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Larry DeBoer

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## Indiana's Local Motor Vehicle Taxes: The Excise Tax, Excise Surtax, and Wheel Tax

Larry DeBoer, Extension Specialist, Local Government Finance  
Department of Agricultural Economics

### Summary

- Indiana uses the Motor Vehicle Excise Tax instead of a personal property tax on passenger cars, motorcycles, and small trucks. The tax was first levied in 1971, and in 1988 it raised \$379 million for the state's local governments. The revenue is used for general purposes.
- Because of the excise tax, the cost of registering newer vehicles in Indiana is significantly higher than it is in surrounding states. Perhaps as many as 248,000 Hoosiers register their vehicles out-of-state to evade the excise tax, costing Indiana's local governments about \$24 million annually. New enforcement legislation passed by the General Assembly in 1989 may reduce this tax evasion.
- The excise tax is regressive at the lowest income levels, meaning low income households pay a larger proportion of their incomes in excise taxes than is paid by middle income households. The tax is proportional for taxpayers with middle and upper incomes.
- Excise tax revenue is stable in recessions, but does not increase with inflation. Because vehicles continue to be taxed as they age, the effects of past recessions, expansions, and inflation linger for years. The rapid revenue growth of the 1980's is largely due to the boom in new car purchases during 1983-85. New vehicle prices are to be adjusted for annual inflation after model year 1990, but this will not keep inflation from affecting tax payments.
- Indiana counties have the option of adopting two vehicle taxes: the motor vehicle excise surtax, applied to cars, motorcycles, and light trucks; and the wheel tax, applied to heavier vehicles. The taxes must be adopted at the same time. In 1988, 14 counties used these taxes and raised \$14 million statewide, to be used for road maintenance. In 1990, 16 counties will use the taxes.
- There is some evidence that adopting the wheel tax reduces heavy vehicle registrations in the adopting counties, although high property tax rates are a much greater disincentive to registration. The surtax has no apparent impact on light vehicle registrations.
- The surtax adds to the regressivity of the excise tax. The wheel tax is probably progressive, falling most heavily on upper income taxpayers.
- At low tax rates the surtax and the wheel tax are stable in recessions, at higher rates the response of the surtax is similar to the excise tax. Neither tax responds to inflation significantly.
- Many different criteria may be used to set surtax and wheel tax rates. Counties may wish to consider the amount of revenue raised, the impact on registrations, the incidence of the taxes, tax exporting, and political constituencies. The taxes may also be viewed as road user fees.

## The Motor Vehicle Excise Tax

### History and Administration of the Motor Vehicle Excise Tax

Indiana's Motor Vehicle Excise Tax took effect in 1971 as a replacement for the personal property tax on passenger vehicles. During the 1950's and 1960's, it had become evident that property taxes on these nonbusiness motor vehicles (cars, motorcycles, and small trucks) were too easy to evade. Property taxes had to be paid before a vehicle could be registered, but vehicle owners could sign a certificate in the county courthouse claiming that no property taxes were owed. Since the license branch had no way of knowing whether the claim on the certificate was true, many people were able to register their vehicles without paying their vehicle property taxes. In addition, it was relatively easy to register a vehicle in a neighboring county with a lower property tax rate (Lloyd, 1976).

In 1961 the Indiana General Assembly passed a motor vehicle excise tax law to replace the personal property tax on vehicles. But the Indiana Supreme Court declared the elimination of the vehicle personal property tax unconstitutional, because the state Constitution required that the General Assembly provide for "the taxation of all property, both real and personal" (Article 10, Section 1). In November 1966, voters passed a referendum on a Constitutional amendment (with 78% of the vote) to allow for an excise tax in place of the personal property tax. Article 10, Section 1(b) now reads: "The General Assembly may exempt any motor vehicles, mobile homes, airplanes, boats, trailers or similar property, provided that an excise tax in lieu of the property tax is substituted therefore" (Indiana State Chamber of Commerce, 1984). The 1969 General Assembly passed the law, and it became effective January 1, 1971.

Because license branches were assigned the job of collecting the tax, vehicle owners pay the tax in the same place and at the same time as they register their vehicles. This makes the excise tax more difficult to avoid

than the property tax had been. Valuation of vehicles and tax rates were made uniform across all counties, so there was no benefit in registering in another county. Excise tax rates were based on a property tax rate of \$7.50 per \$100 assessed value. Since assessed value for property tax purposes was the actual value divided by three, taxpayers with new vehicles would owe their local governments 2.5% of the vehicle's price. For older vehicles, a depreciation rate was applied, so that the tax payment would decline with the vehicle's age.

Rather than have taxpayers, or the license branches, calculate 2.5% of the depreciated vehicle value, the excise tax law set up classes or brackets, defined by the vehicle's list price when new. Originally there were six classes, with the top class being \$5,500 and over. As inflation increased the values of new cars during the 1970's, the tax paid on expensive vehicles in the top class fell below 2.5%. It was necessary to create new classes. In 1974 classes 7 through 10 were added, with a top class of \$12,500 and over. In 1983 classes 11 through 13 were added, with a top class of \$35,000 and over. Finally, in 1984 the number of classes was expanded to 17, with a top class of \$42,500 and over. This is the tax schedule in effect as of 1990. Because the average value of a new car sold in Indiana was about \$12,400 in 1988 (class 9), additions of new higher classes are unlikely to be needed in the near future. Table 1 shows the current rate schedule by class and vehicle age. At this writing, several bills have been submitted to the 1990 General Assembly to reduce motor vehicle excise tax rates.

