A STUDY OF STATE TAX INCIDENCES—THE KENTUCKY CASE

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This study examines the incidence of five Kentucky taxes: the sales and use tax, the motor vehicle usage tax, the corporate income tax, the individual income tax, and the inheritance and estate tax. Taken together, these five taxes account for approximately 65 percent, or nearly two thirds, or all state revenue. The five taxes also have received attention regarding tax reform in Kentucky.*

Kentucky Taxes

The sales and use tax rate of 5 percent applies to in-state retail sales and out-of-state purchases consumed in Kentucky. Notable exemptions include food consumed in the home, prescription medicine, and utilities. A legally separate tax, the motor vehicle usage tax, is from a conceptual standpoint, essentially a 5 percent sales tax on new and used motor vehicles. Combined, the sales and use tax and the motor vehicle usage tax generated 32 percent of Kentucky's tax revenue in Fiscal Year 1981.

The individual income tax is a graduated tax on net income of individuals with an initial rate of 2 percent on the first $3,000 of taxable income and a maximum rate of 6 percent on taxable income in excess of $8,000. An important feature of the tax is that the standard deduction is $650. As a consequence, many more state than federal income tax returns contain itemized deductions. Federal income tax payments are deductible when calculating Kentucky adjusted gross income. Moreover, it is generally advantageous for married taxpayers to file a separate, but combined return, rather than to file jointly when both spouses are income earners. In Fiscal Year 1981 the individual income tax generated 25 percent of the total state revenue.

The corporate income tax is an annual tax on corporate Kentucky net income. The rate increases from 3 percent on the first $25,000 of net income, to 6 percent on net income over $100,000. For multistate firms, allocation of net income is based upon an equal weighing of Kentucky's share of sales, property, and payroll income. In Fiscal Year 1981, the Corporate income tax accounted for 7 percent of state revenue. The inheritance and estate tax contains sizeable exemptions and rates range from 2 percent to 16 percent. It accounted for only 1 percent of state revenue in Fiscal Year 1981.

Incidence of Taxes

An important issue in taxation is the question of incidence: who bears the burden of the tax in the sense of a reduced command over resources? Superficially, incidence is easy to determine if legal incidence is taken. Legal (initial) incidence of the retail sales tax is on retailers, since they are required to submit tax payments based on their sales, and legal incidence of the corporate income tax is on the corporation itself, since the firm must submit tax payments based on its income. While legal incidence is readily determined, it is not necessarily a useful indicator of who bears the burden of the tax or an accurate measure of the resources relinquished. The incidence issue turns on the question of how much of the burden is shifted to others legally unaffected by the tax. To the extent that retailers and corporations can raise their product prices following the imposition of the tax, the government pulls resources away from retail and corporate consumers (forward shifting). Consumers bear part of the burden by paying more to consume the same products. To the extent that retailers and corporations can reduce the wages, interest, dividends, and rents they pay following the imposition of the tax, the government pulls resources away from workers, sav-

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ers, investors, and property owners (backward shifting). The owners of factors of production bear part of the burden by receiving less for the production services they provide. The issue of incidence grows from the different views of how the market economy responds to tax imposition.

There are two approaches to tax incidence, one which abstracts from expenditures and the other which considers them. The differential incidence approach considers the distributional effects of replacing the extant tax structure with a new tax structure which yields the same revenue with the amount and pattern of expenditures unchanged. The balanced-budget incidence approach considers the distributional effects of both changes in the tax structure and the accompanying changes in expenditures (see Mieszkowski 1969, p. 1105). Several empirical studies have estimated the distribution of burden of various tax structures.

