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University of Kansas

PROPERTY TAX RELIEF THROUGH A PROPOSED ONE-PERCENT SALES TAX IN DOUGLAS COUNTY AND EFFECTS OF A COUNTYWIDE SALES TAX ON TAXABLE SALES

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INTRODUCTION

This report investigates two issues related to the adoption of a proposed one-percent countywide sales tax: a local property tax relief measure through additional sales tax proceeds (Section I-IV) and the review of literature on the effect of sales tax rate increases on taxable sales (Section V).

In order to estimate the reductions to property taxpayers which the proceeds from a countywide sales tax could generate, a forecast of sales tax revenues and property valuations is necessary to calculate the allocation of sales tax proceeds among local units of government and to determine the respective mill levy reductions. While a forecast of sales tax revenues has been straightforward (see IPPBR Report No. 170), the projection of future property valuations is infeasible due to the structural change in the property tax system in 1989. Generally, a profound structural change prohibits the drawing of conclusions from historical data, no matter which forecasting method is employed. To provide some idea of future growth levels, a forecast was prepared based on time series regression of historical data for property valuations before 1989. However, the forecast has not been used for further calculations.

Although property tax hearings are still under way in the community, which will lead to a drop in total property valuation, the initial $327 million in assessed valuation in Douglas County for 1989 has been used as a basis for calculation. The lack of projections for future property valuations required the use of an estimator for 1990. This was derived from the valuation for 1989 plus the assessed value for new construction. The allocation of sales tax proceeds and the calculation of reduced mill levy rates for 1991 have been based on this estimator.

I. Property Tax Valuation and Problems of Forecasting

Over the past ten years, the assessed property valuations within Douglas County have grown moderately at an average rate of 3 percent annually (see Table 1). For the period 1980-1988, total real estate property, including state assessed utilities, constituted 80 percent of total property valuation.

Statewide reappraisal and reclassification led to a steep rise in property valuation in 1989 (see Figure 1). Douglas County showed a 42.1 percent increase from 1988, and Lawrence, a 49.7 percent increase (see Tables 1 and 2). As a consequence of reclassification, total real estate property increased its share of total valuation from 80 percent in 1988 to 91 percent in 1989 in Douglas County and from 75 to 92 percent in Lawrence.

The structural change in the property tax system in 1989 is a hindrance to forecasting future property tax valuations based on historical data. The predictive power of historical data used in forecasts is eliminated through a structural change such as the statewide reappraisal in Kansas. A standard forecast would predict exponential growth given the 42 percent increase in property valuation last year.

Since the outcome of taxpayer appeals regarding property tax appraisals is not known, a forecast of property tax valuation based on historical data from 1980 to 1988 has been prepared to give an indication of growth rates and future growth levels (see Figure 1). The forecast, which is based on time series regression shows future property tax valuations without the impact of reappraisal and reclassification. Thus, the 1989 valuation is a forecasted figure based on historical data. The reliability of the forecast is within a confidence interval of plus or minus $7.9 million at the 95 percent confidence level.

