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

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

• Calculates ratios for 91 Indiana counties at once: consistent government institutions
• Examines the reasons for variation in ratios among these counties
• Tests the sensitivity of the results to assumptions about cost allocations
• Looks at the effects of Indiana state/local government finance trends on the ratios
• Investigates the COCS method to show why it produces its ratio results

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

School Corporations to Counties

- Analysis for 292 Indiana school corporations
- Aggregated by county
- Cross-county schools allocated based on each county’s share of a school’s residential gross assessed value

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)

Business
Kotchen & Schulte (2009)

Agricultural
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 School/County Results to Cost Allocation Assumptions

• COCS allocates all costs of education to residential sector
  – This insures that the overall residential ratio will be greater than one
  – Do agriculture and business benefit from educational expenditures?
• _AFT response:_ “Even though society as a whole benefits from a healthy and educated voting public, citizens directly demand these services. COCS studies measure this demand, not the public good to be derived from it. While they provide practical data on land use requirements for services, these studies do not answer broad, philosophical questions about who in society should pay for what.”
Sensitivity of County Results to Cost Allocation Assumptions

- *Road costs* are allocated based on vehicle count. But heavy trucks put 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

- 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?

Cost of Community Services Ratios for Counties

**Indiana Averages (91 Counties)**

<table>
<thead>
<tr>
<th></th>
<th>Residential</th>
<th>Agriculture</th>
<th>Business</th>
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</thead>
<tbody>
<tr>
<td>Basic: Use Value, Vehicle Counts</td>
<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>Market Value, Vehicle Weights</td>
<td>0.969</td>
<td>1.523</td>
<td>0.979</td>
</tr>
</tbody>
</table>
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)

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<th>Basic: Use Value, Vehicle Counts</th>
<th>Residential</th>
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</thead>
<tbody>
<tr>
<td>Vehicle Counts</td>
<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>
</tr>
</tbody>
</table>

Sensitivity of County Results to Cost Allocation Assumptions

• Vehicle weights and mileage on county roads
  – Vehicle count allocates costs to residential, because there are lots of cars
  – Vehicle weights shift cost allocation to ag and business, make residential ratio near one
  – Ag trucks drive less overall, so may have smaller cost allocation relative to business
  – But ag trucks may drive more on county roads, so may have larger cost allocation relative to business
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

State Policy Change
Indiana Introduces Local Income Taxes, 1973-2010

- Seven different kinds of local income taxes
- Some replace property taxes, some add to budgets; both shift local tax base from property to income
- Test effects by replacing 2009 local income taxes with property taxes
- Local income taxes are 85% residential; property taxes are 43% residential

Cost of Community Services Ratios:
Property Taxes, No Local Income Taxes
Schools and Counties
(Use Value, Vehicle Weights)

Indiana Averages (91 Counties)

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<tr>
<td>Property Tax only</td>
<td>1.166</td>
<td>0.307</td>
<td>0.350</td>
</tr>
<tr>
<td>Property &amp; Income</td>
<td>1.147</td>
<td>0.344</td>
<td>0.372</td>
</tr>
</tbody>
</table>
State Policy Change
Indiana Offers Homeowners Substantial Deductions

• Homestead Standard Deduction is $45,000; Supplemental Deduction is 35% of remainder
• Other property types get much less
• Test effects by replacing net assessed value (after deductions) with gross assessed value in revenue and allocations
  • Gross AV is 60% residential; Net AV is 43% residential

Cost of Community Services Ratios:
No Deductions from Gross Assessed Value
Schools and Counties
(Use Value, Vehicle Weights)

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<tr>
<td>No Deductions</td>
<td>1.087</td>
<td>0.458</td>
<td>0.486</td>
</tr>
<tr>
<td>Homestead and other</td>
<td>1.147</td>
<td>0.344</td>
<td>0.372</td>
</tr>
</tbody>
</table>

State Policy Change
Indiana Property Tax Reform, 2008:
State Takes Over School General Fund

• Property taxes for school general fund are eliminated
• State aid is increased, distributed per pupil
• Test effects by replacing the share of 2009 state aid with the 2008 share that was property taxes
  • State aid revenues allocated to Residential; property tax to all three
Cost of Community Services Ratios:
Property Taxes Supports School General Fund
Schools and Counties
(Use Value, Vehicle Weights)

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<tr>
<td>2008 Formula, GF</td>
<td>1.282</td>
<td>0.225</td>
<td>0.258</td>
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<tr>
<td>property taxes</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2009 Formula, GF</td>
<td>1.147</td>
<td>0.344</td>
<td>0.372</td>
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<tr>
<td>state aid</td>
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Cost of Community Services Ratios:
All Three State Policy Changes
Schools and Counties
(Use Value, Vehicle Weights)

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<tr>
<td>No Income Tax, No</td>
<td>1.275</td>
<td>0.220</td>
<td>0.264</td>
</tr>
<tr>
<td>Deductions, 2008</td>
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<td></td>
</tr>
<tr>
<td>School formula</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2009 System</td>
<td>1.147</td>
<td>0.344</td>
<td>0.372</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

• Indiana’s movement away from property taxes, towards income and sales taxes over the past 30 years has decreased Residential ratios and increased Agricultural and Business ratios
  — More local income taxes, state takeover of school general fund
  — Residential is charged more, Agricultural and Business less, compared to service costs
  — A movement towards equating costs and revenues by broad property sector

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