

Discussion: 'Does Gravity Apply to Intangibles? Measuring Openness in Services'

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Overview

- Objectives:
 - Quantify countries' openness to services trade
 - Relate openness measure to policy variables (= regulation indicators)
- Methodology:
 - Gravity approach vs. frequency measure approach
- Data:
 - Multilateral services trade data from OECD & IMCE

Empirical Implementation

- 1st stage:
 - Regress multilateral services trade on country specific explanatory variables (GDPc, Pop, WDist)
- 2nd stage:
 - Regress residuals from first stage regression on country FE

Results

- Heterogeneity in openness
 - Across sectors (travel > producer services > travel)
 - Across countries (high inc > low inc)
- In general weak impact of regulatory indicators on openness measure
 - But: Sizeable effect in some countries for some BoP positions

Remark 1: Distance Measure

- Maximisation of nested CES aggregators

yields $\ln(Q_j) + \underbrace{\sigma_{j2} \ln(\beta_{mj}) + (1 - \sigma_{j2}) / (1 - \sigma_{j2}) \ln\left(\sum_i \alpha_{ij}^{\sigma_{j1}} \gamma_{ij}^{1 - \sigma_{j1}}\right)}_{\text{GDPc, Pop}} + \underbrace{\sigma_{j2}}_{\text{WDist}} \underbrace{\tau_j}_{\text{PMR}}$

$$\underbrace{\sum_i \alpha_{ij}^{\sigma_{j1}} \gamma_{ij}^{1 - \sigma_{j1}}}_{\text{theory}} \neq \underbrace{\sum_i \frac{GDP_i}{GDP_W} \text{distance}_{ij}}_{\text{empirical proxy}}$$

- Theoretical and empirical distance measures GDP_i / GDP_W
 - Loosely linked: CES weight approximated by
 - Functional form unclear: Approximate by

Remark 2: Control for PMR

- Control for PMR in the 1st stage
 - With PMR control, low PMR countries have lower residuals than without PMR control (predicted value increases if estimated coeff \Rightarrow negative)
 - Openness measure decreases for low PMR countries, increases for high PMR countries
- Control for PMR in a 3rd stage?
 - Relate unexplained variation in services trade (= openness measure) to policy variables

Remark 3: Are Mode 1 & 3 Substitutes?

- Interesting finding
 - Positive distance coefficient for mode 3
 - Substitutability b/w mode 1 (negative distance coefficient) and mode 3?
- Deserves further investigation
 - Are countries that are particularly open on mode 1 particularly closed on mode 3? (For instance, simple correlation indices).

Remark 4: Further Issues

- Estimation
 - Extreme t-values. Clustering of standard errors?
 - Collinearity of regulation indicators?
 - FDI stocks and FDI sales?
- Expand on the link with the gravity literature
 - Puzzle: How do findings fit with findings of studies using bilateral data? (For instance, on the effect of PMR.)