and Net Income each Households in July 2012.

Unit: Baht

Order	Income	Expenditure	Net Income	Order	Income	Expenditure	Net Income
Household 1	23,050.00	7,143.00	15,907.00	Household 39	7,250.00	3,125.00	4,125.00
Household 2	29,973.00	61,251.00	-31,278.00	Household 40	25,679.00	13,550.00	12,129.00
Household 3	6,860.00	8,735.00	-1,875.00	Household 41	33,210.00	31,912.00	1,298.00
Household 4	11,050.00	1,764.00	9,286.00	Household 42	5,850.00	3,740.00	2,110.00
Household 5	162,835.00	111,413.00	51,422.00	Household 43	29,800.00	800.00	29,000.00
Household 6	20,000.00	5,918.00	14,082.00	Household 44	26,939.00	10,241.00	16,698.00
Household 7	12,530.00	2,070.00	10,460.00	Household 45	7,200.00	6,377.00	823.00
Household 8	16,500.00	19,933.00	-3,433.00	Household 46	37,724.00	1,171.00	36,553.00
Household 9	11,470.00	12,782.00	-1,312.00	Household 47	20,450.00	20,650.00	-200.00
Household 10	21,000.00	7,346.00	13,654.00	Household 48	107,800.00	65,845.00	41,955.00
Household 11	84,580.00	62,441.00	22,139.00	Household 49	13,700.00	5,768.00	7,932.00
Household 12	13,363.00	650.00	12,713.00	Household 50	50,000.00	37,615.00	12,385.00
Household 13	1,610.00	1,320.00	290.00	Household 51	20,700.00	31,836.00	-11,136.00
Household 14	11,820.00	4,694.00	7,126.00	Household 52	7,347.00	4,521.50	2,825.50
Household 15	52,214.00	64,592.00	-12,378.00	Household 53	37,724.00	1,171.00	36,553.00
Household 16	2,127.00	926.00	1,201.00	Household 54	20,450.00	20,650.00	-200.00
Household 17	16,709.00	13,205.00	3,504.00	Household 55	107,800.00	65,845.00	41,955.00
Household 18	13,690.00	5,707.00	7,983.00	Household 56	13,700.00	5,768.00	7,932.00
Household 19	56,785.00	27,380.00	29,405.00	Household 57	50,000.00	37,615.00	12,385.00
Household 20	33,205.00	12,279.00	20,926.00	Household 58	20,700.00	31,836.00	-11,136.00
Household 21	9,464.00	2,989.00	6,475.00	Household 59	7,347.00	4,521.50	2,825.50
Household 22	7,800.00	1,100.00	6,700.00	Household 60	37,724.00	1,171.00	36,553.00
Household 23	7,979.00	2,674.00	5,305.00	Household 61	7,955.00	11,338.00	-3,383.00
Household 24	8,773.00	11,449.00	-2,676.00	Household 62	53,440.00	25,167.00	28,273.00
Household 25	18,394.00	6,316.00	12,078.00	Household 63	39,590.00	17,860.00	21,730.00
Household 26	10,240.00	5,554.00	4,686.00	Household 64	28,520.00	26,449.00	2,071.00
Household 27	26,734.00	4,035.00	22,699.00	Household 65	48,940.00	34,407.00	14,533.00
Household 28	18,474.00	18,667.00	-193.00	Household 66	48,600.00	36,835.00	11,765.00
Household 29	13,950.00	4,823.00	9,127.00	Household 67	23,470.00	12,035.00	11,435.00
Household 30	2,600.00	975.00	1,625.00	Household 68	29,700.00	26,500.00	3,200.00
Household 31	66,275.00	46,750.00	19,525.00	Household 69	335,786.00	218,885.00	116,901.00
Household 32	23,700.00	9,276.00	14,424.00	Household 70	1,090.00	46,400.00	-45,310.00
Household 33	13,750.00	9,776.00	3,974.00	Household 71	335,786.00	218,885.00	116,901.00
Household 34	55,100.00	19,475.00	35,625.00	Household 72	1,090.00	46,400.00	-45,310.00
Household 35	31,640.00	30,015.00	1,625.00	Household 73	335,786.00	218,885.00	116,901.00
Household 36	21,760.00	17,890.00	3,870.00	Household 74	1,090.00	46,400.00	-45,310.00
Household 37	34,900.00	21,255.00	13,645.00	Household 75	335,786.00	218,885.00	116,901.00
Household 38	18,550.00	14,820.00	3,730.00	Household 76	1,090.00	46,400.00	-45,310.00

