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## Comparative Analysis of the Economic Impact on Kansas of a Sales Tax Increase and/or State Spending Reductions

Prepared for

The Kansas Economic Progress Council  
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## Executive Summary

### Background

Kansas House Bill No. 2475 proposes temporarily increasing the state retail sales tax rate from 5.3 percent to 6.3 percent beginning on July 1, 2010 and remaining in effect until July 1, 2013 when the rate would be reduced to 5.5 percent. The fiscal note for this bill submitted by the Kansas Division of the Budget estimates the sales tax increase will generate \$351 million across all state funds for fiscal year 2011.

### Objective

The objective of this research is to analyze the economic impact on Kansas from a retail sales tax increase and/or state spending reductions. This study was conducted at the request of and funded by the Kansas Economic Progress Council. The overall purpose of the study was to provide public officials, businesses, and the general public with information on the economic impact of state spending reductions and/or a state sales tax increase.

### Methods

Economic impact analysis (EIA) traces changes in economic activity resulting from an initial activity. An EIA identifies which economic industries benefit or lose from a change in economic activity and estimates resulting changes in income and employment in the region. The economic impacts of a reduction in state spending and/or a retail sales tax increase were estimated using IMPLAN 3. Three basic scenarios were examined: A reduction in state spending only, a retail sales tax increase only, and a retail sales tax increase combined with maintaining an equivalent amount of state spending.

### Results

A \$350 million reduction in state spending would result in the loss of approximately \$420 million in output. This would also result in the loss of 5,177 jobs across the state.

A one-cent state retail sales tax increase would generate approximately \$350 million in additional revenue, but would result in the loss of approximately \$363 million in output. This would also result in the loss of 3,231 jobs across the state.

Thus, the combined effect of maintaining \$350 million in state spending with a one-cent sales tax increase is maintaining \$57 million in total state output, \$84 million in total value added, \$102 million in labor income, and 1,946 jobs.

### Conclusions

There are at least three reasons why a sales tax increase would have a lesser negative impact than state spending reductions. First, a high percentage of government expenditures initially stay within the state's economy, going either to employees in the form of salaries or to local businesses for the purchase of goods and services. Second, the revenue enhancement scenario spreads the negative effects throughout the state, both geographically and across all residents. Third, a portion of the sales tax increase will be exported to tourists and other visitors to the state.

An average Kansas household would pay an additional \$266 in retail sales taxes annually. The largest amounts would go to housing (\$78), food (\$69), and transportation (\$43).

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### **Disclaimer**

This study presents a comparative analysis of the economic impact on Kansas from a sales tax increase and/or state spending reductions. This study was conducted by the Center for Urban Studies (CUS) and the Kansas Public Finance Center (KPFC) at Wichita State University (WSU). The CUS and KPFC are independent research centers not affiliated with the Kansas Economic Progress Council. The conclusions in this report reflect only the results of the study and do not reflect the personal opinions of the CUS, the KPFC, or any faculty or staff at the CUS, KPFC, or WSU.

This report is not necessarily definitive, authoritative, comprehensive, or current. It represents the findings, views, opinions and conclusions of the study and is provided as is without warranties of any kind. This report does not express the official nor unofficial policy of the CUS, KPFC, or WSU and the CUS, KPFC, and WSU do not necessarily endorse the findings, views, opinions, or conclusions expressed in this report. The CUS, KPFC, and WSU, including its directors, officers, employees and agents, accept no responsibility for this report.

Most of the data used in this study were provided by third parties. The CUS, KPFC, and WSU are not responsible for erroneous conclusions resulting from incorrect or unrealistic data. Additionally, because of time and budget constraints, some of the data that were estimated in this study were based on stated assumptions as is explained in the report.

### **Background**

#### **Research Objective and Purpose of Study**

The objective of this research is to analyze the economic impact on Kansas from a retail sales tax increase and/or state spending reductions. This study was conducted at the request of and funded by the Kansas Economic Progress Council. The overall purpose of the study was to provide public officials, businesses, and the general public with information on the economic impact of state spending reductions and/or a state sales tax increase.

#### **Methodology**

##### **Input-Output (I-O) Models**

An *input-output model (I-O model)* is a mathematical model that describes the flows of money between industries within a region's economy. Flows are predicted by examining what each industry requires from every other industry to produce a dollar's worth of output. Using each industry's production function, I-O models also determine the proportions of sales that go to wage and salary income, proprietor's income, and taxes. Multipliers can be estimated from I-O models based on the estimated recirculation of spending within the region. Exports and imports are determined based upon estimates of the propensity of households and businesses within the region to purchase goods and services from local sources (often called RPC's or regional purchase coefficients). The higher the proportion of goods and services purchased within the region, the higher the multipliers for the region (Stynes, 1997: 6).

