“Who Pays” and the ITEP Microsimulation Model: Features, Applications, and Limitations

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An Introduction to the ITEP Microsimulation Model
Overview

Introduction to ITEP
Tax Incidence: Why? How?
The ITEP Microsimulation Model
  ◦ Background
  ◦ Data sources
  ◦ Features & capabilities
  ◦ Results & applications
  ◦ Caveats & limitations
An Introduction to the ITEP Microsimulation Model

Hello, My Name is ITEP

- Founded in 1980
- Based in Washington, DC
- Research focuses primarily on state tax issues, with an emphasis on tax fairness and adequacy
- Conducted comprehensive studies of state tax systems in AR, IA, IL, MN, NY, et. al.
- Conducted hundreds of smaller-scale tax analyses in over 40 states
- Testify around the nation before tax reform commissions and tax-writing committees
- In conjunction with Citizens for Tax Justice, publish a weekly e-newsletter, the *Tax Justice Digest,* that reviews the latest developments in federal and state tax policy

Why Do Tax Incidence Analysis?

- Whatever vision of fairness you implement, better to do it on purpose than by accident.
- Regressive taxes work at cross-purposes with direct anti-poverty spending.
- Evaluating mythical “middle class tax cut.”
- Gives lawmakers/public numbers it can trust in tax debates. Less uncertainty, less distrust.
- In a deficit context, fairness isn’t typically on the agenda of lawmakers.
Choices in Tax Incidence Models

- Show impact of taxes on entire population, or “representative” examples?
- Show only direct impact of taxes paid by individuals, or add “passed through” impact of business taxes? (Initial incidence v. economic incidence)

Why The “Economic Incidence” Approach?

- All taxes fall ultimately on individuals.
- Therefore, assessing only taxes that fall initially on individuals is misleading.
- Analyzing final economic incidence captures tax base differences.
Why Not The “Representative Taxpayer” Approach?

- “Representative taxpayer” approach is subjective, and easily manipulable.
- “Typical” taxpayer hard to define.
- Too easy to cherry-pick “typical” taxpayers to buttress arguments.
- Some tax proposals simply don’t affect “typical” taxpayers: e.g., expand sales tax base to include tattoo parlors.

Limitations of “Economic Incidence” Approach: Data, Data, Data

- What fraction of property taxes are paid by business? Not always clear.
- What fraction of sales taxes are paid on business transactions? *Never* clear.
- What fraction of corporate profits tax falls on in-state shareholders?
- What fraction of homeowner property taxes fall on residents of other states?
- What fraction of taxable consumption is attributable to visitors from other states?
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Background

- Built in 1994-1996, but still evolving in 2010
- Designed to:
  - predict the distributional effect of proposed tax changes on taxpayers at different income levels
  - predict the revenue gain (loss) from proposed tax changes
  - estimate the impact of current state and local taxes in all 50 states
  - measure the interaction between state and federal tax changes
- Consists of four basic modules: personal income tax, individual property tax, individual consumption tax, and business tax.

What’s Behind the Numbers??

- [Graph showing Ohio State Income Tax as a % of Adjusted Gross Income]
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What’s Behind the Numbers??

But, filers only: so we use Census 1990 PUMS data to get info on nonfilers.
Must identify PUMS records that are likely to be nonfilers. For likely filers, PUMS data is “matched” to SOI data.
Result: 760,000 records for 50 states/DC.
ITEP’s Income Tax Model: Aging the Data

- Step 1: “extrapolation”. Change weights on original 1988 records in a way designed to hit aggregate targets in a later year (currently, 2004).
- Step 2: aging the 2004 data. Using forecasts from economy.com and CBO, age each component of income to 2010 levels (and beyond).

ITEP’s (Homeowner) Property Tax Model

- For federal itemizers, we know homeowner tax liability, but don’t know home value.
- For nonitemizers (and nonfilers), we know very little.
- Use statewide avg. tax parameters (tax rates, ass.ratios) to “back into” itemizer home values.
- Census PUMS data match gives us home values and property tax for nonitemizers.
***ITEP’s (Homeowner) Property Tax Model: Aging Home Values to 2010***

- Demise of Census “Taxable Value” series in 1992 makes the job harder.
- Many states provide excellent aggregate data on residential value and tax (and tax rates)--but not apples to apples. Others provide nothing.
- American Community Survey gives aggregate data thru 2008 on value and tax, by state, age and income group.
- OFHEO “house price index” gives growth rates for home values.

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***ITEP’s (Renter) Property Tax Model***

- SOI data gives virtually no information on rent paid, for itemizers or otherwise.
- Census PUMS match assigns “renter” or “homeowner” label to all records-- and assigns rent amount where applicable.
- American Community Survey gives rent targets through 2008, by income level by state.
- Urban Land Institute survey gives property tax as share of rental income (regional, not state).
ITEP’s Consumption Tax Model

- Based on Consumer Expenditure Survey, a quarterly survey of <10,000 people.
- Plus “diary” details for even smaller sample
- Problem #1: understatement of income in low-income groups.
- Problem #2: understatement of spending on selected items (vices, mostly).
- Problem #3: sample too small for state-specific imputations.

