The global context of drug trafficking:
A social network analysis of seizure data

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Transnational drug trafficking

• A current issue since... 1961 (Single Convention on Narcotic drugs)

• Two sides
  • Demand: consumption, drug-related crime
  • Supply: production, trafficking, retail

• What we know:
  • Relatively high levels of consumption, throughout the world (demand)
  • Estimates of potential production levels (cocaine and heroin)
    • Other drugs?
  • Trafficking routes and strategies
  • Evolution of many indicators
    • Most are available since the 1980s
The leading data collection: the *Annual Reports Questionnaire*

- Extensive report
  - Part IV: Extent and patterns of and trends in drug crop cultivation and drug manufacture and trafficking
- Good coverage (if you add up several years...)
- Available data
  - Comprehensive *World Drug Report*
  - ‘Raw’ dataset (online)
- Example: Cocaine salts, Canada, 2011
  - Seizures: 3 tons
  - Prices: 81$/g (retail), 35 502$/kg (wholesale)
  - Purity: ?
The neglected data collection: *Bi-annual seizure reports*

- Detailed information on seizure cases of significant quantities
  - Date
  - Transportation
  - Method of concealment
  - Countries involved

- 1998-2007: n = 85 265 seizures (n = 20 567 dyads/relations)
  - Now available online (until 2011)
From dataset to network...

<table>
<thead>
<tr>
<th>Sender</th>
<th>Receiver</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombia</td>
<td>Mexico</td>
<td>500 kg</td>
</tr>
<tr>
<td>Mexico</td>
<td>USA</td>
<td>100 kg</td>
</tr>
<tr>
<td>Mexico</td>
<td>Canada</td>
<td>5 kg</td>
</tr>
<tr>
<td>Canada</td>
<td>France</td>
<td>1 kg</td>
</tr>
</tbody>
</table>
The final result
Social Network Analysis

• Three levels of analysis:
  • Nodes (countries)
  • Networks
  • Relations

• Analysis:
  • Network: mostly descriptive
  • Network measure as explanations
Descriptive analysis (examples)

• Nodes:
  • Centrality: Indegree, Outdegree, Betweenness

• Networks:
  • Density:
    • Coffee: 21.8%
    • Cocaine: 3.2%
    • Heroin: 2.1%
    • Marijuana: 0.5%

• Relations: Estimates of flows between countries (valued relations)

Networks as explanations (example)

• What is the relation between the position in the trafficking network, wholesale prices and the size of shipment? (cocaine and heroin)

Conclusion

• SNA adds to our knowledge of drug trafficking
  • A neglected dataset (Bi-annual seizure reports)
  • A different point of view (relations, not attributes)
  • A set of methodological tools

• Limitation: Seizures are reported on a voluntary basis
  • Complete network vs detailed reactions
Thank you!

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