Figure 1

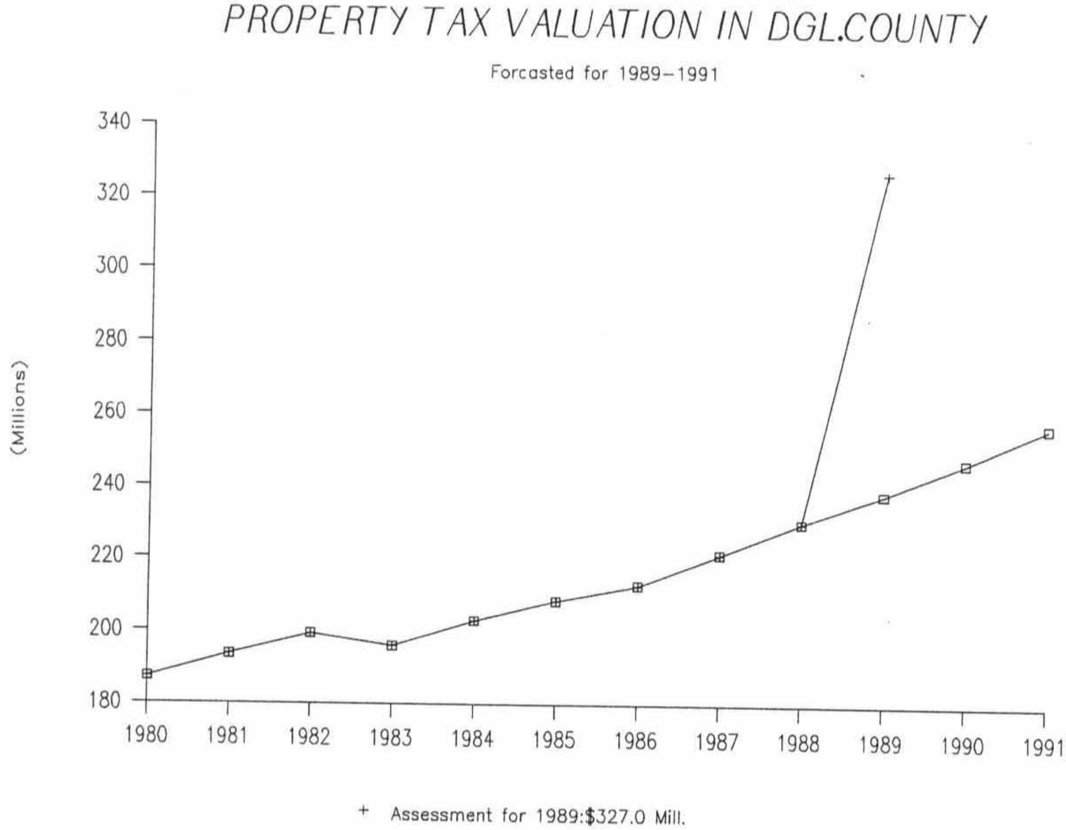
PROPERTY TAX VALUATION IN DGL.COUNTY
Forcasted for 1989–1991
(Millions)
340
320
300
280
260
240
220
200
180
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
+ Assessment for 1989:$327.0 Mill.

TABLE 1
PROPERTY TAX VALUATION IN DOUGLAS COUNTY
(Valuation in Millions)

CAL YEAR	TOTAL VALUATION	Annual Percent Change	REAL ESTATE	TOTAL REAL PROPERTY*	Real Property as Percent of of Total
1980	$187.2		$115.9	$155.3	83.0%
1981	$193.4	3.3%	$119.1	$158.1	81.7%
1982	$199.3	3.1%	$121.0	$158.7	79.6%
1983	$196.0	-1.7%	$122.1	$158.7	81.0%
1984	$203.0	3.6%	$125.8	$162.2	79.9%
1985	$208.4	2.7%	$129.3	$166.2	79.8%
1986	$212.8	2.1%	$132.4	$169.8	79.8%
1987	$221.5	4.1%	$138.1	$178.1	80.4%
1988	$230.1	3.9%	$144.0	$184.5	80.2%
1989	$327.0	42.1%	$259.2	$300.1	91.8%

* includes state-assessed utilities.
Note: Figures are not adjusted for inflation.

Source: Douglas County Budget Office.

