

# IDE Research Bulletin

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Research Summary based on papers prepared for publication  
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## **Consumption Behaviors in the East and South-East Asian Economies**

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### **Consumption Behaviors in the East and South-East Asian Economies**

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Some economies in the East and South-East Asian area, such as Japan and Singapore, showed rapid growths in mainly from 1960's and 1970's. From the starts of high growth, their saving ratios increased largely. This abundance of saving brought about the acceleration of investments. However, it is impossible to find a model to explain this mechanism of economic growth. In the first paper in this project, it is explained by the shift of the utility function of consumer. To make clear the mechanism and effect of this shift, the consumer's good is divided into two sectors, durable goods and non-durable goods. For the simplification, modeling is conducted as a two periods' model.

In the economies such as Japan, Singapore and Taiwan, the saving ratio started to rise spontaneously with the start of high economic growth. It was not caused by government's policy. It seems like that the time preference rate changed from present priority to future priority. With the beginning of high economic growth, people could be thought to activate saving behavior, intending to purchase durable consumption goods.

It could be understood that the time preference rate has an important role to decide the consumption and saving. We consider this is one of the decisive factors for the economic development. In the second paper in this project, the author intends to identify the factors influencing time preference of rural households in relation to economic activities on farm house holds.

Present time preference is often seen among poor households in developing countries. This might impose constraints on economic growth in the national economy level as well as on production and consumption activities in the individual household level. A field experimental survey was conducted in 2014 to understand the determinants of time preference among rice producing households in an irrigated farming district in the Mekong Delta in Vietnam. Individual time preferences observed through a field experiment were heterogeneous among the respondents of heads of households and relatively high on average. Demographical factors such years of schooling and gender showed significant contributions to achieve higher technical efficiency in rice cultivation. However, many demographical and economic factors failed to explain the difference in time preference among participants. Low discount rates might not be as

yet important for the rural households producing staple food of rice in the irrigated area of Monsoon Asia.

Summaries of these two papers are shown below.

### **The High Growth and Consumption in the East and South-East Asian Economies (Hisao YOSHINO)**

In the economies such as Japan, Singapore and Taiwan, the saving ratio started to rise spontaneously with the start of high economic growth. It was not caused by government's policy. It seems like that the time preference rate changed from present priority to future priority. With the beginning of high economic growth, people could be thought to activate saving behavior, intending to purchase durable consumption goods.

On the other hand, Korean economy which had comparative advantage in the light industry, because of low wage, imported newest facilities of heavy industries, such as steel and petro-chemicals. Then, this economy enjoyed the scale merits of heavy industries by operating these facilities. It was supported by economic policy. For this development of process industry, huge funds were indispensable. This government adopted the compulsory saving policy. Two digits level of inflation was maintained and it enabled easy to redeem government bond.

According to MacKinnon-Show hypothesis (MacKinnon (1991)), if the financial market in developing economy is liberalized, interest rate will increase and saving will increase. Then, investment and economic growth will be accelerated. However, in East and South-East Asian economies, this mechanism could not be observed. In some economies in East and South-East Asia, savings increased rapidly with interest rate decreasing.

Until now, we have no model to explain the consumption and saving behaviors mentioned above. It is needed to specify the factors to rise saving ratio, and to change time preference rate. Then, it is intended to build a model which explains the consumption and saving behaviors lead to economic development, in this paper.

If we can obtain the shape of utility function, it is useful to recognize the shift of utility function. Then, C-CAPM (Consumption based Capital Asset Pricing Model) is the method to analyze the changes of asset return, based on the optimum condition obtained from dynamic behavior of household. In the dynamic model, consumption in every period is determined by real rate of asset return, discount rate of consumption value, and risk aversion degree of household. The optimum condition of household consumption is that the real rate of asset return is equalized to the time preference rate related to the household consumption in this period and consumption in the next period, in the equilibrium. It is possible to obtain the shape of utility function using this optimum condition. However, this C-CAPM approach assumes the perfect

equilibrium in goods market and financial market. This situation is different from the situation which has been confronted by the East and South-East Asian economies in 1950's and 1960's.

According to our model, when the income in the second period increases, this increase brings about the increase of parameter in the utility function for the durable goods not for the non-durable goods. To explain this mechanism and effects clearly, the consumption is divided into two categories, the non-durable goods and the durable goods.

The two periods' model with two sectors to explain the increase of saving ratio with the high economic growth rate, is considered. When people expect high economic growth, if they suppress consumption and save money in the first period, they can obtain expensive durable goods which have much higher utility in the next period. This phenomenon could be expressed by the shift of utility function. At the same time, the time preference rate changes from present priority to future priority.

