Effectiveness of cigarette tax in Japan *

Kazuki Kamimura†

Abstract

In this paper, we estimate the relationship between cigarette tax (price) and smoking behavior in Japan. We breaks smoking behavior into participation part and consumption part. With Keio Household Panel Survey (KHPS), we can identify the effect of cigarette price depending on intertempporal variation of cigarette price. Main results are as follows.

First, effect of cigarette price is considerable and negative as expected. Particularly in case of male, cigarette price work on both participation and consumption. Thus cigarette tax increase is possible policy alternative to lower the smoking prevalence rate in Japan though decrease of tax revenue is not negligible.

Second, effect of large tax increase in October 2010 is not as expected based on past performance. With various specification, effect of large tax increase in October 2010 is smaller than that of modest tax increase in July 2006 in estimates. This result implies accumulated effect of repeating modest cigarette tax increase is larger than effect of large cigarette tax increase even if total increment of cigarette price is the same.

Third, there is considerable gender difference of sensitivity to cigarette price. While estimates in participation equation seems almost the same, elasticity differs a lot. In addition, consumption elasticities of male is by far larger than those of female. Thus for most of female, alternatives are smoking as in the past or quit smoking when confronting the cigarette tax increase.

Fourth, there is strong evidence for recent anti-smoking trend in Japan. Though our proxy is how many years have passed since the enforcement of Health Promotion Law and thus somehow inaccurate, including the variable considerable change the estimates of cigarette price and is itself significant. Therefore, to explore how cigarette tax works in recent Japan, how to control the anti-smoking trend is unavoidable issue.

Additionally we seek to obtain more reliable elasticities with various specifications. When we use dataset consists of who has ever smoked in recent years, elasticities seem most trustworthy.

JEL classification numbers: I12, I18
Keywords: Cigarette tax, elasticity of smoking cessation, elasticity of consumption

*We would like to thank Kohei Komamura, Colin McKenzie, Akihiko Noda, Atsuhiro Yamada for their helpful comments.

†Corresponding author: Graduate School of Economics, Keio University, 2-15-45 Mita, Minato-ku, Tokyo, 108-8345, Japan (E-mail: k_kamimura@2010.jukuin.keio.ac.jp).