DISCUSSION OF:
MEASUREMENT OF IMPORT AND INPUT PRICES

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HOW SHOULD WE MEASURE IMPORT/INPUT PRICES?

- Offshoring Bias: The Effect of Import Price Mismeasurement on Manufacturing Productivity
  - Houseman, Kurz, Lengermann and Mandel

- Producing an Input Price Index
  - Alterman
CHALLENGES: MEASURING IMPORT PRICES

- Imported goods are often intermediate inputs
- Many new and disappearing products
  - New machines
  - New sources of the same machines (e.g. China vs. Japan)
  - Much more churning than HS10 groups
FREQUENT PRODUCT TURNOVER MAKES MEASUREMENT DIFFICULT
CHALLENGES: MEASURING IMPORT PRICES

- Price changes at time of product / source changes are hard to measure
- How to compare:
  - A car part from China vs. a car part from Japan?
  - This year’s car part vs. last year’s (slightly different) car part?

- Existing Data:
  - Prices
  - Very limited characteristics/ quality
CHALLENGES: MEASURING INPUT PRICES

- Input prices needed for productivity measures
- Growing share of inputs from abroad
  - Existing data does not allow for price comparisons of inputs when off-shoring occurs
  - Effects not captured in IPP or PPI
POTENTIAL SOURCES OF BIAS:

- Prices of continuing products are rigid
  - Roughly 40% of imported products have no price changes over lifetime
  - Price changes may occur disproportionately with new products / sources
  - Large price movements could be missed at changeover points
  - “Product Replacement Bias”

- Growing share of imports from low-cost countries
  - New products / sources could be associated with lower quality-adjusted price
  - Again, could be missed
  - Could generate upward bias in import price index
  - Analogous to outlet substitution bias
FREQUENT PRODUCT TURNOVER MAKES MEASUREMENT DIFFICULT

New Model / Country Source
Document increasing market shares for imports from low-cost countries

Measure price diff. between advanced and developing/int. county imports (15-30%)

Use quality measures from Mandel (2009) structural trade model to adjust for quality differences across country sources

- Adjusted import price index implies much less import price inflation (37% vs. 53%)
- Yields substantially lower productivity growth for import intensive industries (-0.2%)
Fascinating empirical analysis
First-order effects on import prices, productivity
Key quantitative challenges: Have quality differences between similar products sourced in different countries been accounted for?
- No data on quality, demand
- Quality estimates depend on structural economic model
- No direct data on foreign vs. domestic prices
ALTERMAN

Proposal to create “input price index”

Goal: Measure price of inputs, regardless of source

Approach:

Hold fixed product across possible sources (e.g. domestic vs. foreign)

Index calculated over continuing goods and those for which the source changed

Potential Payoff:

- Measure effects of outsourcing on input prices without relying on structural assumptions
FREQUENT PRODUCT TURNOVER MAKES MEASUREMENT DIFFICULT

New Model / Country Source
PRACTICAL CHALLENGES: INPUT PRICE INDEX

- No existing usable data source
  - IPP: Only foreign sources
  - PPI: Only domestic production

Key Questions:
- How to construct the sampling frame?
- How to make items comparable between home and foreign sources?
- Funding!
CONCLUSION

- Price changes disproportionately occur at times of introduction of new products and new sourcing locations

- Current index construction methods may disproportionately drop these large price changes
  - Price changes “lost in transit”
  - Could cause upward bias in import price index and overstated domestic productivity (due to shifts to low cost sources)

- Structural model can capture these effects

- Input price index of great potential value in directly measuring effects of international trade (and outsourcing) on US economy