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

Residential

Kotchen & Schulte (2009)

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

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

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

Residential

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Frequency
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?

• 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)

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<td>1.171</td>
<td>0.618</td>
<td>0.723</td>
</tr>
<tr>
<td>Use Value, Vehicle Weights</td>
<td>0.996</td>
<td>1.023</td>
<td>1.004</td>
</tr>
<tr>
<td>Use Value, All Mileage included</td>
<td>0.992</td>
<td>0.723</td>
<td>1.055</td>
</tr>
<tr>
<td>Use Value, Rural Mileage only</td>
<td>0.992</td>
<td>1.396</td>
<td>0.960</td>
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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

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<td>Use Value, Vehicle Weights</td>
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</tr>
<tr>
<td>Market Value, Vehicle Weights</td>
<td>0.969</td>
<td>1.523</td>
<td>0.979</td>
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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