Comments on Presentations by Howells, Kamal, Kim, and Varian

David E. Weinstein *Columbia University and NBER*

Main Themes

- Improved Matching of Statistics
  - Similar and related statistics collected by multiple agencies
  - Linking of statistics can produce gains
  - Kamal: Services constitute majority of US economy but data collection is less complete than for manufacturing
  - Kim: Unified enterprise identifier across agencies would be a big help
- Measuring the Unmeasurable? How to measure concepts that are not in standard national accounting frameworks
  - Howells and Kamal: Factoryless goods producers and transfer pricing
  - Varian: Free goods

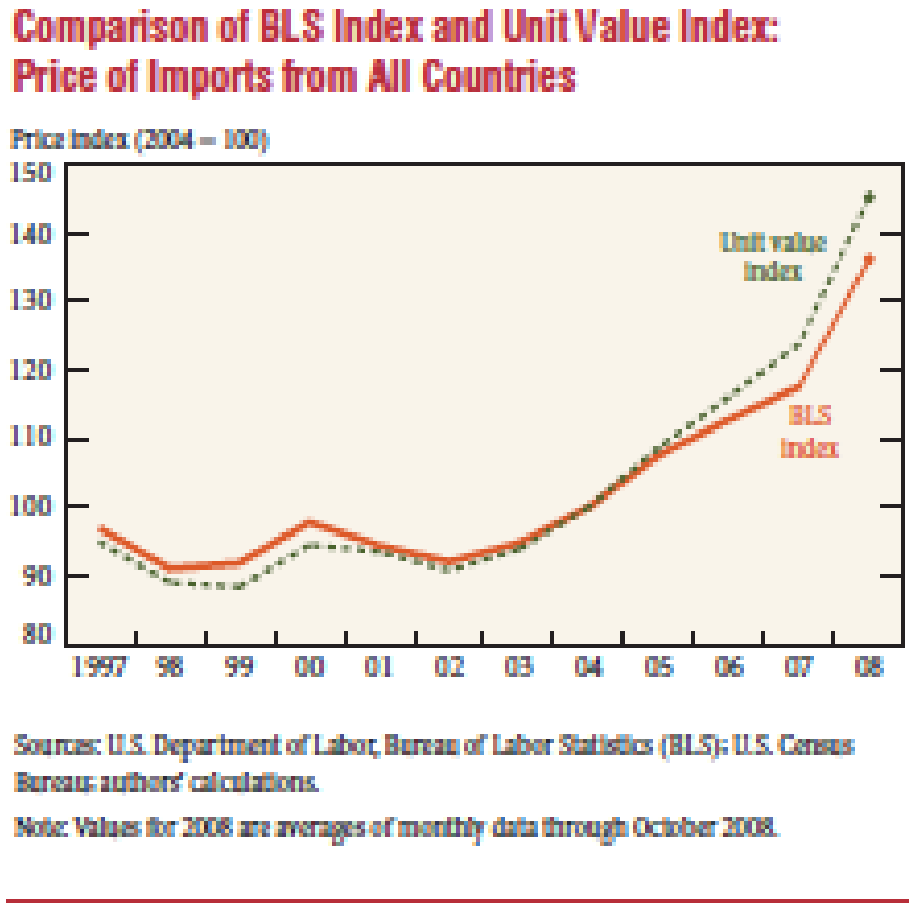
Improving Services Data

- Merchandise expenditures constitute an increasingly small share of total expenditures
- Clear need to increase quality and granularity of
  - Price and sales data in services
  - Sector definitions in services (e.g., subdivide services into more categories
  - Improve data on international services transactions

Gains from Matching

- All major price indexes require price and volume data, but these are collected independently
  - For example, Census collects import volumes and BLS constructs import price indexes
    - Price sample doesn't match import sample
    - Could Census take over measures of import price index and save BLS trouble of constructing import and export price indexes?
    - Much criticism of using unit values instead of price quotes, but Nakamura et al (2016) show that theory is not clear whether unit value indexes are better or worse than price quote indexes.
    - How large are the differences in practice?

Comparison of Census Unit-Value Import Price Index with BLS Index



Source: Amiti and Davis (2009)

Bigger Issues: Turnover and Missing Data

- Howells, Kamal, and Varian point to three important problems in measurement
  - How to deal with new and disappearing goods (e.g., cameras and smart phones)
  - How to deal with services whose prices are zero or unmeasured?
  - Factoryless Production
- Recent papers provide some answers that may be helpful
  - One can infer the value of these goods by looking at their impact of these goods on the expenditure shares of goods that survive (Feenstra (2014), Redding and Weinstein (2017)
  - Revised accounting methods can be developed (Koopman, Wang, and Wei (2014)

Example

- Suppose there are three types of cameras: disposable, SLRs, and smart phones

	Expenditure Shares	
	Period 1	Period 2
Disposable	0.5	0.0
SLR	0.5	0.1
Smart Phone	0.0	0.9
Share of Continuing Goods	0.5	0.1

  - Feenstra (1994) shows in the CES case if the elasticity of substitution (σ) between different camera varieties is 4, then the impact of the impact of the new variety on the price index is given by the ratio of the shares in the two periods:

$$\Delta P = \left(\frac{0.1}{0.5}\right)^{\frac{1}{\sigma-1}} - 1 = -0.4$$

Key insight

- If Android and Google is making computers and smart phones better, we should be able to capture that in relative increases in the expenditure shares on these products

- Don’t need to measure the gains from the internet as its effect will appear in goods that make use of it

What about goods whose prices we measure imperfectly

- Redding and Weinstein (2017) show that in the CES case one can employ a similar technique for understanding services

$$P = P_M S^{\frac{1}{\sigma-1}}$$

- Where *P* is the overall price index, P_M is the price index for goods you can measure, and *S* is the share of goods whose prices you can measure
  - Note that if P_M is constant a fall in the expenditure share of measureable goods implies that the *price-to-quality ratio* of other goods has fallen
  - Key idea: we can infer price movements even if we cannot observe prices for a subset of goods
  - Can be applied to sectors where price measurement is hard

Factoryless Production

- Important question of how to account for where the value added occurs
- Would be interesting to hear opinion about Koopman, Wang, and Wei (AER 2014), who develop an SNA compatible accounting framework to deal with this problem
  - For the United States, the share of foreign value added in its exports was only 9 percent, indicating that most of its exports reflect its own domestic value added.
  - For China's exports, the share of foreign GDP in their gross exports is almost four times higher (34 percent), indicating domestic value added accounts for two-thirds of the value of its exports.

Final Comments

- Four really interesting papers on measurement
- Papers suggest we should think more about
  - Increased cross-agency information sharing
  - Better data matching procedures
  - New procedures to deal with new goods, sectors we can't measure and trade accounting to deal with factoryless production.