Input-output analysis is a broad category of models that estimate economic change based on the premise that production in a region is comprised of interlinked businesses that interact with one another. Changes are most often the result of some change in consumption or demand. Other changes that can be assessed using I-O analysis include changes in government policies, market oriented demand changes, and changes in production by a given industry. I-O analysis provides an important tool to address questions of "economic impact" resulting from some pre-specified change in economic activity. I-O models can model economic changes caused by both demand and supply changes (Shaffer, Deller, and Marcouiller, 2004).

##### **Economic Impact Analysis (EIA)**

*Economic impact analysis (EIA)* traces changes in economic activity resulting from an initial activity. An EIA identifies which economic industries benefit or lose from a change in economic activity and estimates resulting changes in income and employment in the region. Several measures of changes in economic activity can be derived. The most commonly reported measures are changes in spending, changes in income, and changes in employment. EIA procedures do not assess economic efficiency nor do they generally produce estimates of the fiscal costs of an action (Stynes, 1997: 3).

A standard economic impact analysis follows the flow of money from an initial change in economic activity to:

- Businesses—Supplying goods and services to consumers and other businesses,
- Households—Earning income by working in related industries, and
- Government—Through various taxes and charges.

The **total economic impact** of an initial change in economic activity is the sum of direct, indirect, and induced effects within a region. Indirect and induced effects are sometimes collectively called **secondary effects**. Any of these impacts may be measured as gross output or sales, income, employment, or value added (Stynes, 1997: 5).

- **Direct effects** are production changes associated with the immediate effects of changes in economic activity (Stynes, 1997: 5).
- **Indirect effects** are changes in economic activity resulting from various rounds of re-spending of the initial receipts in other backward-linked industries (Stynes, 1997: 5).
- **Induced effects** are the changes in economic activity resulting from household spending of income earned directly or indirectly as a result of the initial change in economic activity. Induced effects are the result of sales, income, and jobs from household spending of added wage, salary, or proprietor's income (Stynes, 1997: 6).

The magnitude of secondary effects depends on the propensity of businesses and households in the region to purchase goods and services from local suppliers. Induced effects may also occur when local consumers purchase goods or services outside of the local area resulting in a leakage of employment and income from the area. Not only are supporting industries (indirect effects) affected, but the entire local economy suffers due to the leakage of jobs and household income from the region. Similar effects occur in the opposite direction when there is a significant increase in jobs and household income (Stynes, 1997: 6).

**Final demand** refers to sales to the final consumers of goods and services. Government spending is also considered final demand (Stynes, 1997: 6).

### Impact Analyses and Planning (IMPLAN)

**Impact Analyses and Planning (IMPLAN)** is a regional economic impact model that was originally developed in the late 1970's by the University of Minnesota in cooperation with the U.S. Department of Agriculture (USDA) Forest Service, the Federal Emergency Management Agency (FEMA), and the U.S. Department of the Interior's (DOI) Bureau of Land Management (BLM) to assist in land and resource management planning. Since 1993, development of the IMPLAN model has been the exclusive right of the Stillwater, Minnesota-based company, Minnesota IMPLAN Group, Inc., which licenses and distributes the software and data to users (Mulkey and Hodges, 2000: 4).

IMPLAN and the associated database contain a set of social/economic accounts that describe the structure of the U.S. economy in terms of transactions between households, governments, and 440 standardized industry sectors classified on the basis of the primary

commodity or service produced. The database also describes the local and regional economy in terms of industry output, value added, employment, imports, and exports. A wide variety of sources are used to construct the databases, including the annual economic census conducted by the U.S. Commerce Department and the U.S. Bureau of Labor Statistics.

The IMPLAN® Pro (Professional Social Accounting and Impact Analysis) software, developed by MIG, Inc., Stillwater, MN, was used to conduct a comparative analysis of the economic impact on Kansas from state spending reductions and/or a sales tax increase. This analysis is based on the 2008 IMPLAN database for the State of Kansas using Social Accounting Matrix (SAM) multipliers. Of course, not all purchases will be made within the study region by recipient organizations. The IMPLAN model provides estimates of leakages (how much supporting economic activity will originate from outside the model's study area). Multipliers are estimated within the IMPLAN model and are based on the actual industry where the spending initially occurs and the structure of the study area's economy. IMPLAN also estimates induced activity based on data collected on household consumption patterns (Cutler, 2008: 12).

