DISCUSSION OF: MEASUREMENT OF IMPORT AND INPUT PRICES

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HOW SHOULD WE MEASURE IMPORT/INPUT PRICES?

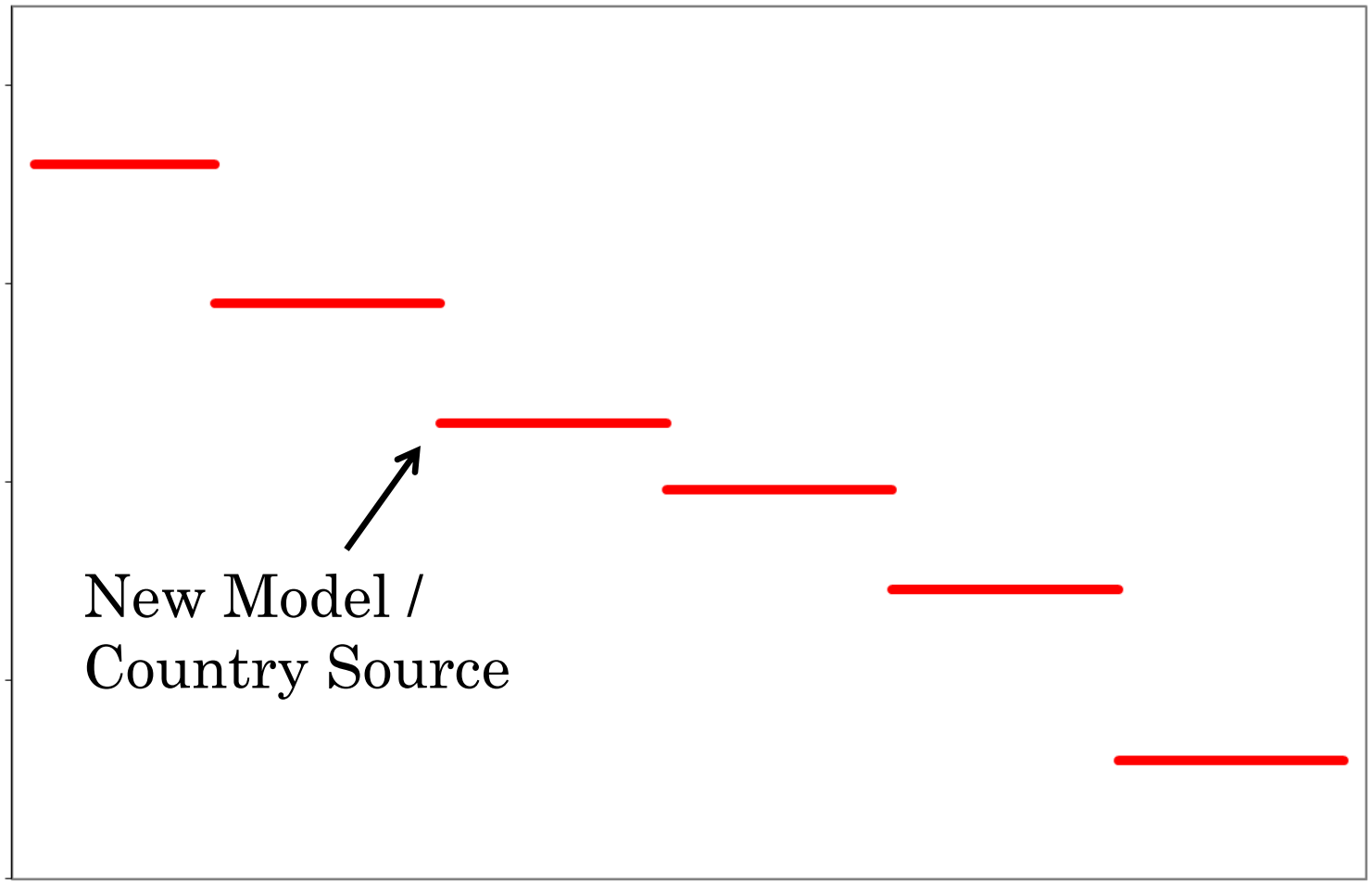
- Offshoring Bias: The Effect of Import Price Mismeasurement on Manufacturing Productivity
  - Houseman, Kurz, Lengermann and Mandel