Pechman and Okner (1974) used the differential incidence approach to determine the distribution of tax burden in the United States in 1966, relative to a comparable proportional income tax. For the entire tax structure, the distribution of the burden is slightly progressive. Pechman and Okner (1974, p. 6) concluded that for a broad range of income, which includes 87 percent of all family units and 1966 incomes between $2,000 to $30,000, the tax system is slightly progressive or proportional, depending on the set of assumptions; however, the system is regressive for the very poor and progressive for the very rich. These findings on tax incidence are broadly consistent with another major national study conducted by Musgrave, Case and Leonard in 1974.[1]

The question of tax incidence changes markedly when attention is focused on a tax imposed by a subnational unit, such as Kentucky. Product trade, factor migration, and tax exporting become critical elements in the analysis. In a 1981 article, McLure demonstrated how residents of the taxing region, for example, a state, are more likely to bear the tax burden because of changes in factor incomes. The driving force which determines incidence is the presence of the national markets for products and capital. This means, for example, that the burden of a state corporate income tax usually falls on the residents of the taxing state as consumers, immobile workers, and owners of immobile property.

Incidence has been estimated for taxes imposed at the state level. Eapen and Eapen in 1973 took an essentially balanced-budget incidence approach in estimating the incidence of taxes and expenditures in Connecticut. They allowed for shifting to other states through out-of-state sales and ownership by out-of-state residents, and for shifting to the federal government through federal deductions for state corporate and personal income taxes. They estimated that: (1) The Connecticut tax structure is regressive, primarily due to the prominence and regressivity of the property tax; (2) The expenditure pattern favors low-income groups because of public welfare and hospital services; and (3) The net incidence of taxes and expenditures is slightly progressive. In 1980, Phares examined the distributional impact of state and local taxes within the context of all fifty states. Making the assumptions commonly made in national incidence studies and allowing for tax exporting, he estimated the tax burdens for each state. Among the states, he found a great deal of variation in the share of taxes exported and in the degree of progressiveness. Heavy reliance on the individual income tax leads to more exporting through the federal income tax and progressiveness. Reliance on the property tax leads to more regressiveness.

In what follows, the distribution of the burden of five important Kentucky taxes (sales and use, motor vehicle usage, corporation income, individual income, and inheritance and estate) is estimated, relative to a comparable proportional income tax. Particular attention is given to the openness of the Kentucky economy, the amount of tax exported from Kentucky and the effect of deductions on the nominally progressive state income tax. The next section of this paper, methodology, gives the incidence assumptions, discusses shifts of burdens among taxes, and describes data sources and measurement problems. The section entitled "Incidence Results," presents incidence estimates for the individual taxes and for the five taxes combined. The last section contains conclusions based on the incidence results.

Methodology

Incidence Assumptions. It is standard to assume that the burden of the individual income tax is borne by the income recipients from whom the tax is collected and that the sales tax is shifted forward to the consumers of the taxed commodities. In like manner, the motor vehicle usage tax is borne by the consumers of automobiles. A standard practice in incidence studies (Musgrave, et al., 1974, Phares, 1980) is to impute inheritance and estate taxes to the highest income class. An analysis of Kentucky's inheritance and estate tax collections, published in the Kentucky Department of Revenue Annual Report for 1975-76, indicated that this is an appropriate assumption.

The question of who bears the burden of a national corporate income tax has been the subject of much debate during the past thirty years. Economists would generally agree that the incidence of the tax does not rest solely on the owners of capital employed in the corporate sector. To what extent its burden is borne by owners of capital in both the corporate and noncorporate sectors, and to what extent it is shifted forward

[1]Browning (1978) presents an alternative view that the tax structure is progressive unambiguously.

to consumers in the form of higher prices or backward to employees in the form of lower wages, is still an unsettled, theoretical question. Moreover, empirical studies have provided conflicting evidence. As a consequence of the uncertainties surrounding the issues of shifting, studies of incidence (see, for example, Musgrave, et al., 1974) generally proceed by providing three shifting scenarios: (1) The tax is borne wholly by the owners of capital and, hence, the incidence is distributed over income classes on the basis of a capital income; (2) The tax is wholly shifted forward to consumers in the form of higher prices, and the incidence is distributed on the basis of consumer spending; and (3) Fifty percent of the tax is shifted forward and 50 percent is borne by owners of capital.