### Economic Multipliers

IMPLAN is an economic input-output model used to estimate the volume of supplemental economic activity that might be expected to result from a certain direct impact. This supporting activity is referred to as the **multiplier effect**. Whenever there is a positive economic infusion in a regional economy, additional economic activity is generated by those entities that have benefited from the increased purchase goods and services. There is also re-spending of wages and income received by individuals paid in providing this economic activity. Indirect activity is activity related to suppliers purchasing goods within the regional economy to provide services and goods to recipient organizations. Induced activity is the re-spending of wages and salaries paid to workers who are employed directly by recipient organizations and by suppliers providing goods and services to recipient organizations (Cutler, 2008: 12).

Multipliers capture the secondary economic effects (indirect and induced) of increased economic activity, as well as the economic interdependencies between industries within a particular region's economy. There are many different kinds of multipliers reflecting which secondary effects are included and which measure of economic activity is used (spending, income, or employment), and thus, multipliers vary considerably from region to region and industry to industry.

Multipliers are estimates of the extent to which direct expenditures are re-spent in successive rounds of spending throughout the local economy. Because of the effect of economic multipliers, the total economic impact is far greater than the amount of direct spending. Since State of Kansas economic data were used to run the model, the economic multipliers generated by IMPLAN are specific to the State of Kansas.

In general, economic multipliers are defined as the net change in economic activity in a community or a region that results from spending attributed to a particular activity (or set of activities), event, or facility. The purpose of an economic impact analysis is to measure the economic benefits that accrue to a particular community or region.

The concept of the multiplier recognizes that changes in the level of economic activity in one area create successive rounds of spending throughout the economy. The total amount of spending is the first round of spending and represents the *direct* economic impact. In turn, direct spending by the vendors of the initial activity stimulate economic activity as the dollars paid to the suppliers of commodities and services spend the money they receive as income to pay for salaries, wages, benefits, and supplies and to pay taxes to various levels of government. Thus, direct spending by the vendors of the initial activity precipitates a second round of spending that is called the *indirect* economic impact. Thus, to summarize, the suppliers of commodities and services spend money in five categories:

- **Local Industry Purchases:** Payments to other private sector businesses in the same jurisdiction to restock inventories, provide for future sales, maintain grounds and buildings, pay insurance premiums;
- **Direct Household Income:** Payments to employees who reside in the area in the form of salaries and wages, which constitutes personal income to them;
- **Local Government Revenue:** Payments to local governments for sales taxes, property taxes, or taxes on profits;
- **Nonlocal Government Revenue:** Payments to the federal and state governments for sales taxes, taxes on profits, or other taxes;
- **Nonlocal Leakage:** Payments to employees, shareholders, businesses, organizations, and others who reside outside the local area.

The latter two categories of spending illustrate that the local economy is part of a larger state and national economy, and some money "leaks" out of the area's economy to pay taxes or buy goods and services from entities outside the area. Only those dollars remaining in the local economy after leakage has taken place constitute the net economic gain to the area. The portion of first round expenditures that remains in the area from local inter-industry purchases, direct household income, or local government revenue is subsequently spent in one of the five ways listed above and thereby sets into motion a further round of economic activity. The portion of household income (employee wages and salaries) that is spent locally on goods and services is called the *induced* impact. The indirect and induced effects taken together are called secondary impacts. As a result of these successive waves of spending, the total economic impact is significantly larger than the initial level of direct spending. The *multiplier* is the total of the successive rounds of spending in an economy divided by the original direct expenditure (Thompson and Wagenhals, 2002: 23-24).

## Economic Impact

The objective of this research is to analyze the economic impact on Kansas from state spending reductions and/or a retail sales tax increase. The economic effects were estimated using the economic forecasting/economic impact estimating model of the Minnesota IMPLAN Group, Version 3. Three basic scenarios were examined:

- A reduction in state spending only,

- A retail sales tax increase only, and
- A retail sales tax increase combined with maintaining an equivalent amount of state spending.

Kansas House Bill No. 2475 proposes temporarily increasing the state retail sales tax rate from 5.3 percent to 6.3 percent beginning on July 1, 2010 and remaining in effect until July 1, 2013 when the rate would be reduced to 5.5 percent. The fiscal note for this bill submitted by the Kansas Division of the Budget estimates the sales tax increase will generate \$351,271,000 across all state funds for fiscal year 2011.

