

Measuring Quality Changes for Consumer Goods through Quality Engel Curves in the Japanese Economy

Masaoki TAMURA *

12/12/2007

Abstract

This paper examines the extent to which the Japanese Consumer Price Index (CPI) controls for quality changes, without employing the hedonic approach. We assume that unit price changes can be divided into two components: quality change and pure inflation. To distinguish between the two, we use the slopes of 'quality Engel curves' obtained by taking advantage of the noticeable features of the Japanese Family Income and Expenditure Survey. We find that they are correlated with quality change and uncorrelated with pure inflation. The key empirical fact is that goods with higher slopes of quality Engel curves display higher unit price increases. By using the slopes of the quality Engel curves as an instrument, we estimate the extent to which the Japanese CPI captures quality changes. The results of our estimation reveal that the Japanese CPI captures only 41.3% of quality changes with respect to consumer goods, with the exception of food-related goods.

*Graduate School of Economics, University of Tokyo. I would like to thank Hiroshi Yoshikawa, Richard Anton Braun, Julien Esteban-Pretel and Takashi Unayama for their helpful comments. I am also grateful to seminar participants at the University of Tokyo for fruitful discussions.