- 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

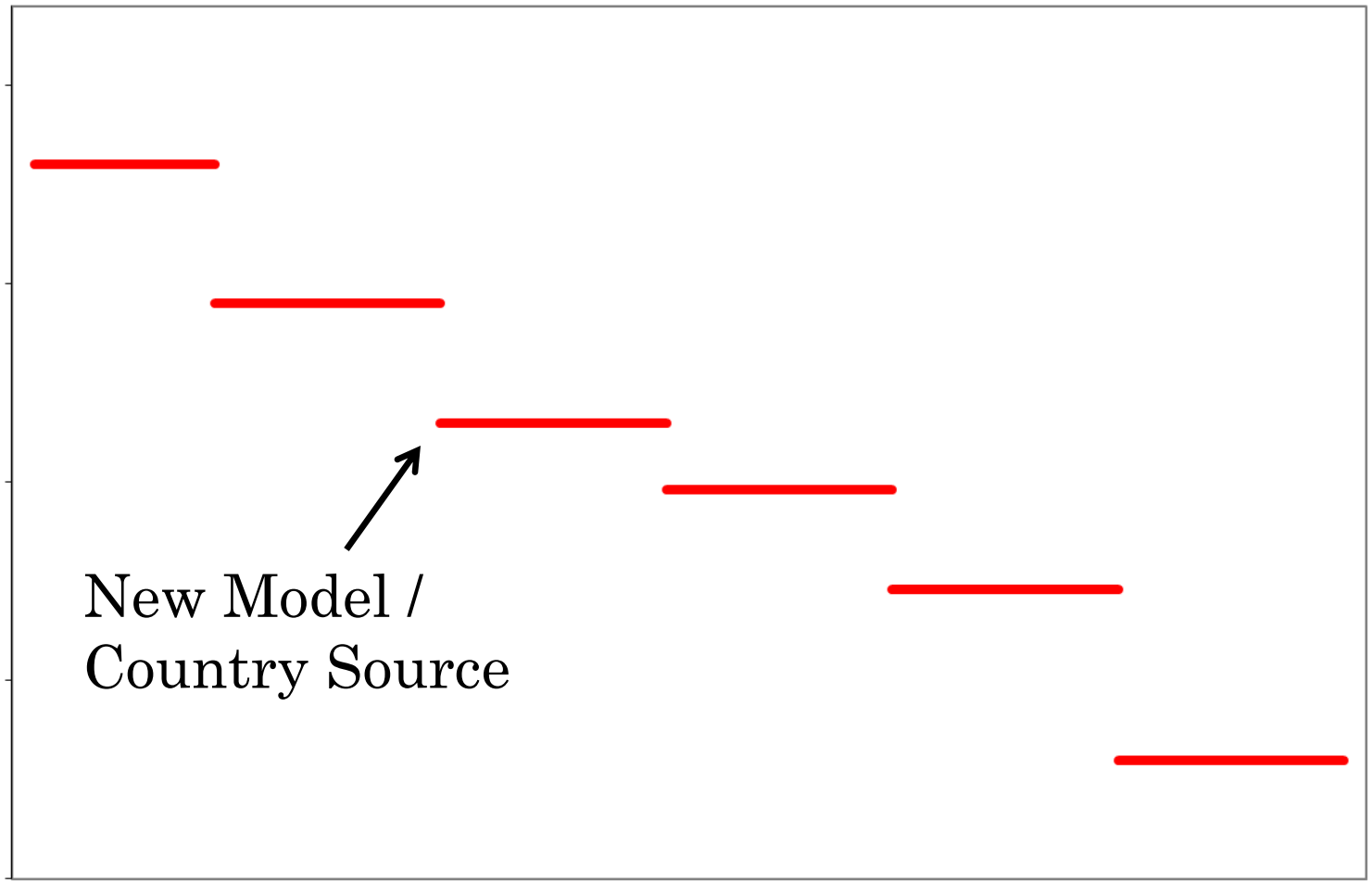
CHALLENGES: MEASURING INPUT PRICES

