

The Impact of Property Tax Legislation on Indiana Households

Larry DeBoer: Professor of Agricultural Economics, Purdue University

Many Indiana homeowners saw big increases in their property taxes in 2007. In response, Governor Daniels and the Indiana General Assembly have proposed tax reforms that include large property tax reductions for homeowners. The proposals fund these reductions in part with an increase in the sales tax.

This leads to some obvious questions. If households pay less in property taxes but more in sales taxes, do they pay more or less in taxes overall? What are the characteristics of households who pay more or less? How many households likely will pay less, and how many will pay more?

Answering such questions requires a model of Indiana household tax payments, and some idea about the composition of Indiana households. This article describes such a model, and offers some answers to these tax policy questions. A more detailed description of the model is available in an expanded article at www.ibrc.indiana.edu/ibr.

Representative Households

The household tax model uses the characteristics of representative households to calculate taxes paid. The identity of the representative households determines the results of the analysis, so it is important to define them carefully.

The U.S. Census Bureau¹ now conducts an annual American Community Survey (ACS) of three million people nationwide. The survey provides demographic and economic estimates for the states and some of the larger counties. The most recent data are for 2006. The ACS provides estimates of household incomes and home property values.

According to the ACS, homeowners are 72 percent of the 2.4

million Indiana households; renters are 28 percent. Almost one-third of households own homes valued between \$100,000 and \$200,000. The median home value is \$120,700. Median income for all Indiana households is \$45,394. The median for homeowners is \$55,634; for renters, it is \$24,922.

These marvelous new data are necessary to determine representative households. Indiana is now a market value state, so home values provide the starting point for calculating property tax payments. Household income is the starting point for calculating county, state, and federal income taxes.

That leaves sales and excise taxes, which are based on spending on taxable goods and (some) services. The U.S. Department of Labor's² Bureau of Labor Statistics conducts an annual Consumer Expenditure Survey, which can be combined with the ACS data to measure spending. The expenditure survey shows average annual spending on seventy-three categories of goods and services—from alcoholic beverages to women's clothing—for households at many income levels. Data are not available by state, so national figures must be used.

Since the average Indiana household has 2.6 people, all the households in the model are assumed to have three people, two adults and a child.³ The spending data for three-person households are matched to the income data from the ACS to estimate how much each household spends on each category.

The households' value of vehicles is the depreciated value of all vehicles owned. It is based on data from the Federal Reserve Board's Survey of Consumer Finances,⁴ which shows the national average values of assets (including vehicles) by family

income level. This figure is used for calculating local motor vehicle excise taxes.

Tax Calculations

The data on the property, income, and spending of representative households are used to calculate tax payments for the various taxes. Included are property taxes, general sales taxes, state and county income taxes, state excise taxes on tobacco, alcoholic beverages and motor fuel, local excise taxes on motor vehicles, federal income taxes, Social Security taxes, and federal excise taxes on tobacco, alcoholic beverages, and motor fuel.

The tax payments implied by the model are tested by adding up the tax payments for households and comparing them to total tax collections in Indiana. Tax calculations are made for sixty households based on the income and home value categories from the ACS. The tax payments by each household are then multiplied by the number of households in each category, and the results compared to the state totals.

Results for the federal, state, and county income taxes and homestead property taxes are remarkably close to state totals. Results for sales taxes are difficult to test, because the share of the sales tax on business-to-business sales is unknown. The results are similar to past estimates, however. Excise tax revenues—especially for tobacco—vary widely from actual collections. Expenditures on tobacco, alcoholic beverages, and motor fuel are adjusted upward to make them consistent with state revenues. Estimates of the value of automobiles owned are adjusted downward to be consistent with local motor vehicle excise tax revenues.

Tax Payments by Representative Households

Table 1 reports the tax payments estimated for the five representative households. The median homeowner pays \$5,423 in Indiana state and local taxes, or 9.7 percent of income. It pays \$7,809 in federal taxes, or 14 percent of income. In total, it pays taxes of \$13,232, or 23.8 percent of income.

