Abstract

In this paper we test different hedonic and conventional quality adjustment methods in a uniform, but somewhat unconventional, descriptive framework. The main aim is to address questions on hedonic quality adjustment methods and their robustness in index compilation. We do this by giving an empirical example with digital camera prices. We will show how conventional quality adjusting methods may be treated parallel with hedonic ones and how these methods may be evaluated similarly with regression based methods. Contrary to structural models that many hedonic quality adjusted price indices are based on, the hedonic models in this paper are all used as forecast models which, we believe, add to the robustness and practical utility of hedonics as a day-to-day tool for statistical agencies using quality adjustment.

The empirical part of the paper is based on findings from a quarterly digital camera database including some 1,200 prices from over 250 different digital camera models over the years 1998 to 2002. The main findings indicate that, in an aggregate context, such as price index, relatively simple hedonic models may be sufficient for accurate quality controlling even in high technology products. Further, if compared with a matched model framework, the collection of character data for hedonics may not need to exceed the precision already needed in the matched model.

Furthermore, we argue that the descriptive framework and the definition of estimation, while applicable with economic approach as well, could be used as basis in compilation of high frequency indices. As a side product the approach would provide the compiling agency useful information on the effects of quality adjustment and their impact on individual price index series.