- 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

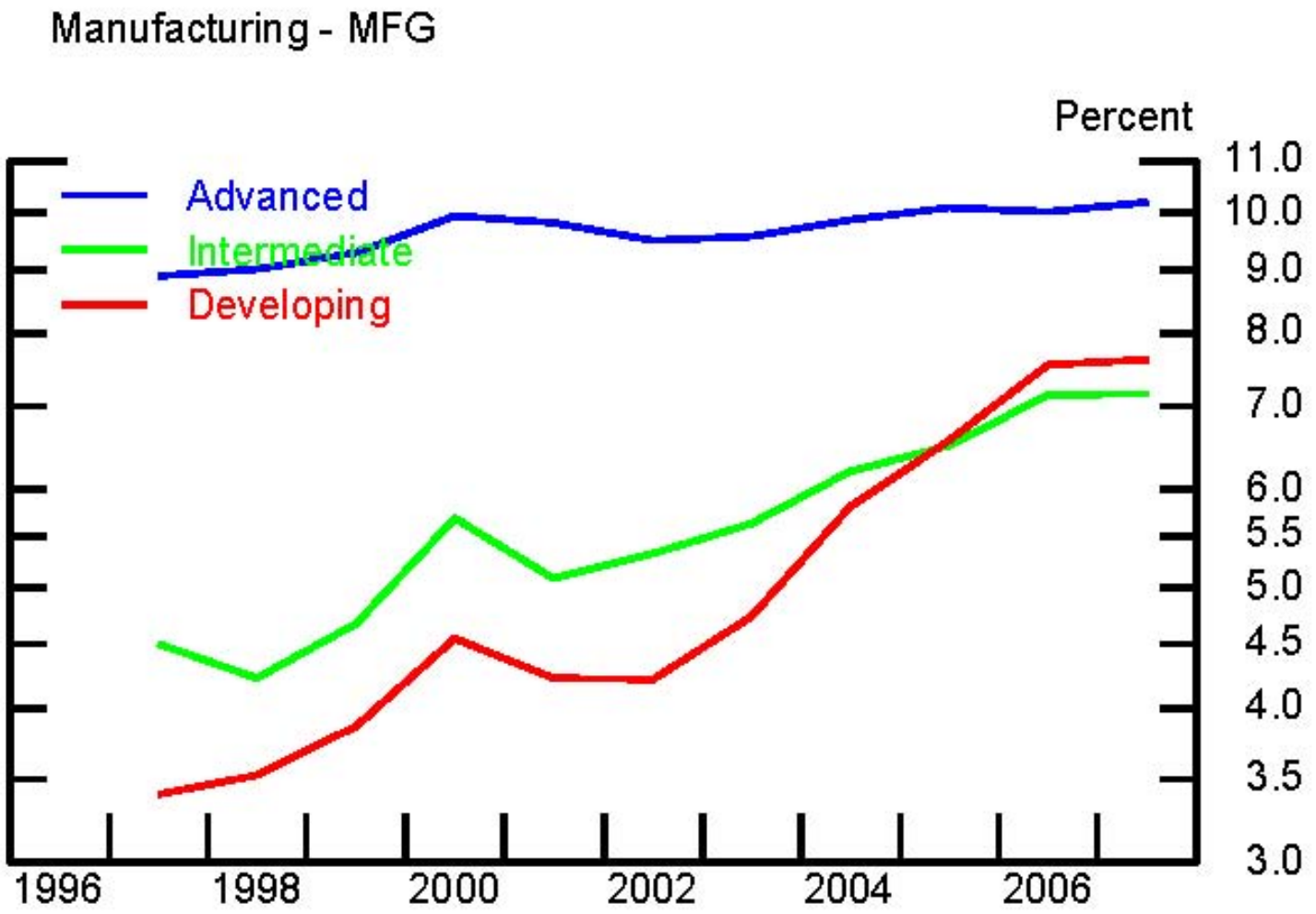
FREQUENT PRODUCT TURNOVER MAKES MEASUREMENT DIFFICULT