Table 2 summarizes the details of the excise tax, along with the excise surtax and wheel tax (see below). The motor vehicle excise tax applies to passenger automobiles, motorcycles, and trucks under 11,000 pounds. Vehicles in manufacturers' or dealers' inventories, large trucks, buses, trailers, semi-trailers, tractors, and recreational vehicles are exempt from the excise tax; instead, they are subject to the personal property tax. Vehicle owners pay their excise tax to their local license branches at the same time that they

**Table 1. Indiana motor vehicle excise tax rate classes.**

Vehicle class/price when new							
Age	1 \$50- 1,499	2 \$1,500- 2,249	3 \$2,250- 2,999	4 \$3,000- 3,999	5 \$4,000- 5,499	6 \$5,500- 6,999	7 \$7,000- 8,499
1	\$12	\$36	\$60	\$96	\$132	\$168	\$206
2	12	30	51	84	114	147	184
3	12	27	42	72	96	126	154
4	12	24	33	60	78	104	127
5	12	18	24	48	66	82	101
6	12	12	18	36	54	63	74
7	12	12	12	24	42	49	60
8	12	12	12	18	24	30	40
9	12	12	12	12	12	18	21
10+	12	12	12	12	12	12	12

Vehicle class/price when new							
Age	8 \$8,500- 9,999	9 \$10,000- 12,499	10 \$12,500- 14,999	11 \$15,000- 17,999	12 \$18,000- 21,999	13 \$22,000- 24,999	14 \$25,000- 29,999
1	\$246	\$300	\$344	\$413	\$500	\$600	\$700
2	220	268	298	358	434	520	607
3	186	230	260	312	378	450	529
4	156	196	224	269	326	367	456
5	128	164	191	229	278	300	389
6	98	130	157	188	228	242	319
7	75	104	129	155	188	192	263
8	54	80	106	127	129	129	181
9	34	40	50	62	62	87	87
10+	12	12	12	21	26	36	42

Vehicle class/price when new			
Age	15 \$30,000- 34,999	16 \$35,000- 42,499	17 \$42,500 & over
1	\$812	\$938	\$1063
2	705	814	922
3	614	709	795
4	513	611	693
5	420	521	591
6	338	428	483
7	268	353	383
8	181	258	258
9	87	125	125
10+	42	49	55

register their vehicles. Not all of the money paid at the time of registration is excise tax; payments include registration fees and, in some counties, the motor vehicle excise surtax. But for most vehicles the bulk of the payment is the excise tax. Vehicles are classified in classes 1 through 17, based on their manufacturer's advertised delivered price when they are new (see Table 1). Vehicles remain in their original classes as they age.

Starting with model year 1990, the Bureau of Motor Vehicles will adjust new vehicle prices for annual inflation. The U.S. Bureau of Labor Statistics index of the rise in private new automobile prices will be used for the adjustment. In model year 1990 vehicle prices will be deflated using the most recent data available, the inflation rate between 1987 and 1988. In 1991, new vehicle prices will be adjusted for the inflation that occurred between 1988 and 1989.

Motor vehicle excise taxes are collected by the county license branches, but the tax revenue belongs to the local governments. License branches turn over the excise tax revenue to the county treasurers each month. License branches receive 85 cents per vehicle for performing this collection service for local governments. This payment is subtracted from the local governments' receipts, not added to the taxpayer's payment. Treasurers deposit the excise tax revenue into a special fund; and twice a year, in June and December (at the same time as property taxes), county auditors determine how much to distribute to each local government in the county. The county, townships, cities and towns, school corporations, library districts, and special districts share in excise tax revenue. Revenue is divided among each jurisdiction (the township, city or town, school corporation and so forth where each vehicle owner resides) based on the distribution of property tax revenues to those jurisdictions. Motor vehicle excise tax revenue is not used exclusively for road maintenance; it can be used for any purpose.

### **Tax Evasion**

While state and local government taxes in Indiana are generally lower than they are in

other states, Indiana has annual vehicle registration and tax rates among the highest in the country. Table 3 shows a comparison of vehicle fees and taxes for Indiana and the four surrounding states as of 1987. Payments for two vehicles are shown: a new 1987 car costing \$11,250 and weighing 3,100 pounds, and a 1976 car listing for \$5,100 when new, worth \$500 in 1987, and weighing 3,800 pounds. A 1987 Chevrolet Celebrity is an example of the former car, a 1976 Chevrolet Chevelle is an example of the latter. The registration fee, excise tax, and certificate of title on the new car cost \$317.75 in Indiana, far more than the cost in surrounding states. Vehicle fees and taxes on older cars in Indiana are comparable to Kentucky, Illinois, and Ohio, and less than in Illinois.

County officials have long suspected that a large number of vehicle owners evade the excise tax, by illegally registering their vehicles in other states. As shown in Table 3, the taxes and fees on newer vehicles in Indiana are much higher than they are in surrounding states. If vehicle owners can acquire an out-of-state address—that of a friend, a family member, a vacation home—they can evade the Indiana tax.

The extent of out-of-state registrations by Indiana residents can be estimated by comparing registrations in counties in Illinois and Ohio to registrations in Indiana. After controlling for many factors that influence the number of registrations in a county—population, income, the number of people of driving age—Indiana counties have 46 fewer registrations per 1000 people than do the counties in Ohio and Illinois. This shortfall of registrations in Indiana counties must be due to Indiana's excise tax. Multiplying by Indiana's population of 5.5 million, it is estimated that 248,000 Indiana vehicles are registered out-of-state. If owners of vehicles registered out-of-state owe the average per-vehicle tax payment of \$95, Indiana counties are losing \$23.5 million in excise tax revenue annually. Owners of higher priced vehicles have greater incentive to register out-of-state (see Table 3); therefore, this lost revenue figure may be a conservative estimate (DeBoer and Sperlik,

**Table 2. Summary of Indiana local vehicle taxes.**

Tax:	Motor Vehicle Excise Tax	Motor Vehicle Excise Surtax	Wheel Tax
Indiana Code:	I.C. 6-6-5	I.C. 6-3.5-4	I.C. 6-3.5-5
Adopted by:	Constitutionally required for all counties	County Council; adopted jointly with wheel tax	County Council; adopted jointly with excise surtax.
Tax base:	List price of autos, motorcycles and trucks less than 11,000 pounds, registered in the county, less depreciation for age, adjusted for annual inflation.	Motor Vehicle Excise Tax paid on value of autos, motorcycles and trucks less than 11,000 pounds registered in the county.	Buses, recreational vehicles, semitractors, tractors, trailers and trucks exceeding 11,000 pounds registered in the county.
Tax rate:	Approximately 2.5% of new vehicle prices, less for older vehicles. Dollar payments range from \$12 to \$1,063.	2% to 10% addition to motor vehicle excise tax, with \$7.50 minimum payment per vehicle.	\$5 to \$40 per vehicle; rates can vary by vehicle type and weight.
Revenue use:	General use, distributed to counties, townships, school corporations, cities and towns, library districts and other special districts.	For both option taxes, to construct, repair or maintain streets and roads; distributed to counties, cities and towns.	