Figure 2

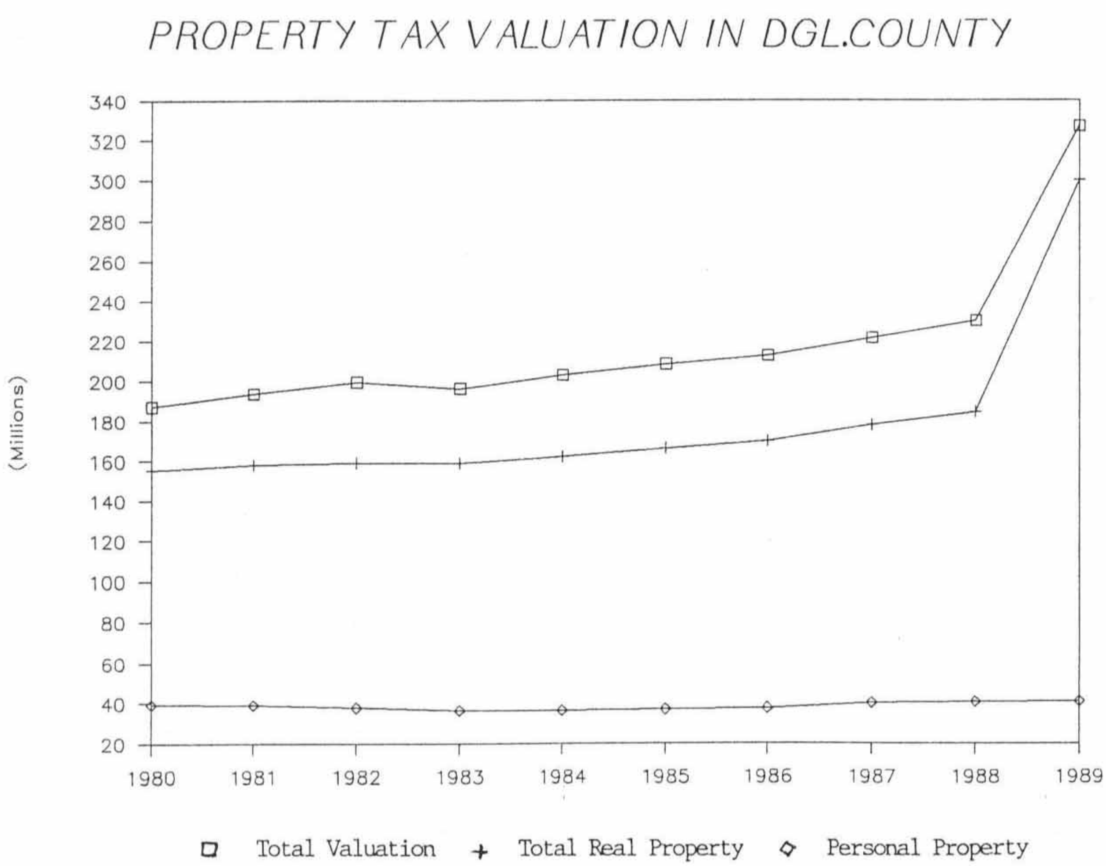

TABLE 2
PROPERTY TAX VALUATION IN LAWRENCE
(Valuation in Millions)

CAL YEAR	TOTAL VALUATION	Annual Percent Change	REAL ESTATE	TOTAL REAL PROPERTY*	Real Property as Percent of of Total
1980	$113.5		$81.5	$91.0	80.1%
1981	$119.5	5.3%	$83.3	$94.0	78.7%
1982	$126.2	5.7%	$85.8	$95.8	75.9%
1983	$128.4	1.7%	$87.8	$97.8	76.2%
1984	$134.4	4.7%	$91.0	$100.5	74.8%
1985	$138.3	2.9%	$93.9	$103.6	74.9%
1986	$142.4	2.9%	$96.8	$106.6	74.9%
1987	$148.9	4.6%	$102.0	$112.8	75.7%
1988	$156.3	5.0%	$107.1	$118.1	75.6%
1989	$234.1	49.7%	$203.1	$215.1	91.9%

* includes state-assessed utilities.
Note: Figures are not adjusted for inflation.

Source: Douglas County Budget Office.

An estimate for the net increase in property tax valuation in 1990 can be derived from the valuation of building permits for new construction issued during 1989. Assuming a one year lag to account for the construction period, the tax base for Lawrence and the unincorporated area of Douglas County should increase by approximately $10.5 million in assessed valuation in 1990[1]. The different assessment ratios for residential and commercial property are hereby taken into consideration, but there could be deviations from this figure due to exemptions of property categorized as commercial construction by the Lawrence Building Inspection Department (e.g. churches).

TABLE 3

ESTIMATED INCREASE IN PROPERTY TAX VALUATION IN 1990

(Valuation in Millions)

	VALUATION OF BUILDING PERMITS				ASSESSED VALUE FOR NEW CONSTRUCTION
	Lawrence		Douglas County Unincorp. Area		
Year	Residential	Commercial	Residential	Commercial	
1989	$25.66	$22.76	$4.61	$0.16	NA
1990 est.					$10.51

Source: Calculated from data provided by the Lawrence Building Inspection Department and Douglas County Office of Zoning.

[1] Valuation of building permits for Eudora, Baldwin and Lecompton are not available.

II. Allocation of Proceeds from a One-Percent Sales Tax

Imposing a one-percent countywide sales tax has been discussed as a funding source for property tax relief. Projections of the proceeds of a one-percent sales tax have been prepared in IPPBR Research Paper No. 170.