The procedures for allocating the burden of the federal corporate income tax have been employed for state corporate income taxes as well (Phares, 1980, Eapen and Eapen, 1973). Further, since corporations doing business within a state are owned in part by shareholders residing in other states, a substantial part of that portion of a state corporate income tax which is not shifted forward is treated as being exported to nonresident shareholders (Eapen and Eapen, 1973). This methodology is questionable as it implicitly ignores the fact that corporations operating in a given state are both selling products and obtaining capital in national markets (McLure, 1981). A convincing argument can be made that the burden of a state corporation income tax is borne by the residents of the state imposing the tax—as consumers of products, or as suppliers of immobile capital or labor. For the purposes of this study, the Kentucky corporation income tax is assumed to be borne in equal proportion by Kentucky shareholders, Kentucky wage and salary employees, and Kentucky consumers.

While we discount the possibility of exporting the burden of the Kentucky corporation income tax through reduced dividend income to non-Kentucky shareholders, we do take into account the export of a portion of the tax to the federal government in the form of reduced federal corporation income tax payments. If the tax is neither shifted forward to consumers nor backward to employees it reduces corporate income. Part of this reduction in corporate income is absorbed by reduced federal corporate income tax payments. Thus, if the marginal federal corporate income tax is 46 percent, 46 percent of the nonshifted portion of the Kentucky corporation income tax is exported to the federal tax structure. We call this the *primary* federal tax offset.

A tax which is shifted backward to the owners of the factors of production reduces factor income by the amount of the tax shifted. Consequently, federal taxable income of the affected factor owners is reduced by an equivalent amount. Their federal income tax payments are reduced by their marginal tax rates multiplied by the reduction in adjusted gross income. This represents a *secondary* federal tax offset for a backward shifted tax.

Allocation of Burden Among Taxes. The problem of measuring the burden of sales taxes and income taxes separately is complicated by the deductibility of one tax in determinig the base of the others when individuals itemize deductions. For one who itemizes deductions on state income tax returns, the real burden of the sales tax is reduced by the product of the state marginal tax rate and the allowable sales tax deduction. Accordingly, the burden of the state individual income tax is increased by an equal amount. Of course, when the combined burden of the two taxes is considered this shift between taxes cancels out.

To the extent that individual income recipients itemize deductions for federal income taxes, a portion of the burden (equal to the marginal federal income tax rate multiplied by the state tax payments) of both individual income tax and the sales tax is exported to the federal tax structure. Put another way, actual sales tax payments and state income payments overstate the real burden of these taxes as their payment reduces federal income tax payments. For some sixteen states (Kentucky included), federal income taxes are deductible in arriving at the state income tax base. Thus, to the extent that federal income tax payments are reduced, the real burden of the state income tax is increased by the product of the marginal state tax rate and the reduction of federal tax payments. These burden shifts are recorded in Table I and III. It is important to note that these burden shifts are contingent upon taxpayers itemizing deductions.

Data Sources and Measurement Problems. The basic sources of data for income and individual income taxes are the IRS individual income master file (IMF) tape for Kentucky for 1980, and the Kentucky audit file tape. Taxpayers were classified into fourteen income classes on the basis of adjusted gross income; that is income from all sources after adjustments to income. The lowest represents returns with adjusted gross income les than $3,000, and the highest represents returns with adjusted gross income of $35,000 and above. Dividend income, and wage and salary income by income class also were obtained from the IMF tape.

For welfare comparisons, a more relevant concept of income would be that of personal income which would include such money transfers as unemployment compensation and social security benefits (Pechman and Okner, 1974). An even broader concept of income would include the value of in-kind transfers, such as food stamps and Medicare (Browning, 1976). These data were not available for Kentucky by income class and, consequently, the narrower concept of adjusted gross income was used. The effect of using the narrower income concept is to overstate the burden of the tax structure on lower income groups where transfer income is a relatively more important source of

income and, thus, to overstate the regressivity of the tax structure. An approximate adjustment is made to bring the income measure closer to that of total personal income to facilitate determining the net burden.