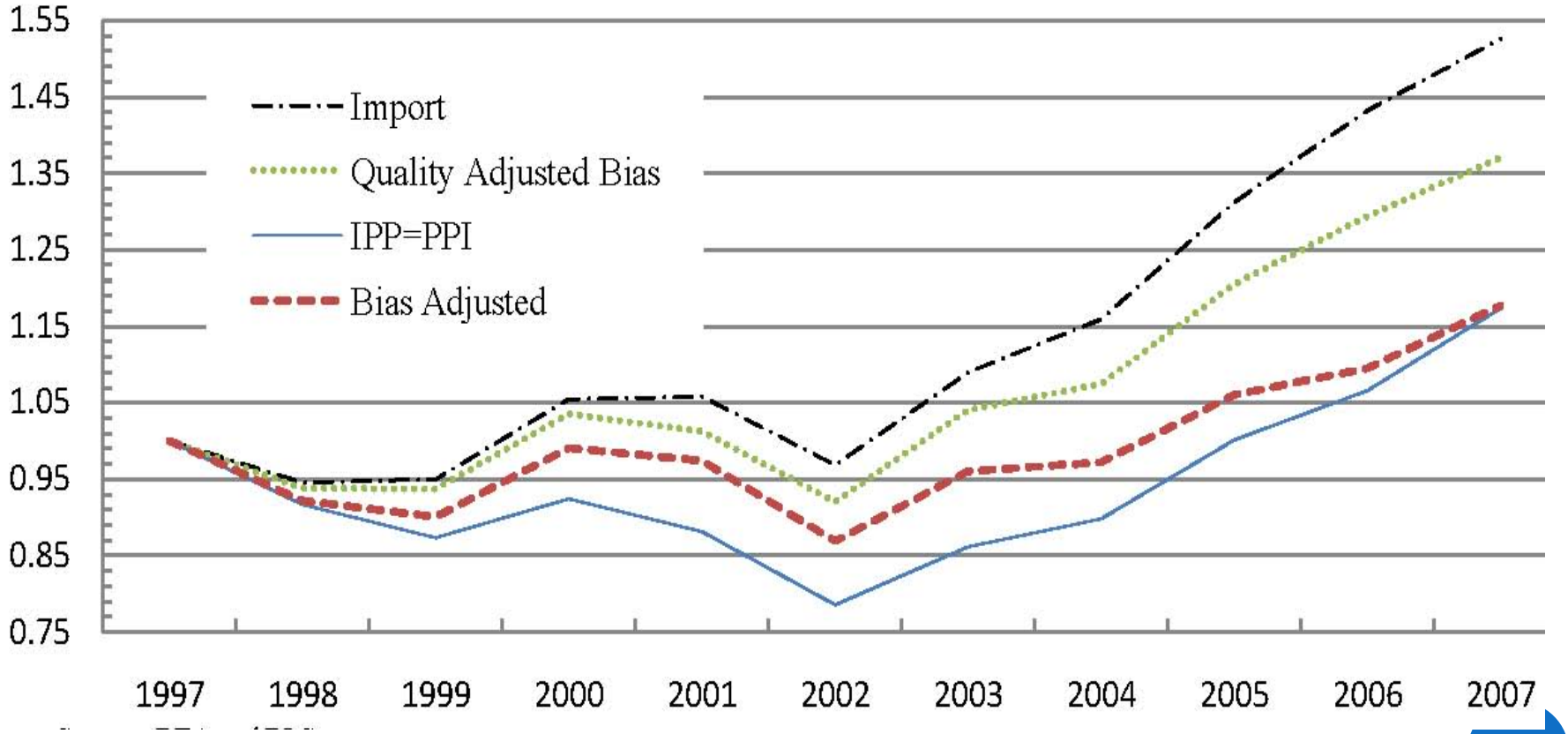
HOUSEMAN, KURZ, LENGERMANN, MANDEL

- 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%)