**Table 3. Indiana registration fees and taxes compared to surrounding states, 1987.**

	Indiana	Illinois	Kentucky	Michigan	Ohio
<b>New 1987 Auto, List Price \$11,250 Weight 3,100 pounds</b>					
Registration & Inspection	\$12.75	\$48.00	\$12.50	\$54.25	\$25.00
Taxes & Other Fees	300.00	0	157.50*	0	1.50
Certificate of Title	5.00	3.00	6.00	2.00	4.25
<b>TOTAL</b>	<b>\$317.75</b>	<b>\$51.00</b>	<b>\$157.69</b>	<b>\$56.25</b>	<b>\$30.75</b>
<b>Old 1976 Auto, List Price \$5,100 Current Book Value \$500 Weight 3,800 pounds</b>					
Registration & Inspection	\$12.75	\$48.00	\$12.50	\$20.00	\$20.00
Taxes & Other Fees	12.00	0	7.00*	0	1.50
Certificate of Title	5.00	3.00	6.00	2.00	4.25
<b>TOTAL</b>	<b>\$29.75</b>	<b>\$51.00</b>	<b>\$25.50</b>	<b>\$22.00</b>	<b>\$25.75</b>

\* Automobiles are subject to the property tax in Kentucky. Cars are assessed at list price or current book value. Rate applied is for Louisville, \$1.40 per \$100 assessed value.

Source: Advisory Commission on Intergovernmental Relations, 1987. Compiled by Tim Pritchard.

1988). In 1989, the Indiana Department of Revenue cross-checked Indiana Social Security numbers with Ohio and Kentucky vehicle registrations, and found 62,000 Indiana residents having vehicles registered out-of-state (*Lafayette Journal and Courier*, October 7, 1989; November 16, 1989). Apparently out-of-state registration is a sizable problem.

Until 1989, enforcement of the motor vehicle excise tax was the responsibility of the local and state police. Indiana residents with out-of-state plates were cited for a Class C misdemeanor. Prior to 1988, few citations of this kind were given—only 69 by the state police during 1987. However, with the increased suspicion that a great many vehicle owners register out-of-state, the state police increased their enforcement efforts. The Indiana State Police Superintendent announced these increased efforts in September 1988, and 43 Hammond residents were quickly cited for having out-of-state plates (*Indianapolis Star*, Sept. 26, 1988).

In an effort to increase compliance with the excise tax, the 1989 General Assembly enacted several changes in enforcement procedures. The excise tax was made a “listed tax” so the State Department of Revenue could assist in enforcement. The Department is now responsible for investigating, collecting, assessing and enforcing the excise tax in instances of delinquency or evasion. Reciprocity arrangements have been made with surrounding states so the Social Security numbers of Indiana residents (acquired from income tax forms) can be checked against other states’ vehicle registrations. Tax evaders will be billed for delinquent taxes by the Department of Revenue. Auto dealers will be required to submit lists of vehicles sold to Indiana residents so the Department of Revenue can check that these vehicles have been registered. Failure to register is now a Class B misdemeanor, which carries a maximum sentence of 180 days in jail and a \$1,000 fine.

The 1989 state income tax forms include two questions asking whether the taxpayer has registered the vehicle in another state. Those who have registered out-of-state are asked to explain why. While it is not expected that

many taxpayers will confess to a misdemeanor on their tax forms, including these questions increases the “moral cost” of registering out-of-state. Vehicle owners must not only lie to an out-of-state registration official about their permanent address, but they must do so on their income tax forms as well.

There has been some confusion as to who is required to have Indiana license plates. The Bureau of Motor Vehicles requires vehicle owners to purchase Indiana plates (and pay the excise tax) within 60 days of becoming a state resident. But court interpretations have contended that a person must reside in Indiana for six months to be considered a resident. In 1989, the General Assembly passed legislation to clear up this confusion. People are now considered to be Indiana residents if they are registered to vote in Indiana, or have a child enrolled in an Indiana elementary or secondary school, or earn more than half their gross income in Indiana, or have resided in Indiana for 183 days or more—even if they have a legal residence in another state. Out-of-state college students and military personnel are not considered residents. Within 60 days of becoming a resident, a person must register all motor vehicles operated in the state and pay the excise tax.

### **Incidence of the Motor Vehicle Excise Tax**

The incidence of any tax is the answer to the question “who pays the tax?” It is usually measured by the relationship of tax payments to taxpayer income. If tax payments as a percentage of income rise as income rises, a tax is called “progressive.” The Federal income tax rate structure is an example of a progressive tax: the higher a taxpayer’s income, the higher the percentage paid in taxes. If tax payments as a percentage of income fall as income rises, the tax is called “regressive.” A sales tax on food would be a regressive tax, because food expenditures are a larger percentage of the budgets of low income people.

The amount of a taxpayer’s motor vehicle excise tax depends on the number of vehicles owned, on the vehicles’ price-classes, and on the vehicles’ ages. To relate tax payments to

taxpayer incomes, it is necessary to know the typical number, price-class, and age of vehicles owned by taxpayers at various income levels. As might be expected, the number of vehicles owned increases with income, and the age of vehicles owned decreases. It is assumed that higher income people also own more valuable vehicles.

Table 4 shows the average excise tax payment by income level and the payment's percentage of the midpoint of each income range. For example, the lowest income households pay an average of \$21.95 in excise taxes, which is 0.88% of \$2,500, the midpoint of the zero to \$5,000 income range. The motor vehicle excise tax is regressive at the lowest income levels, because the tax has a \$12 minimum. Regardless of how old or inexpensive a car is, its owner must pay a \$12 tax. The tax is nearly proportional for income levels above \$5,000. Except for the lowest income individuals, the excise tax costs Indiana taxpayers on average .5% of their incomes annually. Figure 1 shows the income shares paid by taxpayers as incomes increase. Although Indiana's vehicle taxes are regressive at the lowest income levels, they are not nearly as regressive as they are in many other states. Table 3 shows that in Illinois and Ohio, vehicle owners pay essentially the same charge regardless of the value of their vehicles. As a percentage of income, the burden for lower income people is much greater than it is for higher income people.