Factors Affecting Net-Income

Having examined whether the estimated model is statistically acceptable, we can proceed to the interpretation of the results. The statistically significant variables that influence net income are shown in Table 7, the percent correctly predicted is 82.86 percent. Three of seven independent variables are statistically significant: gender, educational level, and primary occupation. Gender was expected to have a positive relationship with the net-income (positive sign) and For one unit change in a female, the log odds of net income is increased by 0.740. Educational Level, expected to have a positive relationship with the net-income (positive sign). For one unit change in educational level, the log odds of net income is increased by 0.533. Primary occupations such as merchants, who work in corporations and private businesses were expected to have a positive relationship with the net income (positive sign). For one unit change in a female, the log odds of net income are increased by 0.631. In conclusion, the order of independent variables by the log odds of net income from lowest to highest are primary occupation educational level and gender.

Table 6 Results of Logistic Regression Analysis

	B	S.E.	Exp(B)
GENDER	0.740*	0.024	1.687
AGE	0.014	0.227	0.568
EDU	0.553*	0.233	1.887
MEM	-0.025	0.039	0.865
EARN	0.021	0.313	0.542
PRI	0.631*	0.006	1.995
SECOND	0.123	0.223	0.342
2 log Likelihood	513.97		
Chi-square	39.48		
Percent correctly predict	82.86 %		

Note: P*-value<0.05

Conclusions

This research indicates that the changes in Thai society which have come from the connection with foreign countries as part of the globalization trend have had the effect on the way of life in both urban and rural households if households record every item in terms of income and expenditures they can plan to manage their financial household budgets and reduce the outside effects. When looking at an overview of the analysis of results. We found that on average households succeeded in generating a surplus. incomes were greater than expenditure. However, individual income depends on several factors which differ from one another depending on their family environment and individual preferences. These who do not earn a lot of income should spend less and these be able to increase savings. Therefore, household budgets can play a vital role in knowing the source and amount of income and the amounts allocated to expenses and households should use the philosophy of the "Sufficiency Economy" in order to manage financial household budgets. In addition, analysis of factors affecting net income saving is gender, educational level, and primary occupation.

References

Abid&Afridi (2010). "Assessing the Household saving Pattern of Urban and Rural Households in District Muzaffarabad." Pakistan Journal of life & Social Sciences Vol 8(2), pp. 137-141.

Bajtelsmith, V,L, & Bermsek, A (1996) Why do women invest differently than Financial Counseling and Planning, pp. 1-10

Becker, G (1975) Human Capital. New York: National Bureau of Economic Research.

Lumton , J. & and Smith, J.P. (2003). Marriage assets and saving. In Grossbard Shechman (Ed.) Marriage and the Economy Theory and Evidence from

industrialized Society (pp129-152) Cambridge, England: Cambridge, University Press.

Rehman , Hafeez Ur, Faridi, M. Zahir &nBashir, Farrukh (2010). Saving Behavior amongDifferent Income Groups in Pakistan: A Micro Study. International Journal of Humanities and Social Science, Vol. 1 No. 10, pp. 17-29

Solomon Bekure , Team leader, Arid Zones (Eastern and Southern Africa) Program, ILCIS, Kenya.

The NESDB on November 29, 1999.The National Research Council Committee on Economic Branch, The office of National Research Council of Thailand.