HOUSEMAN, KURZ, LENGERMANN, MANDEL



HOUSEMAN, KURZ, LENGERMANN, MANDEL: ALTERNATIVE "BIAS ADJUSTED" INDEX



HOUSEMAN, KURZ, LENGERMANN, MANDEL

- 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

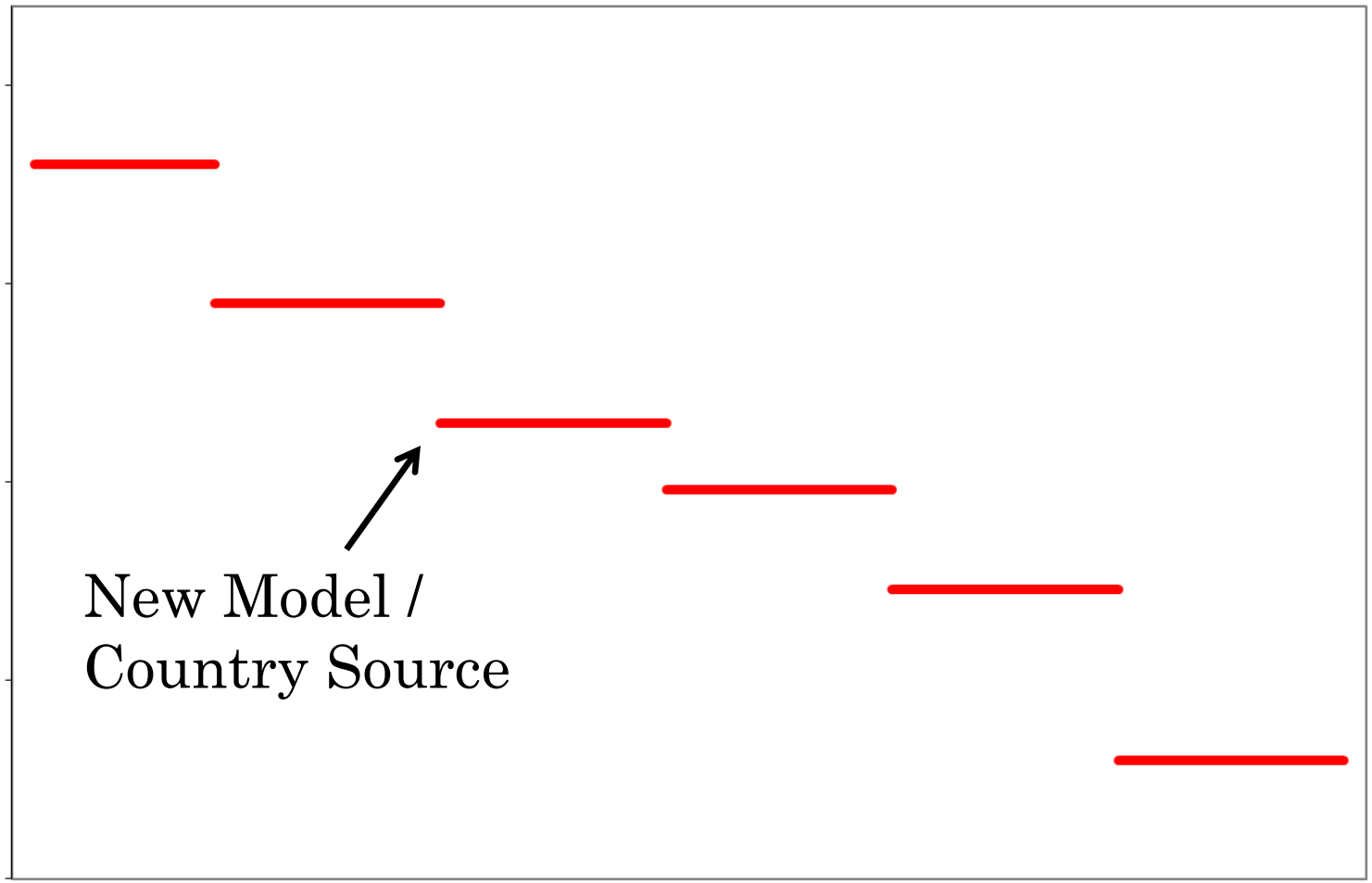
ALTERMAN

- 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



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