A potentially serious problem arises in estimating the distribution of the sales tax, the motor vehicle usage tax, and that portion of the corporte income tax which is shifted forward. Data on expenditures for Kentucky consumers by expenditure category and by income class simply are not available. Estimates of expenditures subject to the Kentucky sales tax, expenditures on motor vehicles, and total consumer expenditures were taken from the 1972-1973 edition of the *Consumer Expenditure Survey* (U.S. Department of Labor, Bureau of Labor Statistics, Interview Survey Summary Use Tape), and adapted to the Kentucky adjusted gross income distribution. This involved the implicit assumption that the 1980 distribution of consumer expenditures was the same in Kentucky as that of the 1973 sample of consumer units in the South and North Central regions, the two subsets of the national sample which we used.

Using the methodology and data described above, the incidence of a major part of Kentucky's tax structure is estimated by income group for each tax separately and the taxes taken together.

Incidence Results

Incidence of Motor Vehicle Usage and Sales Use Tax. The motor vehicle usage tax has been combined with the sales and use tax in Table I. Column one represents the allocation of the 1980 total receipts from the two taxes by income class and is based on the 1972-1973 *Consumer Expenditure Survey.* Estimates of the burden of the two taxes which is shifted to the Kentucky individual income tax is recorded in column two while column three contains estimates of the federal income tax offset. Note that the dollar amounts in each column rise with income, because effective marginal tax rates rise and the proportion itemizing rises with income. The net burden of the two taxes by income class is obtained by subtracting column two and three from column one and is recorded as column four.

The net burden of the two taxes (column four) as a percentage of adjusted gross income is presented in column five. The high burden (27.1 percent for the less than $3,000 income class) in the lowest income classes overstates the regressivity of the taxes both because adjusted gross income is a smaller percentage of total personal income at the lower end of the income spectrum, and because the expenditure attributable to this class probably has been overstated. Even allowing for this qualification, the regressivity of these two taxes is pronounced. The average, net burden is 2.9 percent of adjusted gross income, but the net burden on all income classes below $25,000 exceeds the mean, declining steadily as

Table I

Burden of the Kentucky Sales and Use and Motor Vehicle Usage Taxes by Income Class, 1980

Income Class	Gross Burden	Kentucky Income Tax Offset	Federal Income Tax Offset	Net Burden	Net Burden as a Percentage of Adjusted Gross Income
	(1)	(2)	(3)	(4)	(5)
Less than $ 3,000[a]	$ 28,404,755	$ 198,401	$ 45	$ 28,206,309	27.1
$ 3,000 - 3,999	17,090,608	236,346	15,027	16,839,235	8.2
4,000 - 4,999	14,078,975	231,798	31,717	13,795,461	5.4
5,000 - 5,999	16,959,635	357,024	64,074	16,538,537	5.3
6,000 - 6,999	19,563,064	452,267	114,979	18,995,818	4.7
7,000 - 7,999	20,861,817	529,289	182,055	20,150,474	4.7
8,000 - 9,999	40,773,089	1,196,395	619,649	38,967,045	4.2
10,000 - 11,999	40,968,437	1,373,873	1,031,394	38,560,171	4.1
12,000 - 13,999	59,711,781	2,334,232	2,578,479	54,799,070	3.7
15,000 - 19,999	103,136,394	4,695,447	8,226,282	90,214,666	3.3
20,000 - 24,999	103,794,473	5,262,685	14,709,688	83,822,101	3.0
25,000 - 29,999	82,866,638	4,448,968	17,670,638	60,747,032	2.5
30,000 - 34,999	59,829,569	3,296,200	17,073,827	39,459,542	2.1
$35,000 & above	109,017,029	6,192,717	45,612,541	57,211,771	1.1
Total	$717,056,265	$30,815,640	$107,933,396	$578,307,230	2.9[b]

[a]The burden on the lowest income groups is exaggerated because gross income does not include transfer income.
[b]Total Net Burden as a Percentage of Total Adjusted Gross Income

income increases. By contrast, the net burden on the highest income class ($35,000 and above) is only 1.1 percent of adjusted gross income.

