Zvi and Hedonic Price Indexes

Robert J. Gordon

Stanley G. Harris Professor in the Social Sciences, Northwestern University, NBER, and CEPR

How far back do we go?

• My version
  – Famous MIT class on job market in 1966-67
    • Hall, Stiglitz, Nordhaus, Weitzman, Akerlof
  – Zvi invited me to breakfast, I picked him up in my 1958 Volkswagen at Michael Bruno’s apartment

• His version: several years earlier
Why Was He So Special?

• Obvious: the intellectual insight
• The Chicago Econometrics workshop
  – We only overlapped there in 1968-69
• Back in the 1958 Volkswagen
  – Rushing him off to the telephone company office
Zvi on Hedonics

• Ernie Berndt should give us his memories of what Zvi added to a hedonic study

• He invented it, 1961


• Griliches-Ohta, ultimate on automobile hedonics, 1976
Hard to disentangle Zvi and Jack Triplett on autos

• Early issues
  – Physical characteristics vs. performance
  – We wanted speed, power, comfort
  – What we had was weight, length, horsepower

• General issue: shifting ratio of true attributes to performance characteristics
Zvi and Jack on luxury models

- Coefficient on weight overstated
- Reflected “prestige” attribute, 10% extra weight might add 30% to price
- Overstated coefficient on weight
- Overstated quality change, understated price change
Solution for Luxury Models?

- Make Effects
- Zvi first pointed out compact car bias in mixed samples (1959, 1960)
- Simple solution, restrict sample to same makes
- Griliches-Ohta (1976) – extensive attention to make-effect dummies
Left-out Variables, Zvi had nailed this issue intuitively

- Biggest example, very important after 1973: fuel economy
- Fuel economy negatively correlated with weight
- Couldn’t estimate its own coefficient
- Solution: Wilcox, separate regression explaining FE as a function of weight, time, and other characteristics
Two reasons hedonics were necessary but not sufficient

- Had to add auxiliary regression for fuel economy
- Weight-saving innovations, downsizing
- Triplett concluded much later: autos “too complicated” for hedonic studies
- Difficulty of estimating plausible coefficients on accessories, e.g., air conditioning
- No alternative to going beyond simple hedonic regressions
Examples where hedonics work well and badly

• Autos – too complex

• Commercial aircraft, not enough models
  – Net revenue criterion

• Computers, ideal but becoming more complex
  – OK, speed and memory
  – Size, clarity of screen. CDs vs. floppies, ethernet vs. phone cord (my delightful experience in Paris)
Two examples from my recent research: apparel and housing

- Apparel, glaring discrepancy
- 1993/1914.
  - CPI says 7X
  - Median dress in Sears catalog: 50X
- Ruffles and bows
- Hedonic makes remarkably little difference
Shelter

- Good data, bad data
- 1975-2001, American housing survey
- Huge sample, lots of quality characteristics
- Unique twist, strip out the quality and get an annual change in quality that might provide insight into the dark ages when little or no quality data
What We’re Missing

• In our heads and hearts, we are all looking to that missing person to assess our work.

• Well, at the end, what did you think?