Outline

1. Introduction
2. Data and Model
3. Result and Conclusion
Four Regions (Western, North-Eastern, Central, Eastern)
High regional disparity-GDP per capita
Regional IO model

\[ X = (I - A)^{-1} (Y - M - Z) \]
# Regional IO model

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Sectors</th>
<th>Final demand</th>
<th>Import</th>
<th>Inflow from other provinces</th>
<th>Total Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local</td>
<td>$x_{ij}^d$</td>
<td>$c_i^d$</td>
<td>$in_i^d$</td>
<td>$ex_i^d$</td>
<td>$od_i^d$</td>
</tr>
<tr>
<td>Import</td>
<td>$x_{ij}^m$</td>
<td>$c_i^m$</td>
<td>$in_i^m$</td>
<td>$ex_i^m$</td>
<td>$od_i^m$</td>
</tr>
<tr>
<td>Inflow</td>
<td>$x_{ij}^z$</td>
<td>$c_i^z$</td>
<td>$in_i^z$</td>
<td>$ex_i^z$</td>
<td>$od_i^z$</td>
</tr>
<tr>
<td>VA</td>
<td>$V_i$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total input</td>
<td>$X_i$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
\sum_{j=1}^{n} x_{ij}^d + Y_i^d = X_i
\]

\[
X = (I - A^d)^{-1} Y^d
\]
Decomposition of Regional GDP

\[ r_j = \frac{V_j}{X_j}, \]

\[ GDP = \sum_{j=1}^{n} V_j = \sum_{j=1}^{n} r_j X_j = RX \]

\[ X = (I - A^d)^{-1} Y^d \]

\[ Y^d = C^d + IN^d + EX^d + DO^d \]

\[ GDP = R(I - A^d)^{-1} (C^d + IN^d + EX^d + OD^d) \]

\[ = R(I - A^d)^{-1} C^d + R(I - A^d)^{-1} IN^d + R(I - A^d)^{-1} EX^d + R(I - A^d)^{-1} OM^d \]

\[ = GDP^C + GDP^{IN} + GDP^{EX} + GDP^{OD} \]
Regional IO Tables in China

- **Years**

- **Region dimension**
  - 30 provinces

- **Sectors**
  - 42 sectors (2007)
Revised regional IO table

- Breakdown international and domestic trade into four categories for all regional IO table
  - Export
  - Import
  - Domestic Outflow to all other provinces
  - Domestic Inflow from all other provinces

- Transferring competitive table to non-competitive table
  - Separate import from intermediate input and final demand
  - Separate domestic inflow from intermediate input and final demand
Contribution of four driving forces to regional GDP, 2007

<table>
<thead>
<tr>
<th>Region</th>
<th>Domestic outflow</th>
<th>Export</th>
<th>Investment</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern</td>
<td>25.5</td>
<td>21.7</td>
<td>22.6</td>
<td>30.2</td>
</tr>
<tr>
<td>Central</td>
<td>28.3</td>
<td>3.8</td>
<td>29.1</td>
<td>38.8</td>
</tr>
<tr>
<td>Western</td>
<td>30.5</td>
<td>3.7</td>
<td>28.2</td>
<td>37.6</td>
</tr>
<tr>
<td>North-Eastern</td>
<td>32.2</td>
<td>7.7</td>
<td>24.7</td>
<td>35.5</td>
</tr>
</tbody>
</table>

- Domestic outflow
- Export
- Investment
- Consumption
Contribution of Export to GDP by provinces (%, 2007)
Contribution of domestic outflow to GDP by provinces (%, 2007)
Contribution of consumption to GDP by provinces (%, 2007)
Contribution of Investment to GDP by provinces (%, 2007)
Further work

- Compare the results in different years
- Construct multi-regional input output model
Thanks for your attention!