What is special in services internationalisation?

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  - impact of market structure on extensive and intensive export margin
  - impact of bilateral policy differences on mode choice
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Services definition is complex

- Services have mostly been defined by what they are NOT
  - unproductive activity, concerned with the distribution and consumption of wealth rather than with the production of wealth (Smith, Ricardo)
  - Colin Clark (1938): tertiary sector ≠ {agriculture, mining, manufacturing}
  - In standard industry classifications: services often still in residual categories: e.g. Other Business Services (NACE 74)
  - "... things that cannot drop on your foot"

Definition complexity and services trade data

- Positive definitions:
  - neoclassical economics: services create utility value
  - Hill (1977): "... represents a change in the condition of a person or in the conditions of goods belonging to another economic unit..."
    - Subjective elements play a role in definition
    - There is intrinsic problem for unit of measurement: ...
      - volume - price split can be problematic

- The complexity of defining a service left its marks in the form of weak statistics on production and trade of services
  - improvement only in last decade
  - "Trade in tasks" (Grossmann/ Rossi-Hansberg 2006): from institutional definition (firm, industry) back to functional definition - blurring!
What is special in services internationalisation?

Non-separability of production and consumption in time/space → High degree of product differentiation / low standardisation

High information and interaction intensity needed → Ex ante quality uncertainty clients

Distance costs (travel, communication) → Information asymmetry (KIS)

→ In most countries intensive policy intervention for services (history, hysteresis)

→ Country-specific policy adaptation costs: sunk market-entry barrier

Choice of foreign supply mode → Exports (mode 1)

→ FDI / FAS (mode 3)

This pattern led to the multiple GATS / WTO definition of international services trade

- Mode 1: cross-border trade, product crosses border
- Mode 2: consumer crosses border
- Mode 3: producer crosses border with local 'commercial presence' (FAS / FDI)
- Mode 4: natural persons cross the border on temporary basis to provide services (tourist visa business travel, activities sole-proprietor firms)
Substitution and complementarity between supply modes

- **Substitution**: especially between ("horizontal") mode-1 trade and mode-3 supply

- **Complementarity**:
  - mode-3 supply needs complementary ("vertical", intermediary) mode-1 supply:
    - *Within company*: headquarter services; specialised services from other business units
    - *Arm’s length*: other intermediary services from home country
  - mode-3 supply may need supplementary mode-4 supply
  - mode-1 exports may stem from 'export platform'-type mode-3 activities

- Identification of substitution and complementarity not easy in bilateral trade data: several processes take place at same time

Complementarity /substitution: recent findings

- **Mode-3 and Mode-1 services supply are complements**
  - Buch and Lipponer (2004,2007): German banking

- Recent evidence of lower transport, communication and coordination costs ==> a growing role of mode-1 ?

- No, we see a falling ratio of (mode-1 / mode-3) services trade
A puzzle: several possible explanation (1)

1. Complex strategies of vertical specialisation

- Markusen and Strand (2008): complementarity in business services (horizontal substitution, vertical complementarity)
- Helpman (2006): vertical relation between mode-1 (captive offshoring) and mode-3 depends on standardisation degree, co-ordination costs and control over intellectual property
- Head, Mayer & Ries (EER 2009): Still strong distance obstacle to mode-1 services supply. Proximity premium shields local service producers from remote offshoring or import supply (may change)
- Miroudot and Ragoussis (2009): firms follow several complex strategies of vertical specialisation, especially in business services, data for 29 OECD countries
A puzzle: several possible explanations (2)

1. Complex strategies of vertical specialisation

2. Market form: Sales heterogeneous service varieties easier through FDI than through exports

3. Developments in policy-related trade barriers tilt mode choice towards FDI

2. Market form: sales heterogeneous service varieties easier through Mode-3 than through Mode-1 supply

- Role market structure:
  ==> hardly attention in Melitz (2003), more emphasis in Chaney ('08)
  ==> disregarded in empirical work so far

- Separability of service production / consumption is more problematic in markets with differentiated products
  ==> Adaptation to local preferences easier by Mode-3 supply
  ==> Even high productivity premium may not compensate this
  ==> FDI dominates exports