Incidence of the Corporate Income Tax. Estimates of the burden of the Kentucky corporate income tax are presented in Table II. It is assumed that the tax is one-third shifted forward in the form of higher prices to Kentucky consumers and two-thirds shifted backward; one-third in the form of lower wage and salary payments to Kentucky employees, and one-third in the form of lower dividend income to Kentucky dividend recipients.

Column one represents the distribution of one-third of the corporation income tax to wages and salaries. As wages and salaries are reduced by this amount, the federal income tax payments of affected employees are reduced by an amount equal to the marginal federal individual income tax rate multiplied by the reduced income. This secondary offset, calculated by multiplication of column one by the average of marginal federal income tax rates for each class, is recorded as column two. The net burden of the tax on wage and salary recipients is obtained by subtracting column two from column one and is entered in column three.

Column four represents the distribution of one-third of the corporation income tax by consumption expenditures. As this portion of the tax is shifted forward and not backward, no secondary offset results. Columns five, six, and seven represent the distribution of one-third of the tax on the basis of the distribution of dividend income. Again, a secondary offset is relevant.

The net burden and the net burden as a percentage of adjusted gross income are presented in columns eight and nine respectively. By our estimates, even allowing for the absence of transfer payments in the income base, the corporate income tax is mildly regressive. Perhaps more important, however, is the fact that because of the primary and secondary federal offsets, the mean burden of the tax is only about 0.5 percent of adjusted gross income.

Incidence of the Individual Income Tax. The primary burden of the Kentucky individual income tax is borne by the taxpayer who incurs the statutory liability. Column one of Table III contains the distribution of Kentucky individual income tax payments by income class. This distribution does not include the $69,821,250 paid by non-residents which is not properly part of the burden on residents. Column two represents that part of the burden of the motor vehicle usage tax, and the sales and use tax that is shifted to the Kentucky individual income tax and is identical to column two of Table I, except that it is added to calculate the net burden of the income tax. The federal tax offset is contained in column three. The column total, $80,416,270, represents the amount of the Kentucky individual income tax which is exported to the federal income tax structure.

To obtain the net burden of the tax, which is recorded in column four by income class, column two is added to column one and column three is subtracted. At the lower end of the income scale, the burden shift from sales tax, and motor vehicle usage tax outweighs the burden shift to the federal income tax. The net burden of the Kentucky individual income tax as a percentage of adjusted gross income is presented in column five. The mean burden is 2.3 percent of adjusted gross income. The tax is progressive up to an income of about $15,000, rising from 1.2 percent of adjusted gross income in the lowest class, to 3.6 percent of adjusted gross income in the $12,000 to $14,999 income class. For incomes above $20,000, the income tax becomes regressive, falling to 1.3 percent of adjusted gross income in the $35,000 over income class. This pattern occurs for three reasons. First, despite the nominal progressivity in rates, the maximum marginal rate (6 percent) is reached at a Kentucky adjusted gross income of $8,000. Second, as income rises, itemized deductions rise faster than income. Third, and most important, the federal income tax deduction, coupled with steeply progressive federal rates, prevents state income tax payments from rising in proportion to income.

Incidence of the Five Taxes. The combined burden of the taxes now can be examined for Kentuckians and non-Kentuckians. Results regarding the exporting of the sales, motor vehicle usage, corporate income, and individual income taxes are summarized in Table IV. It is estimated that the total, $308,088,910, or 20.9 percent of the total gross burden of these taxes is exported, largely through federal tax offsets.

For Kentucky residents, Table V presents our estimates of the combined burden of the five taxes on a percentage basis. The first three columns are the last columns of Tables I, II, and III, respectively, and are included to highlight the contribution of each of the respective taxes to the total tax burden by income class. Column four is calculated by summing the estimated net dollar burdens by income class and dividing adjusted gross income class. As explained earlier, the entire inheritance and estate tax payments are added to the burden of the highest income class.