## Reduction in State Spending

A \$350 million reduction in state spending would result in the loss of approximately \$420 million in output. More specifically, the spending reduction would result in the loss of approximately \$292 million in value added, \$214 million in labor income, \$202 million in employee compensation, \$64 million in other property income, and \$13 million in proprietors' income. In addition, the state spending reduction would result in the loss of \$19 million in other state and local taxes and \$14 million in indirect business taxes. Exhibit 1 details the extent of these losses.

Exhibit 1: Economic Impact of a Reduction in State Spending

Description	Total
Output	\$419,931,336
Value Added	\$292,444,414
Labor Income	\$214,441,100
Employee Compensation	\$201,561,616
Other Property Type Income	\$64,428,214
State and Local Taxes	\$18,790,334
Indirect Business Taxes	\$13,575,103
Proprietors Income	\$12,879,484
Employment	5,177

A \$350 million reduction in state spending would also result in the loss of 5,177 jobs across the state. The sector that would be most greatly impacted would be state and local government with the loss of 2,786 jobs; followed by food services and drinking places with the loss of 277 jobs; and employment services with the loss of 180 jobs. This would be accompanied by the loss of \$121 million of labor income from state and local government, \$6 million from maintenance and repair and construction of nonresidential structures, and \$6 million from wholesale trade businesses. The greatest value added loss would be from state and local government (\$137 million), real estate establishments (\$10 million), and wholesale trade businesses (\$10 million). Overall, state and local government would experience a \$137 million loss in output; food services and drinking places would experience a \$15 million loss of output, and wholesale trade businesses would experience a \$15 million loss of output. Exhibit 2 details the employment, income, value added, and output impact of a reduction in state spending on the ten most effected sectors.

*Output* is the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors production = sales. For retail and wholesale trade, output = gross margin and not gross sales. *Value added* is the difference between an industry's or an establishment's total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus. *Labor income* includes all forms of employment income, including employee compensation (wages and benefits) and proprietor income. *Employee compensation* is the total payroll cost of the employee paid by the employer. This includes, wage and salary, all benefits (e.g., health, retirement, etc.) and employer paid payroll taxes (e.g., employer side of social security, unemployment taxes, etc.). *Other property income* is "property income" minus "proprietor income." It includes corporate profits, capital consumption allowance, payments for rent, and interest income. It may also be referred to as "other property type income." *Indirect business taxes* include taxes on sales, property, and production, but it excludes employer contributions for social insurance and taxes on income. *Proprietor income* consists of payments received by self-employed individuals and unincorporated business owners. This income also includes the capital consumption allowance.<sup>1</sup>

**Exhibit 2: Impact of a Reduction in State Spending on the Ten Most Effected Sectors**

Description	Employment	Labor Income	Value Added	Output
* Employment and payroll only (state & local govt, non-educat)	2,786	120,585,440	136,578,344	136,579,360
Food services and drinking places	277	4,717,009	7,077,652	15,163,959
Employment services	180	4,976,324	5,370,203	7,281,731
Real estate establishments	108	2,121,132	8,871,412	13,066,590
Maintenance and repair construction of nonresidential structure	104	5,815,921	6,083,781	11,371,921
Wholesale trade businesses	81	5,676,385	9,760,567	14,643,481
Offices of physicians, dentists, and other health practitioners	61	4,577,222	5,309,436	7,899,252
Private hospitals	60	3,217,570	3,378,935	6,771,581
Nursing and residential care facilities	54	1,491,308	1,545,678	2,238,979
Services to buildings and dwellings	51	1,288,903	1,580,257	2,982,032

### Increase in Sales Taxes

The economic impact of an increase in state retail sales taxes was computed based on estimates of state household income distribution tabulated by the U.S. Census Bureau from the 2008 American Community Survey and IMPLAN 3 household institutional spending patterns by income group. The model is premised on the assumption that the state retail sales tax increase will result in a \$350 million reduction in state disposable income and that the reduction in income will be proportional to the state's distribution of income.

A one-cent state retail sales tax increase would generate approximately \$350 million in additional revenue, but would result in the loss of approximately \$363 million in output. More specifically, the tax increase would result in the loss of approximately \$209 million in value added, \$113 million in labor income, \$98 million in employee compensation, \$74 million in other property income, and \$15 million in proprietors' income. In

<sup>1</sup> IMPLAN.com Glossary, [http://implan.com/v3/index.php?option=com\\_glossary&Itemid=164](http://implan.com/v3/index.php?option=com_glossary&Itemid=164).

addition, the sales tax increase would result in the loss of \$24 million in other state and local taxes and \$23 million in indirect business taxes. Exhibit 3 details the extent of these losses.