### **The Excise Tax in Recession and Inflation**

New car purchases are very sensitive to recessions. When people are unemployed, or uncertain about their incomes, they tend to postpone big purchases, such as automobiles. In general, each recessionary 1% decline in income cuts new car purchases by about 5%. This is reflected in annual changes in new vehicle registrations in Indiana, shown in Table 5. During the recession years 1978-82, new vehicle registrations fell by more than half, from 408,000 in 1978 to 181,000 in 1982. However, total registrations over this same period actually increased, by about

87,000. People who decide not to buy a new vehicle are not deciding to do without transportation, but are keeping an old vehicle or buying a used one.

Since both new and old vehicles are subject to the motor vehicle excise tax, revenue remains stable during recessions. Between 1979 and 1982, excise tax receipts remained stable at nearly \$200 million, despite the huge fall in new car purchases. However, because all cars are taxed, the effects of a recession linger long after the recession is over. New car sales were low in 1982, which means that the number of 2-year old cars in 1983 was smaller than usual, and the number of 3-year old cars in 1984 was smaller than usual. As shown in Table 6, between 1987 and 1988, the numbers of 7 and 9 year-old passenger cars fell by 142,000, still reflecting the experience of 1979-82. As vehicles depreciate, they contribute a smaller and smaller share to total excise tax revenue, so the sales shortfall in 1982 has a less and less significant impact on revenue. In 1988, the large fall in 7 and 9 year-old cars caused a revenue drop of only \$2.6 million.

This lingering effect of new vehicle sales fluctuations helps explain why excise tax revenue has expanded so rapidly in recent years. Between 1982 and 1988, excise tax revenue grew on average by more than 11% per year, increasing by a total of \$180 million (Table 5). During the recession period of 1980-82, many people postponed purchases of new cars. With the end of the recession, new car purchases rose rapidly, by 62% between 1982 and 1985. This large increase in registrations continued to affect revenues throughout the decade. Between 1987 and 1988, for example, revenue from 5-year old cars (new in 1984) rose by \$9.0 million, and revenue from 6-year old cars (new in 1983) rose by \$4.2 million, providing a large part of the \$15.7 million total increase in revenue from passenger cars (Table 6). As the vehicles from the purchase boom of 1983-1985 age, they have a smaller and smaller effect on revenues. The growth of new vehicle purchases has slowed since 1986, so the rapid growth in excise tax revenue should end by the early 1990's.



**Table 4. Incidence of the motor vehicle excise tax and surtax.**

Income range	Average excise tax owed	Percent of income midpoint	10% surtax owed	Excise tax + surtax percent of income
\$0-5,000	\$21.95	0.88	\$7.50	1.18
\$5,000-10,000	\$34.63	0.46	\$7.50	0.56
\$10,000-15,000	\$63.42	0.51	\$7.50	0.57
\$15,000-20,000	\$86.64	0.50	\$8.66	0.54
\$20,000-25,000	\$113.04	0.50	\$11.30	0.55
\$25,000-35,000	\$156.40	0.52	\$15.64	0.57
\$35,000+	\$263.46	0.53	\$26.35	0.58

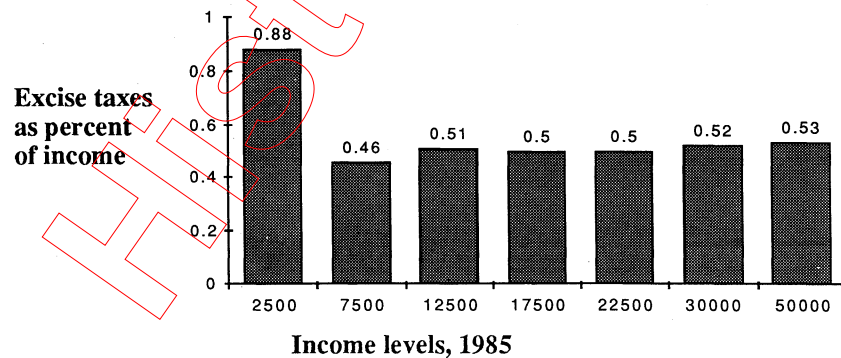
SOURCE: DeBoer and Sperlik (1988).

**Table 5. Motor vehicle registrations and excise tax revenue, 1978-88.**

	New vehicle registrations (thousands)	Total vehicle registrations (thousands)	Total excise tax revenue (millions)	percent change	Total excise tax revenue, 1982 Dollars	percent change
1978	408	3521	191	-	269	-
1979	357	3597	197	3.1	254	-5.6
1980	249	3619	200	1.5	232	-8.7
1981	228	3646	201	0.5	215	-7.3
1982	181	3608	199	-1.0	199	-7.4
1983	224	3578	216	8.5	206	3.5
1984	281	3651	236	9.3	215	4.4
1985	301	3727	264	11.9	230	7.0
1986	260	3740	309	17.0	262	13.9
1987	259	3759	338	9.4	274	4.6
1988	241	3742	379	12.1	294	7.3

**Table 6. Passenger car registrations and revenue by age, 1987 and 1988.**

Age	New in:	1987		1988		Change, 1987-88		
		Regis-trations ('000)	Reve-nue (mill.)	Regis-trations ('000)	Reve-nue (mill.)	Registra-tions ('000)	Revenue (mill.)	
1	1987	192	58.7	1988	171	54.9	-21	-3.8
2	1986	222	54.6	1987	218	58.7	-4	4.2
3	1985	257	49.0	1986	221	46.6	-36	-2.4
4	1984	225	36.4	1985	260	41.8	35	5.4
5	1983	170	21.1	1984	225	30.1	55	9.0
6	1982	136	12.2	1983	169	16.3	33	4.2
7	1981	182	10.7	1982	132	9.4	-50	-1.2
8	1980	161	5.2	1981	173	6.8	12	1.5
9	1979	254	4.2	1980	162	2.8	-92	-1.4
10+	pre-1979	955	11.5	pre-1980	980	11.8	25	0.3
<b>TOTAL</b>		<b>2754</b>	<b>263.7</b>	<b>2713</b>	<b>279.4</b>	<b>-41</b>	<b>15.7</b>	



**Figure 1. Excise taxes as percent of income, various income levels, 1985.**

Motor vehicle excise tax revenue did not keep up with the high inflation of the late 1970's and early 1980's. Adjusted for inflation, the purchasing power of excise tax revenue fell between 1978 and 1982 by 26%. Revenue was stable but prices rose rapidly (Table 5). Since 1982 revenue has grown rapidly and price increases have moderated, so the purchasing power of revenue has risen 48%. Only in 1987, however, did the purchasing power of excise tax revenue collections regain the 1978 level.