Table 2 shows the individual taxes as shares of income. These results are useful in measuring “progressivity” and “regressivity.” Progressivity means that higher income households pay a higher percentage of their incomes to a tax than do lower income households. Regressivity means that higher income households pay a lower percentage of their incomes to a tax than do lower income households.

Total taxes are progressive, because of the relatively steep progressivity of the federal income tax. Indiana total taxes are regressive across the three homeowner households chosen here. The lower income homeowner pays 11.9 percent of his or her income to Indiana taxes; the middle income homeowner pays 10.1 percent, and the upper income homeowner pays 8.4 percent. The regressivity of the property, sales, and excise taxes more than offset the progressivity of the state and county income taxes. The lower income renter pays less (8.5 percent) than the lower income homeowner because no property taxes are counted, and because the renter’s deduction is more valuable to the renter than the property tax deduction is to the homeowner. The renter household’s percentage would be higher if it was assumed to pay some of its landlord’s property taxes.

The property tax appears to be regressive. Upper income households pay less as a percentage of income. This is because home values do not rise proportionally as incomes rise. The lower income homeowner owns

■ TABLE 1: Tax Payment Estimates for Five Household Types

Indicator	Median Homeowner	Low Income Renter	Homeowners		
			Low Income	Mid Income	High Income
Income	\$55,634	\$27,500	\$27,500	\$62,500	\$150,000
Home Value	\$120,700	Renter	\$95,000	\$150,000	\$225,000
State and Local Taxes					
Property	\$1,326	n/a	\$857	\$1,860	\$3,227
Sales	\$1,200	\$918	\$927	\$1,265	\$2,065
County/State Income	\$2,192	\$828	\$900	\$2,470	\$6,292
Tobacco	\$262	\$268	\$268	\$261	\$243
Alcoholic Beverage	\$16	\$11	\$11	\$18	\$34
Motor Fuel	\$233	\$192	\$191	\$242	\$365
Motor Vehicle Excise	\$195	\$108	\$108	\$213	\$347
Total Indiana Taxes	\$5,423	\$2,326	\$3,262	\$6,329	\$12,573
Percent of Income	9.7%	8.5%	11.9%	10.1%	8.4%
Federal Taxes					
Federal Income	\$3,149	-\$1,237	-\$1,237	\$3,994	\$22,223
Social Security	\$4,256	\$2,104	\$2,104	\$4,781	\$8,220
Federal Tobacco	\$90	\$92	\$92	\$89	\$83
Federal Alcoholic Beverage	\$77	\$52	\$51	\$84	\$161
Federal Motor Fuel	\$238	\$197	\$195	\$248	\$373
Total Federal Taxes	\$7,809	\$1,207	\$1,204	\$9,196	\$31,060
Percent of Income	14.0%	4.4%	4.4%	14.7%	20.7%
Total Taxes	\$13,232	\$3,533	\$4,466	\$15,525	\$43,633
Percent of Income	23.8%	12.8%	16.2%	24.8%	29.1%

Source: Author, using U.S. Census Bureau and Bureau of Labor Statistics data

“ *Progressivity* means that higher income households pay a higher percentage of their incomes to a tax than do lower income households. *Regressivity* means that higher income households pay a lower percentage of their incomes to a tax than do lower income households. ”

a home worth three-and-a-half times his or her income. The upper income homeowner owns a home worth only one-and-a-half times his or her income.

The sales tax is regressive. The low income homeowner pays 3.4 percent of income in sales taxes, while the upper income homeowner pays only 1.4 percent. This is because upper income households save a large share of their incomes, so it is not touched by the sales tax.⁵ All of the excise taxes are regressive for the same reason.

The state and county income taxes have flat rates, yet they are progressive. The fixed personal exemptions exempt a larger share of a lower income household's income.