**Exhibit 3: Economic Impact of an Increase in Sales Taxes**

Description	Total
Output	\$362,766,450
Value Added	\$208,773,524
Labor Income	\$112,715,547
Employee Compensation	\$98,112,362
Other Property Type Income	\$73,547,759
State and Local Taxes	\$24,115,902
Indirect Business Taxes	\$22,510,217
Proprietors Income	\$14,603,186
Employment	3,231

A one-cent state sales tax increase would also result in the loss of 3,231 jobs across the state. The sector that would be most greatly impacted would be food services and drinking places with the loss of 363 jobs; followed by offices of physicians, dentists, and other health practitioners with the loss of 166 jobs; and private hospitals with the loss of 159 jobs. This would be accompanied by the loss of \$12 million of labor income in the offices of physicians, dentists, and other practitioners, \$9 million in private hospitals, and \$6 million from wholesale trade businesses. The greatest value added loss would be from offices of physicians, dentists, and other health practitioners (\$14 million), real estate establishments (\$12 million), and wholesale trade businesses (\$11 million). Overall, offices of physicians, dentists, and other health practitioners would experience a \$21 million loss in output; food services and drinking places a \$20 million loss of output; and private hospital would experience an \$18 million loss in output. Exhibit 4 details the employment, income, value added, and output impact of a sales tax increase on the ten most effected sectors.

**Exhibit 4: Impact of a Sales Tax Increase on the Ten Most Effected Sectors**

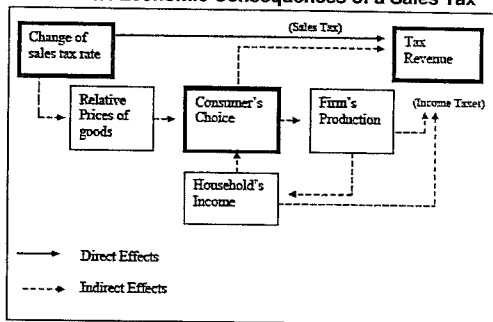
Description	Employment	Labor Income	Value Added	Output
Food services and drinking places	363	6,170,178	9,258,063	19,835,520
Offices of physicians, dentists, and other health practitioners	166	12,428,084	14,414,997	21,446,598
Private hospitals	159	8,020,282	9,040,102	16,116,888
Real estate establishments	132	2,584,173	12,448,158	15,923,567
Nursing and residential care facilities	130	3,566,005	3,696,015	5,353,832
Retail Stores - Food and beverage	128	3,304,212	3,021,681	7,952,169
Retail Stores - General merchandise	115	2,856,859	4,210,943	6,725,007
Retail Nonstores - Direct and electronic sales	102	725,204	2,455,355	3,505,176
Private household operations	87	595,275	682,213	893,659
Wholesale trade businesses	90	6,340,319	10,802,203	16,352,243

Exhibit 5 depicts the economic consequences of a sales tax rate increase.<sup>2</sup> The solid line at the top represents the increase. However, the change in the sales tax rate results in a change in the relative price of taxed and untaxed goods and services. This change in relative prices affects consumers' choices. A tax increase results in both relatively higher priced taxed goods and less disposable income for consumers. Consumers' purchasing decisions in turn affect the production decisions of firms. The change in firms' production decisions affects both household income and the income taxes paid by

<sup>2</sup> Adapted from 2003 Nebraska Tax Burden Study, p. 17.

firms. The change in household income due to changes in production decisions results in less income tax collected from households, and decreased household income affects consumers' choices, which in this case, results in less disposable income and another round of tax revenue decreases and further impacts on firms' production decisions.

**Exhibit 5: Economic Consequences of a Sales Tax**



Source: 2003 Nebraska Tax Burden Study, p. 17.

**Increase in Sales Taxes and Maintained State Spending**

In the third scenario, a one-cent retail sales tax increase is combined with the preservation of \$350 million in state spending. Under this approach, the preservation of \$350 million in state spending will sustain \$420 million in total state output, \$292 million in total value added, \$214 million in labor income, and 5,177 jobs. Conversely, a one-cent increase in sales taxes will result in the loss of \$363 million in total state output, \$209 million in total value added, \$113 million in labor income, and 3,231 jobs. Thus, the combined effect of these changes is maintaining \$57 million in total state output, \$84 million in total value added, \$102 million in labor income, and 1,946 jobs. Exhibit 6 presents the combined impact of a sales tax increase with maintained state spending.