Table 4 shows the allocation of revenues from a one-percent countywide sales tax for the local units of government, assuming that such a sales tax had already been in place for 1990. Total sales tax revenues are projected to generate $5.6 million in 1990, representing approximately 0.5 percent of total personal income in Douglas County and a per-capita payment of approximately $73 (with a projected population of 75,872 for 1990). Tables 5A and 5B contain the calculation for the proportionate allocation of proceeds. The allocation is based on a formula that distributes half of the sales tax proceeds according to the respective tax shares and the other half according to population shares.

TABLE 4

REVENUES FROM A PROPOSED ONE-PERCENT SALES TAX (IN MILLIONS)

	1990	1991
Douglas County	$1.981	$2.333
City of Lawrence	$3.301	$3.198
Baldwin City	$0.127	$0.112
Eudora City	$0.134	$0.114
Lecompton	$0.031	$0.027
Total	$5.576	$5.794

Source: Summarized from Tables 5A and 5B.

Table 5A

TAX SHARES AND POPULATION SHARES FOR PROPERTY TAX ALLOCATION FOR 1990 BUDGETS

MUNICIPALITY	PROPERTY TAX VALUATION 1989	MILL LEVY	TAX LEVY	TAXATION SHARE	POPULATION SHARE 1986
Douglas County	$326,986,052	27.13	$8,871,132	54.71%	16.35%
City of Lawrence	$234,075,861	30.33	$7,099,521	43.79%	74.65%
Baldwin City	$6,205,230	18.63	$115,603	.71%	3.85%
Eudora City	$6,889,434	12.91	$88,943	.55%	4.29%
Lecompton City	$1,210,058	32.06	$38,794	.24%	.86%
TOTAL			$16,213,993	100.00%	100.00%

Note: Valuation implies real estate and personal property.

APPORTIONMENT OF REVENUES OF A PROPOSED ONE PERCENT COUNTYWIDE SALES TAX

Projected One Percent Sales Tax Revenues for Calender 1990: $5,574,661

MUNICIPALITY	TAXATION SHARE	ALLOCATION BY TAX SHARES	POPULATION SHARE 1986	ALLOCATION BY POP. SHARE	SALES TAX REVENUES 1990
Douglas County	54.71%	$1,525,027	16.35%	$455,729	$1,980,755
City of Lawrence	43.79%	$1,220,471	74.65%	$2,080,742	$3,301,213
Baldwin City	.71%	$19,873	3.85%	$107,312	$127,185
Eudora City	.55%	$15,290	4.29%	$119,576	$134,867
Lecompton City	.24%	$6,669	.86%	$23,971	$30,640
TOTAL	100.00%	$2,787,331	100.00%	$2,787,331	$5,574,661

Note: One half of the revenues generated by a countywide sales tax are apportioned
The other half is apportioned according to population share.

Table 5B

TAX SHARES AND POPULATION SHARES FOR PROPERTY TAX ALLOCATION FOR 1991 BUDGETS

Assumptions:

1. Total property tax valuation increases from 1989 by $10.513 million for Douglas County and by $9.912 million for Lawrence according to the increase in the valuation of building permits in 1989.
2. The total amount of property and sales taxes levied for 1991 in each community is equal to the tax revenues that would have been levied when applying 1989 mill levy rates.
3. All sales tax proceeds are devoted towards property tax relief.
4. No drop in sales tax collections or in the property tax base in the future.

MUNICIPALITY	PROPERTY TAX VALUATION Estimate for 1990	MILL LEVY	TAX LEVY	TAXATION SHARE	POPULATION SHARE 1986
Douglas County	$337,499,052	27.13	$9,156,349	54.50%	16.35%
City of Lawrence	$243,987,861	30.33	$7,400,152	44.05%	74.65%
Baldwin City	$6,205,230	18.63	$115,603	.69%	3.85%
Eudora City	$6,889,434	12.91	$88,943	.53%	4.29%
Lecompton City	$1,210,058	32.06	$38,794	.23%	.86%
TOTAL			$16,799,842	100.00%	100.00%

Note: Valuation implies real estate and personal property.

