

CHAPTER 6

Conclusions and Future Research

6.1 Summary of the Study

Availability of data and computational ability provide us to empirically examine more complex economics theories related to health and health risk behaviors. Two goals are achieved in this thesis. The first one is to utilize econometric models that are suitable for health behavior data. The measure of dependence between health and health risk behavior is quantified by using the Copula-based Ordered Probit Model and pair-copula constructions to answer the questions regarding health and health risk behavior determining factors in both of a narrow and a wide definition. The results confirm the significant as well as the usefulness of the features, and show that the model is robust, the estimated standard errors of bivariate models are lower than those of univariate models. However, the differences are very small corresponding (five digits after the decimal point) with the low level of correlation between each random error. Moreover, from the empirical results, the recommended policies designed to reduce health-risk behavior and increase health-inducing behavior for Thailand are discussed in the thesis.

The second main goal is to apply econometric models that are suitable for solve the self-selection bias problem about health behavior. We proposed the copula-based endogenous switching regression for ordinal outcomes as the most appropriate model for treatment effect estimation. These models provide a framework for analysis for the effect of self-selection in alcohol consumption on hypertension disease from observational data. The result found that the alcohol user counterfactual blood level of those who actually chose not to drink are below than an average.

6.2 Future Research

Despite the lack of data and the models have limitations. First, the data using the observational data in this thesis are taken from the Thai National Health Examination Survey in 2009, which data consists of a sample of 20,450 individuals. The further study should extend the analysis by using panel data may help to confirm the relationship between health and health risk behavior.

Second, this thesis quantifies the multivariate models in three dimensions by used ordered probit model. The ordered dependent variables are: (Y1) an amount of ethanol consumption on average per day in a year, and was classified into three levels (less, harmful, and hazardous); (Y2) an amount of cigarettes per day that was classified into three levels (1-3), and (Y3) the levels of physical activity in leisure time that was classified into three levels (low, moderate, and high). The result for all three pairs, the best-fitted model is the Frank copula with standard normal distribution for both random errors (in terms of AIC). The empirical results show the negative correlation between tobacco consumption and physical activity behaviors. We also found the positive correlation between tobacco and alcohol consumption behaviors and between alcohol consumption and physical activity behaviors. The further study should extend the analysis by using trivariate models may help to confirm the robustness of the results.

Third, this thesis aims to define the determining factors of health behavior that representative by physical activity and health risk behaviors that are representative by alcohol consumption and tobacco consumption. The further study should extend to analysis the causal effect of these determining factors may help to recommended policies designed clearly each factor to reduce health-risk behavior and increase health-inducing behavior for Thailand.