**Exhibit 6: Combined Impact of a Sales Tax Increase and Maintained State Spending**

	Output	Total Value Added	Labor Income	Employment
Spending Reduction	\$419,931,360.00	\$292,444,160.00	\$214,441,088.00	5,177
Tax Increase	\$362,766,432.00	\$208,773,120.00	\$112,715,568.00	3,231
Net Combined Impact	\$57,164,928.00	\$83,671,040.00	\$101,725,520.00	1,946

**Differential Impact<sup>3</sup>**

There are at least three reasons why a sales tax increase would have a lesser negative impact than state spending reductions. First, a high percentage of government expenditures initially stay within the state's economy, going either to employees (state

<sup>3</sup> *Ibid.*, p. 7.

residents) in the form of salaries or to local businesses for the purchase of goods and services. In contrast, though most spending by Kansas residents takes place within Kansas, much of those monies quickly leave the state's economy, particularly since so few manufactured goods are built within the state.

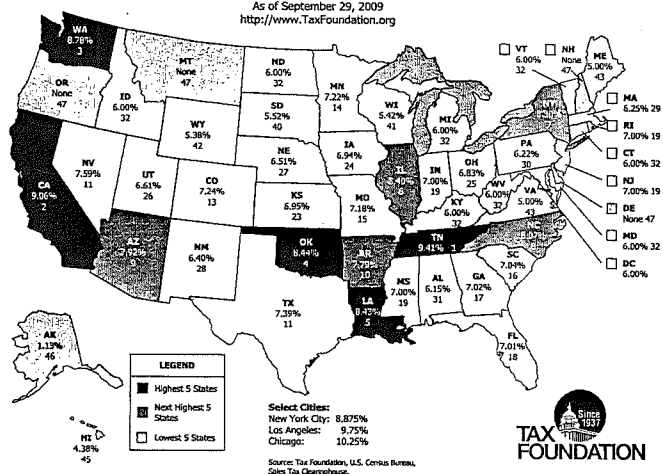
Second, the revenue enhancement scenario spreads the negative effects throughout the state, both geographically and across all 2.8 million residents. The effect on any individual and on any business is minor. In contrast, the spending reduction scenario severely affects a small number of state residents and businesses—state employees and those private-sector businesses that serve state employees and state government directly. The likelihood of a business failing under this scenario is much greater than in the tax increase scenario. A business failure will have a ripple effect across the economy.

Third, a portion of the sales tax increase will be exported to tourists and other visitors to the state. The full effect of the tax increase is not felt within Kansas. In addition, since state taxes are deductible on the federal income tax return, some of the state tax increase ends up being exported to the federal government.

**Regional Sales Tax Rates**

According to data compiled by the Tax Foundation as of September 29, 2009 Kansas had the 23<sup>rd</sup> highest combined state and average local sales tax rate at 6.95 percent. Oklahoma ranked fourth with a combined rate of 8.44 percent, Colorado ranked 13<sup>th</sup> with a combined rate of 7.24 percent, Missouri ranked 15<sup>th</sup> with a combined rate of 7.18 percent, and Nebraska ranked 27<sup>th</sup> with a combined rate of 6.51 percent. Exhibit 7 presents combined state and average local sales tax rates compiled by the Tax Foundation.

**Exhibit 7:**  
Sales Tax: Combined State and Average Local Rates



Source: Tax Foundation

A one-cent increase in the Kansas state retail sales tax would raise the combined state and local sales tax rate to 7.95 percent. This would move Kansas to the ninth highest combined state and average local sales tax rate assuming that other states keep their sales tax rates constant. This assumption may prove to be somewhat dubious given that most states are facing the same fiscal issues as Kansas. Exhibit 8 presents the combined state and average local sales tax rates including a one-cent increase for Kansas.

**Exhibit 8: Combined State and Local Tax Rates**

	State Rate	Average Local Rate <sup>1</sup>	Combined	Rank of Combined Rate
Oklahoma	4.50%	3.94%	8.44%	3
Kansas	6.30%	1.65%	7.95%	9
Colorado	2.90%	4.34%	7.24%	10
Missouri	4.23%	2.95%	7.18%	16
Nebraska	2.50%	4.01%	6.51%	27

Source: Sales Tax Clearinghouse; Census Bureau; Departments of Revenue.

