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Economic Measurement Problems, Econometric Solutions

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I show how problems in measuring macroeconomic prices and quantities can be translated into the language of econometrics. This is useful because the econometric literature is large and offers new solutions. Earlier translations, namely the so-called stochastic approach to index functions, have been incomplete.

The new translation is intuitive because it shows that practically all price index functions target a change in some population mean of quality-adjusted product prices. The different functions are distinguished by just their choice of mean, their definition of quality, and their stance on “economic importance”.

To illustrate the value of the translation I use it to: (i) challenge influential criticisms about the time dummy hedonic method of quality adjustment; (ii) answer open questions about admissible functional forms for the time dummy hedonic method; (iii) clarify the merits of building price indexes from unit values; and (iv) explain that a well-known bias correction for price indexes is unnecessary.

I propose changes that offer to simplify the task of measurement for statistical agencies or to improve the accuracy and interpretability of macroeconomic data.