A Property Tax Cut and a Sales Tax Hike

In 2008, the governor has proposed and the General Assembly is considering a 1 percent increase in the sales tax (from 6 percent to 7 percent) to reduce property taxes, mainly for homeowners. A decrease in the property tax and an increase in the sales tax mean that some taxpayers will pay less, and some will pay more. A household tax model can sort out who is who.

No doubt the General Assembly will add new wrinkles to the bill before the end of the 2008 session. The analysis here starts with the following policy proposals, which were in HB1001 as introduced.

- Removing the school general fund, school bus operating fund, and county welfare funds from the property tax.
- Adding a new homestead deduction equal to 35 percent of assessed value remaining after the existing \$45,000 deduction. According to the Indiana Legislative Services Agency⁶ (2008), the property tax cut and new homestead deduction will reduce homeowner tax bills by 31 percent by 2010.

■ TABLE 2: Tax Payment Estimates for Five Households as a Percent of Income

	Median Homeowner	Low Income Renter	Homeowners		
			Low Income	Mid Income	High Income
Income	\$55,634	\$27,500	\$27,500	\$62,500	\$150,000
Home Value	\$120,700	Renter	\$95,000	\$150,000	\$225,000
State and Local Taxes					
Property	2.4%	n/a	3.1%	3.0%	2.2%
Sales	2.2%	3.3%	3.4%	2.0%	1.4%
County/State Income	3.9%	3.0%	3.3%	4.0%	4.2%
Tobacco	0.5%	1.0%	1.0%	0.4%	0.2%
Alcoholic Beverage	0.03%	0.04%	0.04%	0.03%	0.02%
Motor Fuel	0.4%	0.7%	0.7%	0.4%	0.2%
Motor Vehicle Excise	0.4%	0.4%	0.4%	0.3%	0.2%
Total Indiana Taxes	9.7%	8.5%	11.9%	10.1%	8.4%
Federal Taxes					
Federal Income	5.7%	-4.5%	-4.5%	6.4%	14.8%
Social Security	7.7%	7.7%	7.7%	7.7%	5.5%
Federal Tobacco	0.2%	0.3%	0.3%	0.1%	0.1%
Federal Alcoholic Beverage	0.1%	0.2%	0.2%	0.1%	0.1%
Federal Motor Fuel	0.4%	0.7%	0.7%	0.4%	0.2%
Total Federal Taxes	14.0%	4.4%	4.4%	14.7%	20.7%
Total Taxes	23.8%	12.8%	16.2%	24.8%	29.1%

Source: Author, using U.S. Census Bureau and Bureau of Labor Statistics data

- Raising the sales tax rate from 6 percent to 7 percent. This will provide almost \$1 billion in extra revenue.
- Eliminating the existing property tax replacement credits and homestead credits. This revenue (about \$2 billion) plus the added sales tax revenue is expected to cover the state takeover of the three property tax funds.

These changes are incorporated into the household model, and **Table 3** shows the results, as dollar and percent changes from the tax payments under the existing system (see **Table 1**). The median homeowner sees a \$145 reduction in

the total federal, state, and local tax bill. Property taxes fall \$415.

Other taxes increase. The median homeowner pays an added \$192 in sales taxes, a 16 percent increase. The household is an itemizer on its federal income taxes. The drop in property tax payments reduces deductions, increases taxable income, and so increases the federal income tax bill, by \$60. The state and county income tax bills rise by \$18 for the same reason. Other taxes rise by \$1, because a tax cut raises after-tax income, which increases spending on items subject to excise taxes.

The percentage tax cuts are smaller for upper income homeowners than

for lower income homeowners. This occurs because the lower income household does not see a federal income tax increase. This household is eligible for the federal earned income credit and receives the same refund before and after the state policy change. The middle and upper income homeowners see reduced property tax deductions, which raise their taxable incomes. This is more costly to the upper income homeowner because he or she is in a higher federal income tax bracket.

Renters do not benefit directly from the property tax cut.⁷ They pay the added 1 percent sales tax. The representative low income renter in **Table 3** sees a \$143 increase in total tax payments.