The impact of inflation on excise tax revenue can be seen by the numbers of autos in each price-class. In 1985 the average value of the new cars registered was \$9,578 (Table 7), and more new cars were in class 8 (\$8,500-\$9,999) than in any other category. Since 1986, the average value of new cars has topped \$10,000. More new cars have been registered in class 9 (\$10,000- \$12,499). In 1989 or 1990, the average new car price will top \$12,500; class 10 will be most common. Excise tax revenue will not respond fully to current year inflation, because inflation affects only new car registrations. Older cars may rise in value with inflation, or depreciate more slowly, but they remain in their original price-class. Past price increases continue to affect revenue for many years. The price jumps of 1981 and 1982 were still increasing revenues from 7 and 8 year old cars in 1988.

The 1989 General Assembly enacted a price indexing provision for the motor vehicle excise tax. Starting in the 1990 model year, new vehicle prices will be adjusted for the inflation that has occurred since the previous year. This will not completely remove the effect of inflation on vehicle prices after 1990, however. Model year 1990 vehicle prices will be deflated to 1989 prices, that is, the effect of inflation on price between 1988 and 1989 will be removed. But 1991 vehicle prices will be deflated to 1990 prices, 1992 prices deflated to 1991 prices, and so forth. The inflation that occurred between 1989 and 1990 will influence new vehicle prices in 1991, instead of in 1990. Inflation will still affect the prices of new vehicles, but in the year after the inflation occurs.

## **Revenue from the Motor Vehicle Excise Tax**

Appendix Table A-1 shows the motor vehicle excise tax revenue collected in 1988 by the 92 counties. Also shown for comparison is the total property tax levy for all units in the county. Statewide, \$379 million was collected in excise taxes, 14% of the property tax levy.

## **The Auto Excise Surtax and Wheel Tax**

### **History and Administration of the Surtax and Wheel Tax**

In 1980 the General Assembly created two new county option taxes, the motor vehicle excise surtax and the wheel tax. Three counties adopted it in 1981, and began receiving revenue in January 1982. As of 1990, 16 counties will use these taxes (see Table 2 for a summary). The county council has the power to adopt these taxes, but they can only be adopted together. Counties do not have the option to adopt one without the other. If the County Council votes to adopt before July 1 of any year, the taxes go into effect the following calendar year. If adoption is completed after July 1, the taxes go into effect in the year following the next calendar year. The county council may also vote to rescind both taxes, or change the tax rates.

Vehicles subject to the motor vehicle excise tax are also subject to the surtax: passenger cars, motorcycles, and trucks under 11,000 pounds. Vehicles subject to the personal property tax are also subject to the wheel tax. Vehicles in manufacturers' or dealers' inventories are not subject to either the surtax or the wheel tax. No vehicle is subject to both taxes. Counties may set the surtax rate between 2 and 10%, with the rate being the percentage addition to auto excise taxes which taxpayers must pay. The minimum surtax payment is \$7.50. Monroe and Warrick Counties adopted the tax before 1983, and do not require the \$7.50 minimum, but this is not an option for newly adopting counties.

Wheel tax rates can be set between \$5 and \$40; they can vary within a county for

different types of vehicles (for example, tractors can be charged \$5 while recreational vehicles pay \$40). The wheel tax is a tax per vehicle, not a tax per wheel. If the wheel tax rate is \$40, a 3-axle 6-wheeled tractor will pay \$40, not \$120 or \$240.

The license branches collect the motor vehicle excise surtax and wheel tax with the motor vehicle excise tax and registration fees. The revenue is turned over to the county treasurer monthly, after the license branch deducts a 15-cent-per-vehicle collection fee. The county auditor allocates this revenue among the county and the cities and towns within the county. In counties with populations of more than 50,000 residents, 60% of the revenue is allocated to each jurisdiction based on its proportion of total county population, as determined in the most recent census. The other 40% is allocated based on the proportion of total road mileage in the county. In counties with less than 50,000 residents, 20% of the revenue is allocated among jurisdictions based on population and 80% is allocated based on road mileage. The revenue can be used only to construct, reconstruct, repair, or maintain streets and roads that are the responsibility of that jurisdiction.

In 1988 the General Assembly repealed the suspension of county bonding for road construction. In 1989 the requirement that counties first adopt the surtax and wheel tax before bonding for roads also was repealed. Between 1981 and 1988, ten counties in southwestern Indiana were allowed to borrow for road and bridge repairs if they imposed the excise surtax and wheel tax—one reason why so many of the adopting counties are in the southwest corner of the state.

### **Impact of Adoption on Vehicle Registrations**

The motor vehicle excise surtax and wheel taxes increase the cost of registering vehicles in the adopting counties. The additional cost may provide an incentive for owners of passenger vehicles to register in other counties, just as many apparently register in other states to avoid the excise tax. Of greater concern, however, is the possibility that the wheel tax

may induce businesses to move to nonadopting counties, where vehicle costs are lower.

These possibilities can be tested by comparing registrations in adopting and nonadopting counties. After controlling for other factors that influence registrations, such as county income, population density, and persons per household, there appears to be no difference in passenger vehicle registrations between adopting and nonadopting counties. Adopting the motor vehicle surtax does not appear to cause vehicle owners to register in other counties. Perhaps the excise tax is seen as a relatively small addition to registration costs, and those with a penchant to avoid registration costs are likely to register out-of-state, whether or not the surtax is used.