APPORTIONMENT OF REVENUES OF A PROPOSED ONE PERCENT COUNTYWIDE SALES TAX

Projected One Percent Sales Tax Revenues for Calender 1991: $5,794,235

MUNICIPALITY	TAXATION SHARE	ALLOCATION BY TAX SHARES	POPULATION SHARE 1986	ALLOCATION BY POP. SHARE	SALES TAX REVENUES 1991
Douglas County	54.50%	$1,579,004	16.35%	$473,679	$2,052,683
City of Lawrence	44.05%	$1,276,149	74.65%	$2,162,698	$3,438,848
Baldwin City	.69%	$19,936	3.85%	$111,539	$131,475
Eudora City	.53%	$15,338	4.29%	$124,286	$139,624
Lecompton City	.23%	$6,690	.86%	$24,915	$31,605
TOTAL	100.00%	$2,897,118	100.00%	$2,897,118	$5,794,235

Note: One half of the revenues generated by a countywide sales tax are apportioned according to tax shares. The other half is apportioned according to population share.

III. Reductions of Future Property Mill Levy Rates through Sales Tax Proceeds

The reduction of property mill levy rates through sales tax proceeds is a general property tax relief measure that is not targeted to specific groups of property owners as is the "circuit breaker" approach discussed by the State legislature. It would, instead, grant property tax relief for all property owners.

In order to devote sales tax proceeds to property tax relief, Douglas County's communities would have to reduce their respective mill levy rates in accordance with the additional revenues generated from a countywide sales tax. Assuming that the county and its four municipalities all direct their proceeds from a one-percent local sales tax towards property tax relief, the respective mill levies would be reduced substantially in the future (see Table 6). The calculation of mill levy rate reductions for 1990 and 1991 is shown in Table 7. A projection of revenues from a one-percent countywide sales tax and an estimator for 1990 property tax valuation have been used in the calculation (see Section I).

TABLE 6

DOUGLAS COUNTY'S MILL LEVY RATES

	1988	1989	1990	1991
Douglas County	34	27.13	21.07	21.05
City of Lawrence	43.83	30.33	16.23	16.24
Baldwin City	30.48	18.63	0	0
Eudora City	22.12	12.91	0	0
Lecompton City	35.73	32.06	6.74	5.94

Note: Figures for 1990 and 1991 represent reduced rates assuming all five local jurisdictions devote their one-percent sales tax proceeds towards mill levy rate reduction.

As can be seen from Tables 5A and 5B, Baldwin and Eudora could eliminate their property tax levy by 1990 since sales tax revenues would surpass property tax revenues in these communities. Douglas County's mill levy rate would see a reduction of 6.06 mills, and the City of Lawrence could reduce the levy from 30.33 mills in 1989 to 16.23 mills in 1990.

Table 6 shows that sales tax proceeds would lead to a one-time mill levy reduction. The reduced levels of county and municipal mill levy rates can only be maintained in the future if all sales tax proceeds are devoted towards property tax relief in the years ahead and if there is no drop in taxable retail sales or in the property tax base in the community.

TABLE 7

REDUCTION OF MILL LEVY RATES THROUGH SALES TAX PROCEEDS IN 1990

MUNICIPALITY	TAX LEVY	REVENUES FROM SALES TAX 1990	DIFFERENCE	REDUCED MILL LEVY for 1990
Douglas County	$8,871,132	$1,980,755	$6,890,376	21.07
City of Lawrence	$7,099,521	$3,301,213	$3,798,307	16.23
Baldwin City	$115,603	$127,185	($11,582)	-1.87
Eudora City	$88,943	$134,867	($45,924)	-6.67
Lecompton City	$38,794	$30,640	$8,154	6.74
TOTAL	$16,213,993	$5,574,661	$10,639,332	

REDUCTION OF MILL LEVY RATES THROUGH SALES TAX PROCEEDS IN 1991

MUNICIPALITY	TAX LEVY	REVENUES FROM SALES TAX 1991	DIFFERENCE	REDUCED MILL LEVY for 1991
Douglas County	$9,156,349	$2,052,683	$7,103,666	21.05
City of Lawrence	$7,400,152	$3,438,848	$3,961,304	16.24
Baldwin City	$115,603	$131,475	($15,871)	- 2.56
Eudora City	$88,943	$139,624	($50,682)	- 7.36
Lecompton City	$38,794	$31,605	($7,189)	- 5.94
TOTAL	$16,799,842	$5,794,235	$11,005,607	

IV. Actual Amounts of Property Tax Relief through Sales Tax Proceeds by Various Classes and Types of Property Owners

Assuming that the proceeds from a one-percent countywide sales tax would be collected for 1990 and devoted to property tax relief through a general mill levy reduction, the revenues from a sales tax would translate into significant tax bill decreases for all classes and types of property owners. Residential and commercial property owners alike would receive the same reduction of taxes within a community (see Table 8). In Baldwin, Eudora and Lecompton, relative reductions would amount to 22, 17 and 25 percent, respectively. In Lawrence, property tax bills would be reduced by 16 percent. Townships would only benefit from the reduction of Douglas County's mill levy,and tax bills would decrease by about 6 percent (see Table 9 for Wakarusa and Clinton Townships).