With the information from the ACS on the numbers of households in many income and home value categories, it is possible to estimate how many households would see tax increases and tax cuts under these policy changes. The results show that these policy changes reduce the taxes of about 53 percent of Indiana households by \$50 or more. About 11 percent of households see little change in their tax bills, and the remaining 36 percent see tax increases of \$50 more.

Of course, homeowners are the targets of the tax relief, while total households include renters. Among homeowners only, about 73 percent see tax cuts of \$50 or more, 16 percent see little change, and 11 percent see tax increases of \$50 or more. Among renters, 100 percent see tax increases.

In January 2008, the House of Representatives amended HB1001 to include an increase in the Indiana earned income credit from 6 percent to 9 percent of the Federal EIC, and an increase in the cap on the renter's income tax deduction from \$2,500 to \$5,000. The representative low income renter receives an income tax reduction big enough to turn the \$143 tax hike to a \$2 tax cut.

TABLE 3: Effect of HB1001 (as Introduced) on Representative Household Tax Payments

	Median Homeowner	Low Income Renter	Homeowners		
			Low Income	Mid Income	High Income
Income	\$55,634	\$27,500	\$27,500	\$62,500	\$150,000
Home Value	\$120,700	Renter	\$95,000	\$150,000	\$225,000
Dollar Changes					
Taxable Assessed Value	-\$26,495	\$0	-\$17,500	-\$36,750	-\$63,000
Taxable Sales	\$74	\$0	\$58	\$102	\$159
Taxable Income	\$415	\$0	\$276	\$574	\$254
Type of Tax					
Property	-\$415	\$0	-\$276	-\$574	-\$981
Sales	\$192	\$143	\$148	\$204	\$332
State/County Income	\$18	\$0	\$12	\$25	\$11
Federal Income	\$60	\$0	\$0	\$82	\$243
All Other	\$1	\$0	\$1	\$1	\$1
Total Tax Payment	-\$145	\$143	-\$115	-\$262	-\$394
Percent Changes					
Taxable Assessed Value	-36.4%	n/a	-37.2%	-36.0%	-35.6%
Taxable Sales	0.3%	0.0%	0.4%	0.5%	0.4%
Taxable Income	0.8%	0.0%	1.2%	1.0%	0.2%
Type of Tax					
Property	-31.3%	n/a	-32.2%	-30.9%	-30.4%
Sales	16.0%	15.6%	16.0%	16.1%	16.1%
State/County Income	0.8%	0.0%	1.3%	1.0%	0.2%
Federal Income	1.9%	0.0%	0.0%	2.1%	1.1%
All Other	0.0%	0.0%	0.0%	0.0%	0.0%
Total Tax Payment	-1.1%	4.0%	-2.6%	-1.7%	-0.9%

Source: Author, using U.S. Census Bureau and Bureau of Labor Statistics data

The Legislative Services Agency estimates that these policies will reduce income tax revenues by \$85 million. Would this imply that some of the added sales tax would have to be diverted to cover these income tax breaks, resulting in smaller property tax cuts? If so, tax reductions for higher income homeowners would be smaller.

Circuit Breaker Credit for Homeowners

HB1001 also includes a cap on homeowner tax bills equal to 1 percent of the gross assessed value of the home. The median homeowner does not qualify for this credit at the state average tax rate. This homeowner pays \$910 in property taxes after the rate cut and added deduction, which is 0.8 percent of the

\$120,700 gross assessed value of the home.

In fact, none of the representative homeowner households qualify. The upper income homeowner with a home valued at \$225,000 just misses the credit. This household has a 1 percent cap at \$2,250, and pays property tax of \$2,246. For example, homeowners with homes valued at \$375,000 qualify. This homeowner pays \$3,750 in property taxes, with a circuit breaker credit of \$417. Without the circuit breaker the homeowner would have paid \$4,167, or 1.1 percent of gross assessed value.