An examination of column four reveals that when adjusted gross income is used as the base, the five taxes combined are regressive. The net burden as a percentage of adjusted gross income falls sharply over the first two income classes, then, for incomes in the $4,000 to $15,000 ranges it remains approximately constant, falling steadily for incomes above $15,000. The five taxes combined are regressive for the lowest quintile of the income distribution, proportinal for the three middle quintiles, and regressive for the highest quintile. This result should hardly be surprising.

Table II

Burden of the Kentucky Corporation Income Tax By Income Class, 1980[a]

Income Class	Portion of Tax Allocated by Wages & Salaries			Portion of Tax Allocated by Consumption	Portion of Tax Allocated by Dividend Income			Total	Net Burden as a Percentage of Adjusted Gross Income
	Gross Burden	Secondary Offset	Net Burden	Net Burden	Gross[c] Burden	Secondary Offset	Net Burden	Net Burden	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Less than $ 3,000[b]	$ 880,115	$ 995	$ 879,120	$ 2,938,570	$ 572,563	$ 647	$ 571,916	$ 4,389,606	4.22
$ 3,000 - 3,999	530,789	31,662	499,128	1,390,982	109,384	6,525	102,859	1,992,969	0.97
4,000 - 4,999	624,767	58,353	566,414	1,235,282	139,772	13,055	126,717	1,928,413	0.76
5,000 - 5,999	763,579	86,303	677,576	1,408,872	171,604	19,388	152,216	2,238,664	0.71
6,000 - 6,999	1,019,226	138,666	880,561	1,554,248	227,155	30,904	196,251	2,631,059	0.66
7,000 - 7,999	1,088,762	166,693	922,090	1,617,891	239,737	36,704	203,033	2,743,014	0.64
8,000 - 8,999	2,355,010	403,908	1,951,102	3,103,144	517,837	88,814	429,022	5,483,269	0.60
10,000 - 11,999	2,475,573	474,023	2,001,551	3,030,370	529,249	101,341	427,909	5,459,829	0.58
12,000 - 14,999	3,963,143	836,937	3,126,207	4,446,237	848,394	179,164	669,230	8,241,674	0.55
15,000 - 19,999	7,391,478	1,772,772	5,618,706	7,205,577	1,665,162	399,373	1,265,790	14,090,073	0.52
20,000 - 24,999	7,746,986	2,143,746	5,603,240	7,045,409	1,534,535	424,636	1,109,898	13,758,548	0.49
25,000 - 29,999	6,519,574	2,178,376	4,641,197	5,488,019	1,391,531	444,497	947,034	11,076,251	0.45
30,000 - 34,999	5,174,962	1,589,508	3,265,454	3,898,741	1,331,030	485,992	845,038	8,029,233	0.43
$35,000 & above	10,761,077	5,050,066	5,711,011	7,232,020	18,353,543	8,721,071	9,662,472	22,605,503	0.45
Total	$51,593,363	$15,232,007	$36,363,356	$51,595,363	$27,861,496	$10,952,110	$16,909,386	$104,868,104	0.53[d]

[a]Burden of the tax is allocated ⅓ on the basis of consumption expenditure, ⅓ on the basis of wage and salary income and ⅓ on the basis of dividend income.
[b]The burden on the lowest income groups is exaggerated because adjusted gross income does not include transfer income.
[c]Primary Federal Tax Offset deducted.
[d]Total burden as a percentage of total adjusted income.

