Impact of ICT on trade
- ICT-diffusion increases a country’s exports
- Export-stimulating impact is larger for heterogeneous than for homogenous goods
- Internet boost exports from developing countries but not from developed countries
- Mobile phones encourage international trade in all countries
- No consensus of different impacts of ICT on imports and exports

Gravity models
- Gravity Models: Trade volume between any two countries is proportional to their economic ‘mass’ and inversely proportional to their distance
- Economic ‘mass’ is measured as GDP per capita, relative factor endowments, and similarity index of economic size
- Standard gravity model with a broad range of factors, that might affect bilateral trade for exporting and importing countries, extended with adoption levels of ICT variables

\[ T_{ij} = \alpha + \sum_{k=1}^{8} \beta_k EM(k) + \sum_{m=1}^{6} \gamma_m IT(m) + \sum_{n=1}^{8} \delta_n TDC(n) + \sum_{o=1}^{3} \kappa_o TIC(o) + \epsilon_{ij} \]

<table>
<thead>
<tr>
<th>Economic Mass</th>
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<tbody>
<tr>
<td>k = 1, 2: GDP per capita (Export, Import)</td>
</tr>
<tr>
<td>k = 3, 4: Population (Export, Import)</td>
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<tr>
<td>k = 5: Relative factor endowments</td>
</tr>
<tr>
<td>k = 6: Similarity index of economic size</td>
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<tr>
<td>k = 7, 8: Production (Export, Import)</td>
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<tr>
<th>Information Technology</th>
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<tr>
<td>m = 1, 2: Internet users (Export, Import)</td>
</tr>
<tr>
<td>m = 3, 4: Mobile phone subscribers (import, Export)</td>
</tr>
<tr>
<td>m = 5, 6: Telephone main lines (Export, Import)</td>
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<th>Time-dependent controls</th>
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<tr>
<td>TDC (n); n = 1, 2</td>
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<tr>
<td>n = 1: Brent Crude oil price</td>
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<tr>
<td>n = 2: Logistic Performance Index</td>
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<tr>
<td>TIC (o); o = 1, 2, 3</td>
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<tr>
<td>o = 1: Distance</td>
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<tr>
<td>o = 2: Adjacency</td>
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<td>o = 3: Common Language</td>
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Data
- Period: 1995-2008
- 21 major exporting countries
- 23 major importing countries
- Sample size: 6,664 observations
- Various data sources; among them:
  - UN Comtrade
  - ITU
  - World Bank
  - CEPII

Results
- Most coefficients are as expected (only significant and ICT coefficients shown)
- Likelihood ratio test, confirm the significant impact of all ICT variables as a group on the value of wine trade
- Fixed line telephones: strong positive influence
- Internet: effect in exporting countries minor, but substantial in importing countries
- Mobile phones: ambiguous results

World Wine Trade
- Heterogeneous, complex consumer product
- Price range from low-priced alcoholic beverages to high-priced superstar wines
- Rapid trade growth over last quarter century
- Trade structure changed significantly (EU, New World)
- Export volume in 2008: ~ 8.9 bn l (~ 1/3 of world production)

Estimation
- Balanced panel data set
- Estimation according to Burger et al. (2009)
- Negative binomial pseudo-maximum likelihood
- Hausman-Test suggest fixed-effect model
- Therefore, exclusion of fixed parameters (distance, adjacency, languages)
  fuel data because it is invariant across trading partners

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