- We test role of market form on extensive and intensive export margin (Dutch data)
Extensive trade margin by type of market: testing exporter and MNE premiums

\[ \ln (TFP) = \beta_0 + \beta_1 \text{Exporter} + \beta_2 \text{Exporter} \times \text{Homgprod} + \beta_3 \text{Control} + \epsilon \]

Explanatory vars:
- **Exporter**: dummy \([1, 0]\) for export participation
- **Homgprod**: dummy \([1, 0]\) is 1 in case of homogenous products industry
- **Control variables**: 4-digit industry dummies, year dummies, MNE-affiliation dummy \([1, 0]\)

Data sets (Statistics Netherlands)

- **Production Statistics 1999-2005**
  * establishment data
  * about 7300 services observations p. year
  * survey-based, used for preparing I/O tables and NA
  * all establ. with >50 empl, rotating annual sample for <50 empl.

- **Large-firm financial statistics 1997-2005 (SFGO)**
  * firm data
  * ALL Dutch firms with balance sheet total >23 mln euro
  * balance sheet data, international sales and investment (FDI)

- **General Business Register 1993-2005 (ABR)**
  * links firm and establishment data
Quantifying product homogeneity

- Construct product homogeneity variable by 4-digit industry

- Basic idea: in a homogeneous industry, competition will ensure that productivity levels converge
  
  \[ \Rightarrow \text{lower standard deviation (Var. Coeff.) of productivities} \]

- Dummy Homgprod = 1
  - if var. coeff. of productivities in an industry is <75% of the all-industries average
  - Otherwise 0

RESULTS TOTAL SAMPLE, pooled data 1999-2004

<table>
<thead>
<tr>
<th>Extensive trade margin</th>
<th>WLS estimator</th>
<th>Dependent variable: ln (VA / worker)</th>
<th>Dependent variable: ln TFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exporter</td>
<td>0.075***</td>
<td>0.129 ***</td>
<td></td>
</tr>
<tr>
<td>Exporter x Homgprod</td>
<td>−0.054***</td>
<td>−0.048 **</td>
<td></td>
</tr>
<tr>
<td>MNE dummy</td>
<td>0.224***</td>
<td>0.321 ***</td>
<td></td>
</tr>
<tr>
<td>industry + year dummies</td>
<td>yes</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>constant</td>
<td>4.035***</td>
<td>6.002 ***</td>
<td></td>
</tr>
<tr>
<td>no. of observations</td>
<td>44.8K</td>
<td>44.8K</td>
<td></td>
</tr>
<tr>
<td>R² adj.</td>
<td>0.30</td>
<td>0.63</td>
<td></td>
</tr>
<tr>
<td>Exporter premium</td>
<td>7.8%***</td>
<td>13.7%***</td>
<td></td>
</tr>
<tr>
<td>Impact homog.prod.</td>
<td>−5.2%***</td>
<td>−4.7%**</td>
<td></td>
</tr>
</tbody>
</table>

Kox et al. (2009)
Indicates 40-50% higher exporter premiums in markets for non-homogenous products

- Heterogeneous-firms trade models: this is an EXTENSIVE MARGIN effect driven by self-selection
  ==> higher sunk entry costs in case of heterogeneous products

- Do these market characteristics also affect the INTENSIVE TRADE margin?

RESULTS TOTAL SAMPLE, pooled data 1999-2004, Intensive trade margin

<table>
<thead>
<tr>
<th>WLS estimator</th>
<th>Dependent variable: ln (VA / worker)</th>
<th>Dependent variable: ln TFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export Intensity (EI)</td>
<td>0.173***</td>
<td>0.187 ***</td>
</tr>
<tr>
<td>EI x Homgprod (interaction)</td>
<td>0.019</td>
<td>0.072</td>
</tr>
<tr>
<td>MNE dummy</td>
<td>0.209***</td>
<td>0.283***</td>
</tr>
<tr>
<td>industry + year dummies</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>constant</td>
<td>4.133***</td>
<td>6.267***</td>
</tr>
<tr>
<td>no. of observations</td>
<td>20.5K</td>
<td>20.5K</td>
</tr>
<tr>
<td>R² adj.</td>
<td>0.37</td>
<td>0.65</td>
</tr>
</tbody>
</table>