Imputing Consumption to the Database

- Estimate “lumpy” purchases of durable goods/automobiles.
- Develop OLS regression for relationship between broad categories of consumption and income.
- Use regression coefficients to impute $ amounts of spending in these categories for all records. Constrain cons/inc to 150% for low incomes.
- Estimate “shares” of broad consumption categories by income level. Result: 72 more detailed spending amounts for each record.
- Further ad hoc “shares” to reflect state sales tax laws.
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Features & Capabilities – Scope of Analysis

Year
State
Filer type(s)
Age group
Family size

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Features & Capabilities – Income Tax Module

Database of Taxes
Types of Income
Standard/Itemized Deductions
Exemptions
Tax Rates
Tax Credits (EITC, etc.)
Filing Thresholds

Income
Credits
Adjustments
Threshold
Deductions
AMT
Exemptions
Other
Rates
Note
Tax is Base
Done
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Features & Capabilities – Income Tax Module

- Salary & Wages
- Pension & Annuity Income
- Capital Gains
- Social Security Income

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Features & Capabilities – Income Tax Module

Ohio Income Tax Rates in 2006
An Introduction to the ITEP Microsimulation Model
Features & Capabilities – Consumption Tax Module

Potentially Taxable Items
(over 200 in all)

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Features & Capabilities – Property Tax Module

Homestead Exemption
Elderly Only Provisions

Tax
Rate
Taxed Items
Exemptions

Car Tax
Tax Rates

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Features & Capabilities – Consumption Tax Module
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Results & Applications – Modeling a Flat Tax Proposal

Business and Visitors Database

- Business database uses Commerce Dept. Input-Output tables to map purchases by industry across same spending categories used in consumption model.
- Visitors database based on US Travel Data Center estimates, by state, which give 6 broad categories of spending.
- ITEP “shares out” these broad categories to match the 72 categories used in estimating residential consumption.
Business Tax Incidence Assumptions

- Sales/excise taxes on businesses are divided into "local market" and "national market" components.
- Local market taxes fall on in-state consumers.
- National-market taxes fall primarily on consumers nationwide.
- In high-sales-tax states, some national market tax shifted to wages and capital.
- Business property taxes, and corporate income taxes, are generally allocated to owners of capital.
- Renter property taxes are split between renters and owners of capital.

Calculating ITEP’s Effective Tax Rates: The Denominator

- Can’t use tax-based income measures. “AGI” means different things in different states, and doesn’t measure ability to pay.
- Need to add tax-exempt sources. Sometimes easy (tax-exempt interest); sometimes hard (unreported cap gains).
- Include low-income benefits for SSI, worker’s comp, public assistance.
- Exclude taxpayers with huge business losses & “negative incomes.”
The ITEP Model at work: “Who Pays”

**Averages for All States**

State & Local Taxes in 2007
Shares of family income for non-elderly taxpayers

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**An Introduction to the ITEP Microsimulation Model**

Results & Applications – North Carolina (2007)

- Gov. Mike Easley (D) claims that his budget plan “eliminates the state income tax for nearly 600,000 low-income taxpayers and cuts in half the tax for another 630,000” at a cost of $63 million.

- At request of NC Budget & Tax Center, ITEP evaluates Easley’s claim and finds that the plan would only eliminate taxes for 66,000 (10% of what governor claimed). Achieving Easley’s stated goals would actually cost $350 million a year; EITC would offer bigger tax cuts for many at a much lower price.

- **Initial Newspaper Headline:** Group Disputes Easley on Tax Plan for Poor Governor Stands Behind His Figures

- **Two Days Later:** Tax plan won't help all poor, Easley says The governor revises the number of people who will save, saying some do not pay taxes now

- **Policy Outcome:** Earned Income Tax Credit
State Senate almost unanimously approves exemption for first $75,000 of retiree income. Media reports that bill’s sponsor “did not say how much the tax break would cost the state.”

At request of Georgia Budget & Policy Institute, ITEP evaluates cost and fairness of plan and finds it would cost $100 million annually with 3 out of every 4 dollars going to the richest 20% of seniors. Bottom 50% of seniors would receive 1% of tax cut.

Next Day’s Front-Page Headline: Big Price on Senior Tax Break Analyst Says State Could Lose $100 Million a Year

Policy Outcome: Bill Dies in House

Gov. Ted Strickland (D) proposes to expand a means-tested senior property tax exemption to be available to even the wealthiest seniors.

At request of Policy Matters Ohio (EARN), ITEP evaluates Strickland plan and develops more progressive (and cheaper) alternative. The Strickland plan was estimated to cost $260 million, with low-income seniors receiving 1% of the benefits. Progressive alternative cost $110 million and directed 30% of benefits to the same fixed-income seniors.

Cleveland Plain Dealer Strickland should do what’s right for Ohio and amend his property tax reduction plan.

Policy Outcome: Strickland Plan is Ratified
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Results & Applications – Maryland (2007)

Impact of O'Malley Tax Plan
All Marylanders, 2007 Income Levels

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Lowest 20%</th>
<th>Second 20%</th>
<th>Middle 20%</th>
<th>Fourth 20%</th>
<th>Next 15%</th>
<th>Next 4%</th>
<th>Top 1%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Less Than</td>
<td>$22,300</td>
<td>$41,900</td>
<td>$61,600</td>
<td>$89,300</td>
<td>$116,000</td>
<td>$142,700</td>
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<tr>
<td></td>
<td>$23,300</td>
<td>$43,600</td>
<td>$63,900</td>
<td>$93,600</td>
<td>$120,300</td>
<td>$145,700</td>
<td>$144,700</td>
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<tr>
<td>Average Income in Group</td>
<td>$23,500</td>
<td>$43,700</td>
<td>$64,200</td>
<td>$94,600</td>
<td>$121,700</td>
<td>$146,700</td>
<td>$145,700</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Tax Change as % of Income</th>
<th>O'Malley Plan</th>
<th>Senate Bill</th>
<th>Conference Cmt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income Tax Rate</td>
<td>-0.7%</td>
<td>-0.5%</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Sales Tax Rate</td>
<td>-0.1%</td>
<td>-0.1%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Corporate Tax Rate</td>
<td>-0.1%</td>
<td>-0.1%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Petrol Price Tax</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>0.3%</td>
<td>0.2%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

COMPARISON OF THREE MARYLAND TAX REFORM PLANS
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