This paper shows why the two main approaches to estimating hedonic indexes can produce quite different results. The proper measurement of inflation requires the use of hedonic indexes, rather than matched models, for product areas which have a high turnover of differentiated models. The two main approaches to hedonic indexes are hedonic imputation (HI) indexes and dummy time hedonic (DTH) indexes. HI indexes value a fixed period’s basket of characteristics using both base period and current period hedonic coefficients and take the ratio of the latter to the former. HI index number formulas differ in their use of which period’s characteristics are held constant for the valuation. DTH indexes estimate price change using the coefficient on a dummy variable for time in a hedonic regression which uses both base and current period’s data. For DTH indexes the slope parameters are constrained to be the same for both periods to allow the intercept shift to measure quality-adjusted price change. For HI indexes the change in the parameters over time are, paradoxically, the essence of the measure.

The study provides a formal analysis of the difference between the two approaches. It shows the conditions under which the approaches will provide similar results which, surprisingly, may even be when parameters are unstable, and the factors governing differences between the results. It shows that differences between the methods can be substantial and discusses why this is the case and the issue of choice between these measures. An illustrative study for desktop PCs is provided. It demonstrates the importance of using hedonic indexes for product areas which have a high turnover of differentiated models, that the two approaches can differ and the factors underlying the difference.

Keywords:
Hedonic regressions; hedonic indexes; time dummy variable index; consumer price indexes; personal computers

JEL classification:
C43, C82, E31.