Kox et al. (2009)
Hence, operating in market for differentiated products only impacts extensive margin

- This market-related entry barrier for exports could explain a preference for Mode-3 supply in services
- This offers some support for the Chaney (AER 2008) version of the heterogeneous-firms trade model, stressing role of demand characteristics
- But why does the (mode-1 / mode-3) trade ratio fall over time?
  
  \[\Rightarrow\text{Average services trade over time becomes more differentiated as the trade weight of knowledge-intensive business services increases}\]
- More work is needed to test this explanation further

3\textsuperscript{rd} explanation for falling (mode-1 / mode-3) trade ratio: changes in \textit{policy compliance costs}

- Policy-related barriers to services trade
  1. tariffs
  2. discriminatory policies against foreign exporters or foreign multinational firms (red tape, licenses, nationality requirements)
  3. non-discriminatory, but heterogeneous domestic policies
Which policy compliance costs effective?

- Tariffs play no direct role in services, but may still have an impact because of complementary goods trade

- Explicit discriminatory policies are being phased out
  - forbidden between EU countries,
  - and within NAFTA,
  - and within GATS framework, and
  - strongly advised against by OECD

- Existence of non-discriminatory, but heterogeneous domestic policies still major obstacle to services trade

Trade impact of heterogeneous policies

- Services more susceptible to domestic policies than manufacturing because service providers more often have to operate physically in the country of destination
  - visa policies
  - local labour laws
  - professional qualification standards (firm + personnel)
  - membership local professional association
  - local professional insurance
  - residence requirements for management
  - need to have local office
  - operational restrictions: inputs, marketing, juridical

- Upon entry, the services firm incurs sunk policy adaptation costs: extensive margin effect

- Problem is not regulation, but regulatory heterogeneity
Consider case where firm has only domestic fixed qualification-type startup costs

- **Fixed/sunk qualification costs by country** implies less scale efficiency for firms + protects national markets.
Regulatory impacts on services trade

<table>
<thead>
<tr>
<th>Entry</th>
<th>Mode choice</th>
<th>Intensive trade-margin impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode 3</td>
<td>* Fixed / sunk entry cost of national market</td>
<td>* Relative costs and benefits of exports compared to FDI * Cost of using a destination country as export platform</td>
</tr>
<tr>
<td>Mode 1</td>
<td>* Fixed / sunk entry cost of national market</td>
<td>* Relative costs and benefits of exports compared to FDI</td>
</tr>
</tbody>
</table>

Estimating role of bilateral policy heterogeneity in a gravity-derived framework for bilateral services trade

\[
\frac{X_{ij}}{FAS_{ij}} = \beta_0 + \beta_1 \text{Regulat}_heterog_{ij} + \beta_2 \text{Gravityvars}_{ij} + \epsilon
\]

Explanatory vars:
- \(X_{ij} / FAS_{ij}\) : bilateral (mode-1 / mode-3) trade ratio, country i,j
- \(\text{Regulat}_heterog_{ij}\): set of indicator for bilateral policy heterogeneity, defined between 0-1, country i,j
- Gravity control variables:
  - In relative GDP per capita, country i,j
  - In distance, country i,j
  - Common border dummy, country i,j
  - Common language, country i,j
  - Both EU, country i,j
  - Common colonial past, country i,j
  - Year dummies
Quantifying policy heterogeneity

- Setup of this indicator:
  - sunk policy compliance costs differ by country pair, but generally form a non-observable, latent variable
  - bilateral differences in economic policies can be used as a proxy for this
  - use a count-based parameter that summarises policy differences using detailed policy data
  - we code domestic policies in terms yes/no data, or ≤ 6 different categories per policy item
  - then digitalise bilateral dissimilarities per policy item (1 if different, 0 if identical)
  - Averaging scores over all policy items
  - Can be differentiated by policy area