Table III

Burden of the Kentucky Individual Income Tax by Income Class, 1980

Income Class	Gross Burden	Burden Shift from Sales and Motor Vehicle Usage Taxes	Federal Tax Offset	Net Burden	Net Burden as a Percentage of Adjusted Gross Income
	(1)	(2)	(3)	(4)	(5)
Less than $ 3,000[a]	$ 1,078,918	$ 198,401	$ 2	$ 1,277,318	1.2
$ 3,000 - 3,999	1,969,354	236,346	1,641	2,204,059	1.1
4,000 - 4,999	3,237,024	251,798	6,883	3,481,938	1.3
5,000 - 5,999	5,076,241	357,024	18,070	5,415,195	1.7
6,000 - 6,999	8,144,731	452,267	45,058	8,551,941	2.1
7,000 - 7,999	10,784,263	529,289	88,545	11,225,006	2.6
8,000 - 9,999	27,025,205	1,186,395	386,309	27,825,291	3.0
10,000 - 11,999	31,378,038	1,373,873	745,026	32,006,885	3.4
12,000 - 14,999	53,228,135	2,334,232	2,161,186	53,401,181	3.6
15,000 - 19,999	91,668,440	4,695,447	6,874,109	89,489,778	3.3
20,000 - 24,999	79,891,853	5,262,683	10,644,014	74,510,522	2.7
25,000 - 29,999	56,042,584	4,448,968	11,234,716	49,256,836	2.0
30,000 - 34,999	35,197,306	3,296,200	9,443,065	29,050,440	1.5
$35,000 & above	98,547,957	*6,192,717	38,767,645	65,973,029	1.3
Total	$503,270,050	$30,815,640	$80,416,270	$453,669,420	2.3[b]

[a]The burden on the lowest income groups is exaggerated because adjusted gross income does not include transfer income.
[b]Total net burden as a percentage of total adjusted gross income.

Table IV

Taxes Exported Under Existing Tax Structure, 1980

Tax & Source of Export	Total Exported	As a Percentage of Respective Tax	As a Percentage of Total of 5 Taxes
Sales and Motor Vehicle Usage			
Federal Income Tax Offset	$107,933,396	15.05	7.32
Corporation Income Tax			
Primary Federal Offset	23,733,867	15.31	1.61
Secondary Federal Offset	26,184,117	16.92	1.78
Individual Income Tax			
Federal Income Tax Offset	80,416,270	14.03	5.46
Nonresident Taxpayers	69,821,260	12.18	4.74
Total	$308,088,910		20.91

Table V

Net Combined Burden of Sales and Use Tax, Motor Vehicle Usage Tax, Corporation Income Tax, Individual Income Tax, and Estate and Inheritance Tax by Income Class, 1980

	Net Burden of Sales & Use and Motor Vehicle Usage Tax As a Percentage of Adjusted Gross Income	Net Burden of Corporation Income Tax As a Percentage of Adjusted Gross Income	Net Burden of Individual Income Tax As a Percentage of Adjusted Gross Income	Net Combined Burden As a Percentage of Adjusted Gross Income	Net Combined Burden As a Percentage of Approximate Total Income
	(1)	(2)	(3)	(4)	(5)
Less than $ 3,000	27.1	4.22	1.2	32.6	11.4
$ 3,000 - 3,999	8.2	0.97	1.1	10.3	3.6
4,000 - 4,999	5.4	0.76	1.3	7.6	5.5
5,000 - 5,999	5.3	0.71	1.7	7.7	5.5
6,000 - 6,999	4.7	0.66	2.1	7.5	5.4
7,000 - 7,999	4.7	0.64	2.6	8.0	6.6
8,000 - 9,999	4.2	0.60	3.0	7.9	6.6
10,000 - 11,999	4.1	0.58	3.4	8.0	6.6
12,000 - 14,999	3.7	0.55	3.6	7.8	6.5
15,000 - 19,999	3.3	0.52	3.3	7.2	6.3
20,000 - 24,999	3.0	0.49	2.7	6.2	5.7
25,000 - 29,999	2.5	0.45	2.0	4.9	4.5
30,000 - 34,999	2.1	0.43	1.5	4.1	3.8
$35,000 & above	1.1	0.45	1.3	3.5	3.2
Total[a]	2.9	0.53	2.3	5.9	4.8

[a]Total Net Burden as A Percentage of Total Adjusted Gross Income for columns 1 through 4 and approximate total income for column 5.

