Regionalization in the RIMS II Model

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Presentation Overview

• The RIMS II model
• Regionalization
• Best practices
What is RIMS II

RIMS II is a single region demand-driven model
# Summary Multipliers

## Final-demand Multipliers, Type II

<table>
<thead>
<tr>
<th>Austin-Round Rock, Texas, MSA</th>
<th>Output</th>
<th>Value Added</th>
<th>Earnings</th>
<th>Employment (jobs/ $1 million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleges and universities</td>
<td>2.1871</td>
<td>1.2982</td>
<td>0.7603</td>
<td>24.0101</td>
</tr>
</tbody>
</table>

## Direct-Effect Multipliers, Type II

<table>
<thead>
<tr>
<th>Austin-Round Rock, Texas, MSA</th>
<th>Earnings</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleges and universities</td>
<td>1.7261</td>
<td>1.6338</td>
</tr>
</tbody>
</table>
### Break-out Multipliers

#### Final-Demand Output Multiplier Breakout, Type II

<table>
<thead>
<tr>
<th>Austin-Round Rock, Texas, MSA</th>
<th>Farming</th>
<th>Utilit.</th>
<th>Finance</th>
<th>Real Estate</th>
<th>Prof. Svc.</th>
<th>Educat.</th>
<th>Other Svc.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colleges and universities</td>
<td>0.001</td>
<td>0.0762</td>
<td>0.1054</td>
<td>0.2762</td>
<td>0.0969</td>
<td>1.0159</td>
<td>0.0747</td>
<td>2.1871</td>
</tr>
<tr>
<td>Share</td>
<td>0.00</td>
<td>0.04</td>
<td>0.05</td>
<td>0.13</td>
<td>0.04</td>
<td>0.47</td>
<td>0.03</td>
<td>1.00</td>
</tr>
</tbody>
</table>
Regionalization Adjustments

• Local and non-local purchases
• Commuting patterns
• State wage rates
• Taxes and savings
Regionalizing I-O Tables

• Assume locally-produced output is preferred

• Regionalizing indexes are applied to I-O data
  Higher index = more self sufficient

• Regionalization provides an I-O table weighted to reflect local self-sufficiency
Regionalization Indexes (LQs)

\[
\frac{\frac{\text{Austin Colleges Earnings}}{\text{Austin All Earnings}}}{\frac{\text{U.S. Colleges Earnings}}{\text{U.S. All Earnings}}} = \left[ \frac{\frac{1}{100}}{\frac{200}{10,000}} \right] = \left[ \frac{1}{2} \right]
\]
Local Purchases

Leakages Reduce Potential Impacts

Impact of $1 million Increase in Sales, Austin-Round Rock, Texas, MSA

- Final-demand change
- Round 1
- Round 2
- Round 3
- Round 4
- Round 5

- US
- Austin MSA
Commuting Patterns Adjust for Residency

• Commuters living outside the region reduce local earnings and employment impacts

• Type II multipliers only include the induced impact of residence-adjusted worker spending

• Ideally, the region selected for an impact will match the regional commuter shed
Local Labor Markets

• State-level wage and tax rates

• National-level savings rates

• Assume labor (and other resources) are freely available at current wages (and prices)
Data Gaps

• Universal, periodic, consistent regional data are difficult and costly to collect

• Model users need to know how their model fills gaps in regional data

• Ask whether model results look reasonable
Questions

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