The actual amounts of property taxes to be paid under the reduced mill levy schedule is shown in Tables 9 and 10 for fictive values of residential and commercial property.

TABLE 8

RELATIVE REDUCTIONS OF PROPERTY TAXES IN 1990 THROUGH PROCEEDS OF A PROPOSED ONE-PERCENT COUNTYWIDE SALES TAX

South Lawrence	-16.0%
Baldwin	-22.0%
Eudora	-17.6%
Lecompton	-24.8%
Wakarusa Township	- 5.6%
Clinton Township	- 5.9%

Note: Property tax amounts are based on the following county taxing units: Lawrence: 041, Baldwin: 001, Eudora: 020, Lecomption: 080, Wakarusa Township: 504, Clinton Township: 101.

TABLE 9

RESIDENTIAL PROPERTY TAXES BASED ON 1989 ASSESSMENT

MARKET VALUE	ASSESSED VALUE*	South Lawrence	Baldwin	Eudora	Lecompton	Wakarusa	Clinton
$50,000	$6,000	$ 755	$ 672	$ 645	$ 758	$ 652	$ 620
$75,000	$9,000	$1,132	$1,008	$ 968	$1,137	$ 978	$ 930
$100,000	$12,000	$1,510	$1,344	$1,290	$1,516	$1,305	$1,240
$150,000	$18,000	$2,264	$2,017	$1,935	$2,274	$1,957	$1,860

PROPOSED TAX REDUCTIONS FOR RESIDENTIAL PROPERTY OWNERS
(assuming the 1990 proceeds of a one-percent countywide sales tax would be devoted towards mill levy rate reductions by all parties)

			PROPERTY TAX AMOUNTS AFTER REDUCTION				
MARKET VALUE	ASSESSED VALUE*	South Lawrence	Baldwin	Eudora	Lecompton	Wakarusa	Clinton
$50,000	$6,000	$634	$524	$531	$570	$616	$584
$75,000	$9,000	$951	$786	$797	$855	$924	$875
$100,000	$12,000	$1,268	$1,048	$1,062	$1,139	$1,232	$1,167
$150,000	$18,000	$1,902	$1,572	$1,594	$1,709	$1,848	$1,751

* 12% assessment rate

Note: Property tax amounts are based on the following county taxing units:
Lawrence: 041, Baldwin: 001, Eudora: 020, Lecomption: 080,
Wakarusa Township: 504, Clinton Township: 101.

TABLE 10

COMMERCIAL PROPERTY TAXES BASED ON 1989 ASSESSMENT

		PROPERTY TAXES			
MARKET VALUE	ASSESSED VALUE*	South Lawrence	Baldwin	Eudora	Lecompton
$75,000	$22,500	$2,831	$2,521	$2,419	$2,842
$100,000	$30,000	$3,774	$3,361	$3,225	$3,790
$250,000	$75,000	$9,435	$8,402	$8,063	$9,475
$500,000	$150,000	$18,870	$16,805	$16,125	$18,950

PROPOSED TAX REDUCTIONS FOR COMMERCIAL PROPERTY OWNERS
(assuming the 1990 proceeds of a one-percent countywide sales tax would be devoted towards mill levy rate reductions by all parties)

		PROPERTY TAX AMOUNTS AFTER REDUCTION			
MARKET VALUE	ASSESSED VALUE*	South Lawrence	Baldwin	Eudora	Lecompton
$75,000	$22,500	$2,377	$1,965	$1,992	$2,136
$100,000	$30,000	$3,169	$2,620	$2,656	$2,849
$250,000	$75,000	$7,923	$6,551	$6,640	$7,121
$500,000	$150,000	$15,846	$13,101	$13,280	$14,243

* 30% assessment rate for commercial real estate.