When considered separately, only the individual income tax showed any degree of progressivity and it became regressive at incomes above $20,000.

Throughout this study we have used adjusted gross income as the income base recognizing its shortcomings. To get some idea of the overregressiveness of our results, the relative burden is recalculated using Browning's (1978, p. 656) national estimates of the share of transfer income in total income by income class. These results are presented as column five of Table V. The base income is increased and, consequently, the relative burden is decreased for each income class. For the lowest income classes, however, income is increased more and relative net burden is decreased more than for middle or higher income classes. The reason is that transfer income is the largest percentage (65 percent) of total income for those with adjusted gross income less than $4,000 and declines to only a small percentage (8 percent) for those with adjusted gross income greater than $20,000.[2] While the basic conclusion regarding the regressivity of the five taxes is unaltered, the degree of regressivity is reduced.

[2]For a review of the importance of transfer income see Danziger, Haveman and Plotnick (1981).

Conclusions

This study has presented estimates of the incidence, or distribution by income class of the burden of five Kentucky taxes which together account for 65 percent of state revenue. As with any incidence study, assumptions must be made regarding tax shifting. Particularly controversial are the assumptions pertaining to the shifting of the corporate income tax. We have adopted the posture that assumptions which are applicable at the federal level are not appropriate for a state corporate income tax.

Incidence studies also are hindered by data and measurement problems. This study benefited from a rich source of tax data available through the Kentucky Revenue Cabinet. The estimates of expenditure on motor vehicles and on items subject to the sales tax based on the 1972-1973 *Consumer Expenditure Survey*, however, must be viewed with caution. Another potential shortcoming is the lack of reliable data on total income.

The conclusion that a state tax structure is regressive is neither new nor surprising. A surprising aspect of this study is that the Kentucky state income tax, while nominally progressive, becomes regressive for incomes above $20,000. The relatively low income at which the maximum rate becomes effective combined

with federal tax deductibility produces this result. Another result which we found surprising was the degree of regressivity of the sales tax. While our conclusions must be qualified, as adjusted gross income is used as the base, one would expect that the exemptions of food, prescription drugs, and utilities would reduce the regressivity of the sales tax. The deductibility of the sales tax from both federal and state income taxes, however, increased its regressivity.

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SUNSETTING TAX EXEMPTIONS: THE WASHINGTON STATE EXPERIENCE

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It started in Colorado: somebody woke up one day with the idea that government was too big. Somebody else observed that it was the fault of government itself; while new governmental programs were being created in response to changing demands, old programs continued merrily along without examination. And somebody else (wiser than most, and perhaps a student of mass psychology) observed that neither the executive nor legislative branches of government were likely to do anything about it.

The solution was brilliant: require governmental agencies and programs to justify their continued existence or be terminated. Furthermore, require the legislative branch to *affirmatively* approve the continuation of these programs. In action, delay or indifference would result in termination. Existing programs would thereby be forced to compete on the same footing with new programs for scarce tax dollars. Presumably, some would lose out and government would be smaller. At the very least, governmental growth would be related to the *current* demand for governmental services.

This solution became known as the "sunsetting" process. It spread like wildfire among the states. Boards, commissions, agencies, and programs which had outlived their usefulness were terminated, reduced, or merged into other programs. Government became better organized to meet current demands. Everyone congratulated themselves on how wise they had been to institute the sunset process . . . until they tried to sunset tax exemptions in Washington State.

This is a report on what happened. The focus is primarily upon the assigned role of the department of revenue in the sunset process. However, because the sunset process is largely legislative in nature, some attention will be given to legislative reaction and the interaction between the department and the legislature. It will conclude with some personal observations about the utility of the sunset process as applied to reviewing tax exemptions and the role of tax administrators in that process.

Tax Structure

The department administers virtually all significant tax exemptions. This includes exemptions from the property tax, which is otherwise administered locally by elected county assessors. Washington's major

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