Comparison of maximum overlap and fixed sample methods for computer price indexes
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Question:
Given the production limitations of a monthly computer index, does a maximum overlap method or a fixed sample using hedonic adjustments better reflect computer price movements?

Types of price changes
- Price change within an existing model
- Introduction of new models

Measuring movement
- Tracking price of product over time
- Fixed sample using hedonic coefficients
  - Time consuming
  - Limited sample
- Maximum overlap sample
  - Much larger sample
  - Less processing resources needed

Methodology

Estimate
- Published fixed sample (200 units)
- Maximum overlap (avg 5000 units)
- Large fixed sample (2500 units)

Compare different measures
- Maximum overlap
- Fixed sample

Determine best methods
Hypothesis: Large fixed sample best measure of true price, but not operationally feasible

Comparison of different methods

Desktop, business and government
- Maximum overlap
- Fixed
- Large fixed

Desktop, household
- Maximum overlap
- Fixed
- Large fixed

Laptop, business and government
- Maximum overlap
- Fixed
- Large fixed

Laptop, household
- Maximum overlap
- Fixed
- Large fixed

Preliminary Findings
Maximum overlap follows large fixed sample more closely, but misleading
Hypothesis incorrect. Sample is so large that potential model replacements are limited
Poor replacement being chosen
Hedonics of limited use and relative is excluded from the estimation
Resulting index necessarily resembles maximum overlap method

Next Steps
Recreate index with various sample sizes to determine optimal size
Maximize sample size
Minimize imputation rate
Compare resulting index with maximum overlap and determine if there is value added in doing the hedonics