Source: Tax Foundation

### Incidence of a One-Cent Sales Tax Increase

For the purposes of this study, hypothetical retail sales tax liabilities were computed for ten household income groupings. Data on consumer expenditures were obtained from the

2008 Consumer Expenditure Survey (CES) conducted by the U.S. Bureau of Labor Statistics. The CES consists of two surveys—the quarterly Interview survey and the Diary survey—that provide information on the buying habits of American consumers, including data on their expenditures, income, and consumer unit characteristics. The surveys target the total non-institutionalized population of the United States. The data are collected in independent quarterly Interview and weekly Diary surveys of approximately 7,500 sample households. Each survey has its own independent sample, and each collects data on household income and socioeconomic characteristics. The Interview survey includes monthly out-of-pocket expenditures such as housing, apparel, transportation, health care, insurance, and entertainment. The Diary survey includes weekly expenditures of frequently purchased items such as food and beverages, tobacco, personal care products, and nonprescription drugs and supplies.

Exhibit 9 presents Kansas retail sales tax incidence by expenditure category and income class. The table was created based on a methodology developed for the *Kansas Tax Incidence Study*. The first section of the table shows the average annual taxes paid by Kansas households for the respective expenditure categories based on income. Based on these data an average Kansas household would pay an additional \$266 in retail sales taxes annually. The largest amounts would go to housing (\$78), food (\$69), and transportation (\$43). Households earning less than \$10,000 would see a tax increase of \$243, while households earning \$150,000 or more would see a tax increase of \$607. The smallest increase would be experienced by households with incomes from \$10,000 to \$14,999 at \$121, while the largest increased would be incurred by households with income from \$100,000 to \$149,999 at \$886.

The second section of the table shows the average effective tax rates that Kansas households would pay based on income characteristics. In agreement with most incidence studies, this analysis finds the consumer portion of the sales tax would be regressive, especially at low-income levels. This is because the share of income represented by taxable consumption tends to be smaller for high-income households than for low-income ones. Hence, tax burdens as a proportion of income tend to decline as income increases. Average effective tax rates were computed as a percentage of Kansas personal income. The average effective tax rate for the one-cent increase on the state as a whole would be 0.3 percent. The effective consumer sales tax rate for the lowest income group would be 3.4 percent, compared to the rate for the highest income group of 0.2 percent.