The result of the calculation of model is as follows. When the consumers expect an increase of income in the second period, they reduce both of durable and non-durable goods in the consumption and increase the saving in the first period. Then, the saving ratio increases. They increase both of the consumptions, non-durable goods and durable goods using the saving in the second period.

### **Time Preference and Economic Development: A Microeconomic Study in Vietnam (Masahiko GEMMA)**

For the past ten years, our understanding on risk and time preferences has been much improved thanks to various empirical studies conducted in the household level. The relationship between time preference and demographical factors such as age and education has been proved. However, the relationship between time preference and economic factors such as assets and income, and production performance indicators has not been widely examined in the empirical fields in developing countries. Still the needs exist for more empirical studies to look into the mechanism of the relationship between risk and time preferences, and production and consumption performances of the households in developing countries. Most studies have been dealing with methodological and measurement issues, or risk and time preference issues themselves even using micro level field data. How risk and time preferences affect income generating activities has not been examined much in the household level.

This empirical study was conducted to fill the gap between our current understanding and the needs to derive policy implications in the area of time preferences, and households' income generating activities in developing economies. The data utilized are the micro level data

collected in the field in an irrigated farming area in the Mekong Delta region in Vietnam through interviews to understand the production, consumption and investment activities and field experiments to measure risk and time preference behavior of the rural households.

With a method to provide real incentives to individual heads of households, time preference was measured for each participant. Rice production data for individual households were also collected for the wet season in 2013 to examine the relationship between time preference and production behavior.

The tested hypotheses were as follows.

1. The individual discount rates are related to demographical characteristics of households.
2. The individual discount rates are related to household income.
3. The individual discount rates are related to the assets the households own.
4. The individual discount rates are related to production performance.

The study was conducted to examine the determinants for high discount rates observed in rural areas in developing countries choosing an irrigated district in the Mekong Delta as a field for collecting data and testing important hypotheses. Demographical factors such as marital status were found to play a significant role in determining time preference. A health variable of BMI was weakly contributing to the determination of discount rates in this study. Age and education, which had been identified as important contributing factors for lowering discount rates by previous studies, did not explain the difference in time preference among the participants to the field experiment and survey.

Income and wealth were as important for explaining the difference in time preference even in the current research. The surplus from overall agricultural production activities was an important factor to lower present time preference. BMI was also treated as a variable to show the level of wealth. Again, a weak and U-shaped relation was established between time preference and BMI. The values of houses were also considered important. The house values and discount rates were weakly, but negatively correlated.

The relationship between discount rates and production performance indices was also examined. Technical efficiency measures did not become important determinants for the difference in time preference. Total labor use and the year when the agricultural operations started showed their importance as the determinants in explaining the difference in time preference.

As expected, the improvement in technical efficiency was found to be feasible with the increases in years of schooling. Gender difference for the heads of households mattered for technical efficiency in this study. Age, however, did not become a contributing factor for the

difference in technical efficiency as seen in other studies. This could be because of uniqueness about the participants for this survey. They are heads of households. They are older than the normal population in rural areas in Vietnam with the average age of 56 years old.

Although their impacts are still weak, our study found that enhancement in income and wealth could lower time preference. The government could potentially play a role in supporting the households' efforts to raise income and accumulate wealth by releasing credit constraints the households are facing.

Importance of education was confirmed for the purpose of improvement of technical efficiency in rice cultivation. However, neither education nor technical efficiency has been contributing to the change in time preference. More studies are needed to look into the issues connecting production activities to time preference problems.

As future research, we suggest we collect the data from the households located in more wide spread areas in the Mekong Delta in Vietnam to have variability in demographical and economic conditions. In this particular study, homogeneity existed among households and the interviewees in demographical and economic characteristics. Many demographical and economic factors failed to explain the difference in time preference among participants. This could be partly because of homogeneity of surveyed households and interviewees.

Low discount rates might not be as yet important for the rural households producing staple food of rice in the irrigated area of Monsoon Asia. As long as the farm households follow subsistence way of life, present time preference might not matter too much for their production and consumption activities. As the market economy starts influencing their production and consumption activities, the farming households might have to start considering their activities in the long-run perspectives. That might be the time when policies and institutions might be used effectively to start generating income and to accumulate wealth. Present time preference of farming households might be changed then.

### **References**

McKinnon, Ronald I. (1991), *The Order of Economic Liberalization*, Baltimore, Johns Hopkins University Press.