Note: Property tax amounts are based on the following county taxing units:
Lawrence: 041, Baldwin: 001, Eudora: 020, Lecomption: 080,

V. Impacts of a Local Sales Tax on the Sales Tax Base

This section examines the adverse economic impacts a proposed one-percent countywide sales tax could have on taxable sales and the sales tax base in general. It is based on a review of the more recent literature (see references at the end). Social impacts and a possible regressive tax change through a consumption tax are not part of the investigation.

1. The Income Effect of Sales Taxes

According to general economic theory, sales taxes reduce consumers' disposable incomes and induce changes in the quantity of consumption. The same applies to tax rate increases. This so called income effect will arise when a local sales tax is adopted in Douglas County and negatively affects the local sales tax base. In practice, the income effect of a one-percent sales tax rate increase on the sales tax base is considered marginal and secondary to geographic border effects arising from a reduced sales tax rate differential between neighboring areas.

2. Geographic Border Effects

The economic effects of sales tax rate differentials between local units of governments have received some attention by various scholars. There seems to be a consensus, that a tax-rate differential between counties or municipalities is reflected in a lower demand for taxable goods in the higher-tax jurisdiction. In other words, the sales tax base is likely to decrease as a result of sales tax leakage to places with lower tax jurisdiction.

In theory, Douglas County should not suffer from sales leakage to surrounding areas since the county is currently a low-tax jurisdiction with a

1-1.5 percentage points tax rate advantage over neighboring cities (see Table 11). However, there is evidence of sales leakage attributable to consumer preference for larger metropolitan markets. Although neither the amount of sales lost to neighboring cities nor sales made in Douglas County by non-residents is known, the adoption of a one-percent local sales tax in Douglas County can result in an increase in sales leakage in addition to a slight reduction of the local sales tax base. It can create a further incentive for consumers to compare net-of-tax prices of commodities,

TABLE 11

SALES TAX DIFFERENTIALS BETWEEN DOUGLAS COUNTY'S MUNICIPALITIES AND NEIGHBORING CITIES

Total differentials* in FY 1989
(Percentage Points)

	Cities in Johnson County	Topeka	Kansas City, Kansas
Lawrence	+1	0	+1.5
Baldwin City	+1	0	+1.5
Eudora	+1	0	+1.5
Lecomption	+1.5	+1	+2
Rural Dgl. County	+1.5	+1	+2

Total differentials* after adopting a one-percent countywide sales tax
(Percentage Points)

	Cities in Johnson County	Topeka	Kansas City, Kansas
Lawrence	0	-0.5	+0.5
Baldwin City	0	-0.5	+0.5
Eudora	0	-0.5	+0.5
Lecompton	+0.5	0	+1
Rural Dgl. County	+0.5	0	+1

* Includes municipal and countywide sales tax.

especially for durable goods and some non-durable goods such as clothing. If the price differential between Douglas and neighboring counties (including the cost of transportation) and consumer preference for a larger selection in a metropolitan market outweigh the future tax rate differentials, the cost of the additional tax could be reflected in a decrease in taxable sales in Douglas County.

3. Economic Effects of Sales Tax Rate Differentials: Case Studies

There have been several studies examining sale tax rate differentials and consumer behavior with respect to location of purchases. The works of Fisher (1980), Hamovitch (1966), Mikesell (1970), and others provide evidence of an impact of tax rate differentials on the sales tax base for larger metropolitan areas. The studies are consistent in finding that sales tax rate differentials lead to a statistically noticeable but overall small decrease in taxable sales in the higher-tax jurisdiction. According to studies, the sales tax base i approximately 6 percent lower in response to a one-percent sales tax increase or differential.

A case study by Mikesell and Zorn (1985) examined the effect of a three and one-half year temporary local sales tax in the small city of Bay St. Louis, Mississippi, with a population of about 7,900. A statistical analysis showed that the rate differential of one-half percentage point between the city and the surrounding areas led to a decrease in retail sales in the city. The study concludes that a one percentage point differential lowered taxable sales by about 2.3 percent supposing that there were no other factors leading to a drop in sales (e.g. recession).

Despite a presumable decrease in sales, it is important to notice the increase in government revenues generated through the higher sales tax rate. In fact, the increase in the tax rate offset the slight reduction in the sales tax base in the Bay St. Louis case: a 10 percent increase in the tax rate (from 5.0 to 5.5 percent) was estimated to increase sales tax revenues for local governments by 8.8 percent.

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