There is evidence that adopting the wheel tax decreases the number of heavy vehicle registrations. The number of heavy vehicles per person in adopting counties is 6% lower than in nonadopting counties, after controlling for other factors that influence registrations. Evidence for this effect is not strong, however—meaning that there is a fair chance that adopting the wheel tax will have no effect on registrations. One reason for this relatively small, uncertain effect is the small differential in county vehicle taxes that the wheel tax creates, compared to the property tax. The wheel tax can add no more than \$40 to the cost of operating a heavy vehicle. In contrast, the property tax varies from an average county rate of \$3.23 per \$100 assessed value in Spencer County to \$15.64 in Lake County. Evidence indicates that each one dollar increase in the property tax rate reduces registrations per person by about 6%.

### **Incidence of the Surtax and Wheel Tax**

Adopting the motor vehicle excise surtax increases the regressivity of the motor vehicle excise tax. This is because the minimum surtax payment is \$7.50, no matter how little a taxpayer pays in excise taxes. A surtax of 10% will add 10% to the excise taxes of vehicle owners who pay more than \$75, but more than 10% to the taxes of those who pay less. Owners of the oldest and least expensive vehicles

see their tax bills rise from \$12 to \$19.50, a 63% increase. Table 4 shows the impact of the surtax on the incidence of the motor vehicle excise tax.

The incidence of the wheel tax is more complex. Owners of heavy vehicles pay the wheel tax when they register. Since people and business owners that own large trucks, tractors, and recreational vehicles probably have higher-than-average incomes, the wheel tax would appear progressive. But the ultimate effect of the wheel tax may be to increase the prices paid by customers of the businesses that own heavy vehicles. If this is the case, then the incidence of the wheel tax falls, at least partially, on the customers, rather than on the vehicle owners.

The incidence of the wheel tax may be shifted from owners to customers in this way: suppose a trucking company operates in a county that imposes the wheel tax. Paying this additional tax reduces the profitability of the trucking firm. In response to lower profits, the firm's owner may cut back on operations, or move the firm to a nonadopting county, or even go out of business. In any case, the effect is to reduce the supply of trucking services available in the adopting county, which is likely to increase the price of trucking services to customers. Customers bear at least part of the burden of the tax. Some firms cannot move, and some form such a small part of their markets that prices will be unaffected by the tax. Farmers, for example, cannot move their operations, and even if they cut back on production, the prices of commodities, determined in national markets, will not be affected. Farmers bear the burden of wheel taxes on farm vehicles. Nonfarm businesses that compete with firms in nonadopting counties will also not be able to charge higher prices, and will bear the burden of the wheel tax.

To what extent does shifting to customers actually take place? Evidence shows that heavy vehicle registrations may decrease when the wheel tax is imposed, an indication that taxed firms may cut back operations or move to nonadopting counties. The fact that

the wheel tax impact is relatively small and uncertain, however, probably means that local heavy-vehicle using businesses will not be able to increase their prices very much. It is likely that much of the wheel tax is not shifted from business owners to customers, meaning that the wheel tax is fairly progressive.

### **The Surtax and Wheel Tax in Recession and Inflation**

The impact of recession on the motor vehicle excise surtax depends on the surtax rate adopted. If the rate is low, near the minimum 2%, all vehicle owners paying excise taxes of \$375 or less will pay the minimum \$7.50 tax. Most Indiana vehicle owners pay less than \$375. Because total registrations do not change much during recessions, vehicle owners will continue to pay the \$7.50 minimum. The surtax at a low rate is likely to be very stable in recessions, more stable than the motor vehicle excise tax. At higher rates, the stability of the surtax approaches that of the excise tax. With a surtax rate at the maximum 10%, only vehicle owners owing less than \$75 in excise taxes pay the \$7.50 minimum. Most Indiana vehicle owners pay more. The surtax will be a fixed percentage of the excise tax for most taxpayers, therefore, the stability of the surtax will reflect the stability of the excise tax with small recession impacts lingering as new vehicles age.

The wheel tax is a flat dollar tax on heavy vehicles and does not vary with vehicle age. Revenues will reflect exactly the percent changes in total heavy vehicle registrations. Like auto registrations, total heavy vehicle registrations do not show large variations over the business cycle. Between 1980 and 1983, heavy vehicle registrations fell only 6%. The wheel tax is stable in recessions.

Inflation has no effect on wheel tax revenue, and little effect on surtax revenue when the tax rate is low. In each case, taxpayers pay a flat dollar rate on their vehicles despite any effect inflation has on vehicle prices. Local governments should not expect their wheel tax receipts to keep up with inflation in road con-

**Table 7. Average prices of passenger cars registered in Indiana by age, 1987 and 1988.**

Age	New in:	Most Common Price Class	Average Price of Passenger Cars	Percent Price Change from Previous Year's Age	Percent Change, Private New Car Price Index
1	1988	9	12431	5.4	2.0
2	1987	9	11797	10.9	3.6
3	1986	9	10637	11.1	4.3
4	1985	8	9578	-1.7	3.2
5	1984	8	9743	6.6	2.9
6	1983	8	9138	5.5	2.5
7	1982	7	8659	19.0	3.9
8	1981	6	7275	19.2	6.1
9	1980	5	6103	-	8.0
10+	pre-1980	5	3208	-	-

**Table 8. Indiana county surtax and wheel tax rates, 1989-90.**

County	Surtax	Wheel tax by vehicle type (dollars)								
		Trucks	Farm Trucks	Trailers	Farm Trailers	Semi-Trailers	Buses	Tractors Semi-Tractors	Farm Semi-Tractors	Recreational Vehicles
Allen <sup>a</sup>	5%	30 <sup>c</sup>	30 <sup>c</sup>	30 <sup>c</sup>	30 <sup>d</sup>	15	7.5	30 <sup>d</sup>	30 <sup>d</sup>	15
Brown	10%	20	20	5	5	15	10	20	20	20
Daviess <sup>h</sup>	5%	30 <sup>c</sup>	30 <sup>c</sup>	10 <sup>g</sup>	10 <sup>g</sup>	15	25	25	25	10
Dubois	10%	25	25	10 <sup>e</sup>	10	25	25	25	25	25
Fountain	10%	40	40	10 <sup>f</sup>	10	10	0	40	40	15
Gibson	10%	5	5	5	5	5	5	5	5	5
Hamilton	10%	40	5	40	5	40	40	40	5	40
Howard	10%	15	15	5	5	15	15	20	20	10
Marion	10%	40	40	10	10	10	40	30	30	20
Monroe	10 <sup>b</sup>	5	5	5	5	5	5	5	5	5
Parke	10%	40	40	20 <sup>f</sup>	20	40	40	40	40	40
Perry	10%	30	30	5	5	20	30	30	30	15
Posey	10%	35	35	15	15	25	35	25	25	20
Rush	10%	30	30	5	5	20	5	40	40	20
Vanderburgh <sup>h</sup>	2%	20 <sup>i</sup>	20 <sup>i</sup>	12 <sup>k</sup>	12 <sup>k</sup>	12 <sup>k</sup>	20 <sup>i</sup>	23 <sup>i</sup>	23 <sup>i</sup>	15
Warrick	10% <sup>b</sup>	20	20	10	10	25	15	30	30	25

<sup>a</sup>Allen County has a \$7.50 wheel tax on special machinery.