The reason that this high value homeowner receives the credit while lower value homeowners do not is the fixed \$45,000 homestead deduction. The tax as a share of assessed value is higher for high valued homeowners.

The household model implies that at the state average tax rate, the minimum assessed value required to receive a circuit breaker credit is about \$227,000. The ACS data imply that perhaps 14 percent of homeowners have home values that high or higher. For the median homeowner to receive a circuit breaker credit, the tax rate must be at least \$2.60 per \$100 assessed value. Adjusted for the 31 percent rate reduction, about 7 percent of Indiana taxing districts have rates this high.

Conclusion

This is an analysis of a moving target. The governor's original proposal has been amended and will be amended some more. Still, Indiana's history suggests that major property tax relief is provided by increasing the sales tax, and that part of the proposal may survive. That presents a tradeoff for taxpayers: lower property taxes for higher sales taxes.

The median homeowner household pays 9.7 percent of its pre-tax income to Indiana state and local taxes. A representative low-income renter pays 8.5 percent.

“The household model estimates that 53 percent of households and 73 percent of homeowners would see overall tax cuts of \$50 or more under these policy changes.”

Indiana's overall state and local tax system appears to be regressive. Lower income taxpayers pay a higher share of their incomes to Indiana taxes than do higher income taxpayers. Regressive sales, excise, and property taxes more than offset the progressive state and county income taxes. The federal income tax is progressive enough to make the whole federal, state, and local tax burden progressive.

HB1001 as introduced increases the sales tax by 1 percent, reduces property tax rates by about 31 percent, and offers an additional 35 percent homestead deduction. It also imposes circuit breaker caps on property taxes, at 1 percent of gross assessed value for homeowners.

The household model estimates that 53 percent of households and 73 percent of homeowners would see overall tax cuts of \$50 or more under these policy changes. For most homeowners, property tax savings more than offset the added sales tax payments and the loss of property tax deductions from the federal, state, and county income taxes. Lower income homeowners get bigger percentage tax cuts. The lowest income households continue to receive the federal earned income credit, while households in the highest federal tax brackets find the loss of property tax deductions more costly.

At state average tax rates, homes must be valued at \$227,000 or more to be eligible for the 1 percent circuit breaker credit. The median homeowner would be eligible only in jurisdictions with particularly high tax rates. Most circuit breaker credits—and associated revenue

losses to local governments—would occur through tax caps on higher valued homes in higher tax jurisdictions.

Renters do not receive property tax cuts, but do pay added sales taxes. All the renters in the household model see tax increases. The House amended HB1001 to include an added Indiana earned income credit, and a higher renter's deduction for the state and county income taxes. These policies would succeed in offsetting the sales tax increases for lower income renters. However, the lost income tax revenue might have to be recouped. ■

Notes

1. U.S. Census Bureau 2007. *Quick Guide to the 2006 American Community Survey Products* in American FactFinder. Available online at http://factfinder.census.gov/home/saff/aff_acs2006_quickguide.pdf.
2. U.S. Bureau of Labor Statistics 2008. *Consumer Expenditure Survey*. Available online at <http://stats.bls.gov/cex/home.htm>.
3. I avoid using fractional people because the model uses actual state and federal income tax schedules for deductions and credits. The tax codes count only whole people.
4. B.K. Bucks, A.B. Kennickell and K.B. Moore, "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances," *Federal Reserve Bulletin* 92, March 22, 2006: A1–A38. Available online at www.federalreserve.gov/pubs/bulletin/2006/financesurvey.pdf.
5. Of course, eventually savings are spent and subject to sales taxes. This spending may not take place for many years, however, and may even pass to other households through inheritance before it is spent.
6. Indiana Legislative Services Agency, "Estimated Impact on Net Property Tax, HB1001 (2008) as Introduced," January 14, 2008.
7. Some economic evidence shows that renters benefit from lower landlord property taxes. If so, reasonable assumptions show rent reductions equal to about one-third of the renter sales tax increases. Renters still see net tax increases.