A Cost of Community Services Study for Indiana Counties and School Corporations

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Cost of Community Services Ratios

- Allocate costs/appropriations/expenditures of local governments to residential, agricultural and business land uses
- Allocate revenues of local governments to residential, agricultural and business land uses
- COCS Ratio = Costs / Revenues for each land use category

What COCS is NOT

- COCS is not fiscal impact analysis. It is inappropriate to use COCS ratios to predict the effects of new development projects on added costs and revenues
  – COCS shows average, not marginal results
  – COCS does not account for local government capacity or location of development
  – COCS property categories are too aggregated
  – COCS does not take account of multiplier effects among property categories
Past COCS Results

- Looked at 125 COCS studies
- Performed a “meta-analysis”, using statistical methods to examine the reasons for the results obtained by the 125 studies
- In almost every study:
  - Residential ratios are greater than one
  - Business and agricultural ratios are less than one

\[ \text{Frequency Distributions of Cost of Community Service Study Ratios for Residential, Commercial/Industrial, and Agricultural/Open-Space Land Uses} \]

Residential
Kotchen & Schulte (2009)

Business
Kotchen & Schulte (2009)
What makes this study different?

- Calculates ratios for 91 Indiana counties at once: consistent government institutions
- Investigates the COCS method to show why it produces its ratio results
- Tests the sensitivity of the results to assumptions about cost allocations

Revenue Allocations

- Net property tax payments
  - Residential includes homesteads, ag homesteads, rental housing
  - Agriculture includes farm land, business buildings
  - Business includes commercial/industrial/utility land, buildings and equipment
- Local income taxes
  - Based on shares in county personal income estimates by industry
- Motor vehicle excise tax
  - Residential
- State and Federal aid
  - Formulas based on resident population allocated to Residential
- Charges and fees
  - Allocated to residential, agriculture or business depending on type of fee

Frequency Distributions of Cost of Community Service Study Ratios for Residential, Commercial/Industrial, and Agricultural/Open-Space Land Uses

Kotchen & Schulte (2009)
Cost Allocations

- All Education Funds:
  - Residential
- County General Fund
  - Average of Service Population and Assessed Values
- County Road and Bridge Funds
  - Vehicle Count
- Health Funds
  - Service Population
- Jail Funds
  - Crime
- Fallback
  - Average of Service Population and Assessed Values

Cost of Community Services Ratios: Standard Results

Indiana Averages (91 Counties)

<table>
<thead>
<tr>
<th></th>
<th>Residential</th>
<th>Agriculture</th>
<th>Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counties &amp; Schools</td>
<td>1.172</td>
<td>0.208</td>
<td>0.268</td>
</tr>
</tbody>
</table>

Frequency Distributions of Cost of Community Service Study Ratios for Residential, Commercial/Industrial, and Agricultural/Open-Space Land Uses

Residential

Kotchen & Schulte (2009)
The Education Cost Assumption

- All education costs are allocated to residential
- Schools are partly financed with property taxes, which are paid by all three sectors
- The school residential ratio must be greater than one; the ag/business ratios are zero
- School Corporations spend five times as much as counties, so schools dominate the COCS results
- So combined school and county ratios always show residential greater than one, ag and business less than one
Sensitivity of County Results to Cost Allocation Assumptions

- **Road costs** are allocated based on vehicle count. But heavy trucks but most wear on roads. Should data on road wear per vehicle be used to allocate road costs?

Sensitivity of County Results to Cost Allocation Assumptions

- How much do agricultural trucks drive on county roads, compared to business trucks?
  - Not much: ag trucks have average annual mileage a lot less than business trucks
  - More: ag trucks are more likely to drive on county roads than business trucks
### Cost of Community Services Ratios for Counties

**Indiana Averages (91 Counties)**

<table>
<thead>
<tr>
<th>Basic: Use Value, Vehicle Counts</th>
<th>Residential</th>
<th>Agriculture</th>
<th>Business</th>
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<tbody>
<tr>
<td>Use Value, Vehicle Weights</td>
<td>1.171</td>
<td>0.618</td>
<td>0.723</td>
</tr>
<tr>
<td>Use Value, All Mileage included</td>
<td>0.996</td>
<td>1.023</td>
<td>1.004</td>
</tr>
<tr>
<td>Use Value, Rural Mileage only</td>
<td>0.992</td>
<td>0.723</td>
<td>1.055</td>
</tr>
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</table>

### Sensitivity of County Results to Cost Allocation Assumptions

- Some service costs are allocated based on the assessed *value of property*. All property except farmland is assessed at market value. Should farmland cost allocations be based on estimated farmland market value?

### Sensitivity of County Results to Cost Allocation Assumptions

- Use value vs. market value of farmland
  - All other property valued at market
  - Use value may capture the idea that farmland requires less in county services
Cost of Community Services Ratios for Counties

Indiana Averages (91 Counties)

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</tr>
<tr>
<td>Use Value, Vehicle Weights</td>
<td>0.996</td>
<td>1.023</td>
<td>1.004</td>
</tr>
<tr>
<td>Market Value, Vehicle Weights</td>
<td>0.969</td>
<td>1.523</td>
<td>0.979</td>
</tr>
</tbody>
</table>

Conclusions

• As long as education costs are included and allocated to Residential, COCS analysis will produce ratios greater than one for Residential, less than one for Agriculture and Business
  – Agriculture and Business pay more in revenues than they impose in costs on counties and schools
  – Residential imposes more in costs than it pays in revenues to counties and schools

Conclusions

• Methodological choices matter for county government results, but education dominates the overall results
  – How should property values be measured?
  – How should road costs be allocated?
Conclusions

• If we accept
  – The COCS methodology regarding education cost allocation
  – The benefit view of taxation (as opposed to ability to pay)
• Then
  – Residential property ought to pay more for services received
  – Business and agricultural property ought to pay less for services received

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