<sup>b</sup>No \$7.50 minimum surtax.

<sup>c</sup>Maximum rate; rates vary from \$20 to \$30 by weight.

<sup>d</sup>Maximum rate; rates vary from \$15 to \$30 by weight.

<sup>e</sup>Trailers under 11,000 lbs. taxed at \$5.

<sup>f</sup>Trailers under 3,000 lbs. taxed at \$5.

<sup>g</sup>Trailers under 7,000 lbs. taxed at \$5.

<sup>h</sup>New adoption for 1990.

<sup>i</sup>Maximum rate; rates vary from \$10 to \$20 by weight.

<sup>j</sup>Maximum rate; rates vary from \$10 to \$23 by weight.

<sup>k</sup>Maximum rate; rates vary \$5 to \$12 by weight.

struction costs. In Marion County, for example, wheel tax revenue rose only 3% between 1983 and 1987, while road construction costs rose 17%. The surtax at higher rates will respond to inflation in the same way the excise tax responds, with a small first year inflation impact followed by lingering effects as vehicles age. The inflation adjustment to new vehicle prices will delay (but not eliminate) the response to inflation after 1990.

### Setting Surtax and Wheel Tax Rates

Table 8 shows the surtax and wheel tax rates used in the 14 adopting counties in 1989, and the rates that will be used in the two new adopting counties in 1990. While most counties have adopted the surtax at the maximum 10%, there is great variety in the wheel tax rates adopted. Various criteria can be applied in setting surtax and wheel tax rates, but no one criterion seems to be dominant among the adopting counties.

If revenue is the sole consideration, higher rates are called for. Even though this may cause some vehicle owners to register their vehicles outside the county, there is little doubt that higher tax rates will raise more revenue. This criterion may explain Parke County's rates, at the maximum for all vehicles except trailers.

Because the revenue from the surtax and wheel tax must be used for road maintenance, the taxes can be viewed as user fees. Those who use the roads—vehicle owners—are taxed to pay for them. Adopting the user fee criterion implies that heavier vehicles should be taxed at higher rates, because they put more wear on roads. This may explain why Allen and Vanderburgh Counties tax some heavier vehicles at higher rates. The wheel tax rate limits of \$5 to \$40 cannot reflect the true differences in road wear caused by light and heavy vehicles, however. Most engineering studies show that the heaviest trucks put much more than eight times the wear on roads compared to the lightest vehicles. It could be argued that because some farm vehicles are used primarily in fields and not on roads, farm wheel taxes should be low. This may explain Hamilton County's rates, at the minimum \$5 for all farm vehicles, at the maximum \$40 for

all other heavy vehicles.

Tax rates are often set based on ability to pay. The Federal income tax is an example, with low rates for taxpayers with low incomes. If the ability to pay criterion is used to set surtax and wheel tax rates, a way must be found to apply lower rates to lower income vehicle owners. Perhaps rates on the least expensive heavy vehicles should be lower. Rates on vehicles most often owned by high-income taxpayers would need to be higher, those on recreational vehicles, for example. The ability to pay criterion also implies that Monroe and Warrick Counties should not adopt the \$7.50 minimum on the surtax. Currently, owners of the oldest, least expensive vehicles pay a surtax of \$1.20 in these two counties, rather than \$7.50. Newly adopting counties must use the \$7.50 minimum, however.

Counties may also consider economic development when rates are set. This would require low rates for those vehicle owners most likely to leave the county, or for firms most likely to cut back or go out of business. Higher rates could be applied to firms that are unlikely to leave, or to those for which vehicle taxes are a small part of total costs. This criterion may explain the rates in Gibson and Monroe Counties, where the surtax rate is at the 10% maximum but the wheel tax rates are all at the \$5 minimum. Auto owners are unlikely to leave the county because of the surtax, but heavy vehicle owning firms may be more "footloose." Recall, however, that the impact of wheel taxes on heavy vehicle registrations is uncertain. Property tax differentials are much more important.

Taxes are exported when they are paid by people who live outside the county. Tax exporting can be increased by applying higher taxes to vehicles typically owned by non-residents, the vehicles of industries and utilities, for example. Finally, since county councils are elected by county voters, council members are likely to be concerned with the response of voters to the tax rates selected. This could mean higher rates on vehicles likely to be owned by nonresidents (who are nonvoters), or lower rates on vehicles owned by particularly large or influential constituencies. This is another possible explanation

for the low farm vehicle rates in Hamilton County. This may also explain the low wheel tax rates on light trailers in Daviess, Dubois, Fountain, and Parke Counties, designed to lessen the burden on owners of boat trailers, compared to owners of heavier trailers.

### **Surtax and Wheel Tax Revenue Potential**

Appendix Table A-1 shows the actual surtax and wheel tax revenues for the 14 counties that used the taxes in 1988. These revenue figures are starred. Note that Vanderburg rescinded the taxes for 1989, and adopted them again for 1990. Hamilton and Daviess have also adopted since 1988. Unstarred figures in the surtax and wheel tax columns are revenue estimates at maximum tax rates made by Purdue University's Highway Extension and Research Project, Indiana Counties and Cities (HERPICC, 1989). Also shown are total registrations of light vehicles, the autos, motorcycles, and light trucks subject to the excise surtax, and registrations of heavy vehicles, subject to the wheel tax.

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Appendix Table A-1. County registrations and revenue totals.