- Use different policy indicators from World Bank and OECD
  (Overall product-market regulation (PMR), State Control, Starting a Business, Getting credit, Enforcing contracts, All business areas (ABA))

Relation between regulation heterogeneity and choice of mode, All services, OECD countries, 1999-2003

<table>
<thead>
<tr>
<th>Dep. variable: X_ij / FAS_ij</th>
<th>OECD-derived indicators</th>
<th>World Bank 'Doing Business'-derived indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PMR</td>
<td>State Control</td>
</tr>
<tr>
<td>In relative GDP per cap</td>
<td>-5.078***</td>
<td>-5.136***</td>
</tr>
<tr>
<td>In distance</td>
<td>0.0227</td>
<td>0.0234</td>
</tr>
<tr>
<td>Border</td>
<td>-0.358</td>
<td>-0.38</td>
</tr>
<tr>
<td>Common language</td>
<td>-0.796***</td>
<td>-0.824***</td>
</tr>
<tr>
<td>Both EU</td>
<td>0.598</td>
<td>0.562</td>
</tr>
<tr>
<td>Colony</td>
<td>-0.213</td>
<td>-0.203</td>
</tr>
<tr>
<td>Regulatory heterogen.</td>
<td>3.210***</td>
<td>1.659*</td>
</tr>
<tr>
<td>Observations</td>
<td>424</td>
<td>424</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.576</td>
<td>0.575</td>
</tr>
<tr>
<td><strong>memo: impact of one st.dev. change in Regulat. Heterogeneity</strong></td>
<td>+25%</td>
<td>+19%</td>
</tr>
</tbody>
</table>

Nordas and Kox, OECD 2009
Impact of changing policy compliance costs on (mode-1 / mode-3) trade ratio in services

- More policy heterogeneity tilts mode choice from mode 3 to mode 1 (same holds for language differences)
  
  **Conversely,** diminishing policy heterogeneity will work in the opposite direction

- The latter is what has actually happened recently and it may thus help explaining the falling (mode-1 / mode-3) trade ratio

- Here are some graphical illustrations of the trend in bilateral policy heterogeneity

### Time profile bilateral policy indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>country coverage</th>
<th>1998</th>
<th>2003</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMR</td>
<td>All OECD</td>
<td>0.44</td>
<td>0.40</td>
<td>0.38</td>
</tr>
<tr>
<td>PMR</td>
<td>EU-15</td>
<td>0.42</td>
<td>0.38</td>
<td>0.36</td>
</tr>
<tr>
<td>PMR</td>
<td>NAFTA</td>
<td>0.45</td>
<td>0.41</td>
<td>0.41</td>
</tr>
<tr>
<td>Barriers to trade and investment</td>
<td>All OECD</td>
<td>0.36</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>State Control</td>
<td>EU-15</td>
<td>0.44</td>
<td>0.42</td>
<td>0.41</td>
</tr>
<tr>
<td>Barriers to entrepreneurship</td>
<td>EU-15</td>
<td>0.31</td>
<td>0.24</td>
<td>0.26</td>
</tr>
</tbody>
</table>
Conclusions (1)

- Defining services trade is intrinsically complex: production and trade data were improved by institutional simplification
  - "Services trade is what services firms and services industries do"
  - 'Trade in tasks' perspective: back to functional definition again??

- Internationalisation of services is special because of limited possibility to split production and consumption, with several secondary consequences
  - product heterogeneity, product differentiation
  - different modes of international supply
  - high susceptibility to domestic policies

- Despite falling costs of transport, communication and IT we a relative decrease in cross-border services trade relative to mode3

Conclusions (2)

- Two possible cause of falling (mode-1/mode-3) service trade ratio
  - Extensive margin effect of product heterogeneity becomes more important as business services get higher trade weight
  - Falling policy bilateral heterogeneity

- Complementarity between mode-1 and mode-3 implies that trade barriers to one of both modes also have a negative effect on trade through the other mode
  - Full benefits of trade liberalisation on efficiency of services firms only if liberalisation of imports and FDI go together
Cumulative share in total Dutch services exports by largest MNE and non-MNE exporters, 2004, establishment-level data

Thanks for your attention