County	1988 Registrations		1988 Motor Vehicle Excise Tax Revenue	1988 Motor Vehicle Excise Surtax Revenue or Estimate	1988 Wheel Tax Revenue or Estimate	1987-88 Gross Property Tax Levy
	Light Vehic.	Heavy Vehic.				
------(thousands)-----						
1 Adams	21175	3695	1815	242	147	13978
2 Allen	207196	24432	24810	1998*	287*	142303
3 Bartholomew	48944	6630	4739	601	264	34475
4 Benton	7075	1591	646	84	63	5933
5 Blackford	10721	1828	894	121	73	5511
6 Boone	28367	4381	3367	391	175	14405
7 Brown	10384	1543	994	137*	13*	3718
8 Carroll	14641	3286	1323	172	131	9893
9 Cass	27685	4557	2624	335	182	15656
10 Clark	61382	7328	5539	719	292	38016
11 Clay	17930	2972	1599	210	118	6990
12 Clinton	22372	3563	2095	270	142	13875
13 Crawford	7144	1254	479	73	50	3151
14 Daviess	18281	3472	1579	211	138	7530
15 Dearborn	26797	3475	2401	311	138	16864
16 Decatur	17000	2659	1584	203	106	7440
17 DeKalb	26517	4543	2406	312	181	14507
18 Delaware	77049	10460	7392	941	417	2165
19 Dubois	27589	4468	2626	359*	67*	15763
20 Elkhart	105458	16403	11119	1341	654	75203
21 Fayette	18301	2328	1642	216	93	11285
22 Floyd	43606	4636	4159	528	185	26151
23 Fountain	12695	1954	1137	162*	33*	6112
24 Franklin	14035	2231	1083	151	89	5133
25 Fulton	14064	2825	1286	166	113	7243
26 Gibson	23696	3699	2200	307*	19*	18098
27 Grant	51081	7173	4811	619	286	33396
28 Greene	22069	3430	1899	254	137	9617
29 Hamilton	75682	8899	11030	1200	355	52788
30 Hancock	34830	5402	3832	457	215	15641
31 Harrison	22408	3747	1847	250	149	7092
32 Hendricks	57821	8895	6574	798	354	24482
33 Henry	36148	5378	3294	427	214	19353
34 Howard	58718	7584	7008	886*	59*	45535
35 Huntington	24810	4098	2417	300	163	13463
36 Jackson	27115	4801	2405	317	191	13272
37 Jasper	17352	3472	1713	209	138	15889
38 Jay	16225	2578	1269	176	103	8664
39 Jefferson	19402	2493	1697	224	99	13960
40 Jennings	16213	2617	1258	175	104	5551
41 Johnson	60503	7071	6932	809	282	28209
42 Knox	26534	4824	2401	314	192	16694
43 Kosciusko	46230	8748	4636	570	349	28412
44 LaGrange	16097	3196	1460	187	127	10253
45 Lake	280975	23933	27160	3446	954	364497
46 LaPorte	68871	8520	6876	847	340	58359
47 Lawrence	31247	4410	2811	372	176	14463
48 Madison	92731	12939	10152	1239	516	56385
49 Marion	514179	43270	59329	5933*	753*	501601
50 Marshall	28922	5496	2772	347	219	18512
51 Martin	7782	1328	679	90	53	2667
52 Miami	24029	4315	2199	285	172	11425
53 Monroe	59574	7166	5818	582*	37*	35739



Appendix Table A-1. County registrations and revenue totals (cont.)

County	1988 Registrations		1988 Motor Vehicle Excise Tax Revenue	1988 Motor Vehicle Excise Surtax Revenue or Estimate	1988 Wheel Tax Revenue or Estimate	1987-88 Gross Property Tax Levy
	Light Vehic.	Heavy Vehic.				
------(thousands)-----						
54 Montgomery	25398	4370	2577	318	174	17606
55 Morgan	40270	5890	3979	492	235	13053
56 Newton	9837	1586	922	118	63	6939
57 Noble	26892	4755	2527	319	189	12936
58 Ohio	3684	545	316	41	22	980
59 Orange	12620	2312	1012	139	92	4705
60 Owen	12517	2126	1001	138	85	3992
61 Parke	11076	2013	997	142*	46*	5528
62 Perry	13337	2067	1069	161*	24*	5503
63 Pike	9810	1862	836	112	74	8665
64 Porter	85127	9735	8974	1083	388	68864
65 Posey	19061	3411	1864	254*	76*	17921
66 Pulaski	9588	2192	908	114	87	6019
67 Putnam	19562	3371	1926	240	134	9929
68 Randolph	20282	3580	1700	228	143	9814
69 Ripley	17976	2622	1548	204	104	6307
70 Rush	12810	2149	1129	161*	32*	7703
71 St. Joseph	159035	18696	16845	2057	745	130994
72 Scott	14272	1820	1125	155	73	6619
73 Shelby	29243	4419	2687	346	176	13763
74 Spencer	14307	2607	1349	169	104	10094
75 Starke	14967	2351	1240	167	94	7233
76 Steuben	20003	3735	1946	242	149	12597
77 Sullivan	14161	2285	1272	166	91	15076
78 Switzerland	4819	782	368	52	31	2502
79 Tippecanoe	75539	8101	7916	967	323	55784
80 Tipton	12814	2429	1378	166	97	7696
81 Union	5102	1031	399	56	41	2331
82 Vanderburg	111817	13023	10947	910*	100*	87781
83 Vermillion	12728	1968	1068	145	78	9501
84 Vigo	68444	8023	6416	833	320	51245
85 Wabash	24509	4667	2315	292	97	13568
86 Warren	6339	1250	565	74	41	4519
87 Warrick	33384	4561	3250	325*	69*	23942
88 Washington	16331	2467	1300	180	98	7355
89 Wayne	48424	5684	4070	554	227	34717
90 Wells	19734	3787	1822	234	151	9494
91 White	17222	3602	1614	206	144	11380
92 Whitley	21076	4049	2037	254	161	9673
<b>TOTAL</b>	<b>3741832</b>	<b>491919</b>	<b>378744</b>	<b>12318*</b>	<b>1614*</b>	<b>2731649</b>

\* Actual collections. Unstarred surtax and wheel tax amounts are HERPICC estimates at maximum tax rates.

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