**Exhibit 9: Incidence of a One-Cent Sales Tax Increase**

KANSAS	Less than	\$10,000 to	\$15,000 to	\$20,000 to	\$30,000 to	\$40,000 to	\$50,000 to	\$75,000 to	\$100,000 to	\$150,000 to	Total
	\$10,000	\$14,999	19,999	\$29,999	\$39,999	\$49,999	\$74,999	\$99,999	\$149,999	and more	
Households	72,857	56,768	57,310	124,732	128,161	110,534	221,608	144,526	100,069	71,620	1,110,829
Percentage	6.3%	5.3%	5.2%	11.2%	11.8%	10.0%	19.8%	13.0%	10.8%	6.4%	100.0%
<b>AVG. TAXES PER HOUSEHOLD</b>	<b>\$242.96</b>	<b>\$120.79</b>	<b>\$141.34</b>	<b>\$169.64</b>	<b>\$199.88</b>	<b>\$215.57</b>	<b>\$289.28</b>	<b>\$352.79</b>	<b>\$385.88</b>	<b>\$508.82</b>	<b>\$286.14</b>
<b>Food</b>	<b>\$50.20</b>	<b>\$25.72</b>	<b>\$28.28</b>	<b>\$45.24</b>	<b>\$52.24</b>	<b>\$58.65</b>	<b>\$68.76</b>	<b>\$75.10</b>	<b>\$723.35</b>	<b>\$142.00</b>	<b>\$89.28</b>
Deli and bakery products	\$4.91	\$3.54	\$3.89	\$3.89	\$3.89	\$4.50	\$4.72	\$5.47	\$14.12	\$16.44	\$4.21
Meats, poultry, fish, and eggs	\$5.29	\$5.72	\$5.82	\$7.22	\$8.51	\$8.55	\$9.12	\$21.99	\$25.60	\$13.76	\$9.11
Dairy products	\$3.70	\$2.82	\$3.21	\$3.22	\$4.08	\$3.98	\$4.40	\$11.80	\$14.05	\$7.42	\$4.62
Fruits and vegetables	\$5.88	\$4.20	\$4.53	\$5.30	\$6.14	\$5.88	\$7.13	\$17.37	\$20.85	\$12.18	\$7.08
Other food at home	\$11.22	\$6.20	\$9.25	\$10.02	\$11.61	\$12.72	\$14.20	\$35.74	\$43.06	\$22.20	\$14.94
Food away from home	\$25.39	\$11.15	\$11.54	\$15.19	\$20.22	\$22.70	\$28.28	\$74.19	\$103.25	\$78.15	\$29.08
Alcoholic beverages	\$4.76	\$2.05	\$1.48	\$2.48	\$3.41	\$4.02	\$4.79	\$11.79	\$17.83	\$11.86	\$4.78
Housing	\$82.36	\$41.10	\$45.02	\$32.02	\$38.21	\$46.16	\$76.80	\$186.08	\$244.43	\$183.22	\$77.97
Shelter	\$4.00	\$1.63	\$1.95	\$2.50	\$2.24	\$3.53	\$3.84	\$14.61	\$21.14	\$25.86	\$7.32
Utilities, fuel, & public services	\$30.27	\$23.42	\$27.94	\$22.00	\$24.82	\$27.56	\$41.74	\$34.00	\$111.14	\$35.86	\$28.28
Household operations	\$4.20	\$2.81	\$3.64	\$3.65	\$3.99	\$4.59	\$5.86	\$15.51	\$22.78	\$21.16	\$6.61
Housekeeping supplies	\$6.25	\$4.52	\$4.18	\$4.77	\$5.55	\$5.73	\$6.78	\$17.48	\$24.16	\$13.32	\$7.94
Household furnishings & equip.	\$17.23	\$6.72	\$9.01	\$8.83	\$10.51	\$14.74	\$16.08	\$43.78	\$61.29	\$48.07	\$17.56
Apparel and services	\$18.77	\$10.26	\$9.99	\$11.89	\$14.88	\$13.38	\$18.45	\$44.04	\$53.00	\$22.52	\$18.38
Transportation	\$25.98	\$10.90	\$25.74	\$26.62	\$31.17	\$26.69	\$33.30	\$72.99	\$109.27	\$61.44	\$23.66
Vehicle purchases (net outlay)	\$41.69	\$8.53	\$14.50	\$19.06	\$22.20	\$26.00	\$31.95	\$106.15	\$154.20	\$97.29	\$45.54
Other vehicle expenses	\$11.89	\$4.27	\$6.25	\$7.75	\$8.68	\$9.35	\$12.96	\$33.16	\$49.42	\$28.85	\$12.88
Health care	\$1.24	\$2.73	\$1.67	\$2.85	\$2.82	\$3.99	\$1.20	\$3.05	\$3.84	\$2.63	\$1.23
Entertainment	\$23.21	\$10.36	\$12.58	\$17.54	\$20.18	\$22.85	\$21.81	\$77.99	\$114.81	\$70.62	\$28.25
Taxes and administration	\$5.50	\$1.42	\$1.89	\$2.11	\$2.85	\$3.87	\$5.22	\$16.27	\$25.85	\$27.60	\$6.83
Auto and visual equipment and services	\$9.20	\$2.65	\$4.71	\$7.25	\$8.28	\$9.39	\$4.04	\$16.10	\$25.16	\$15.07	\$7.58
Pets, toys, & playground equip.	\$4.43	\$2.51	\$2.85	\$4.70	\$4.92	\$5.29	\$4.04	\$16.10	\$25.16	\$15.07	\$7.58
Other entertainment equip., & services	\$3.28	\$2.78	\$1.12	\$3.12	\$3.82	\$4.19	\$6.05	\$15.84	\$15.36	\$18.21	\$5.18
Personal care products & services	\$4.27	\$2.86	\$3.62	\$4.27	\$5.03	\$5.42	\$6.38	\$16.62	\$24.45	\$15.80	\$6.03
Housing	\$1.43	\$0.54	\$0.79	\$0.80	\$0.83	\$0.98	\$1.27	\$2.84	\$4.38	\$2.09	\$1.25
Education	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tobacco products & smoking eqpt.	\$2.31	\$2.28	\$2.84	\$3.27	\$3.41	\$3.74	\$4.22	\$7.88	\$6.10	\$2.34	\$3.41
Miscellaneous	\$7.09	\$2.54	\$4.75	\$4.74	\$4.79	\$7.46	\$9.84	\$20.90	\$21.12	\$24.52	\$9.05
<b>AVG. TAX RATE BASED ON INC.</b>	<b>3.4%</b>	<b>0.7%</b>	<b>0.5%</b>	<b>0.4%</b>	<b>0.5%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.4%</b>	<b>0.4%</b>	<b>0.2%</b>	<b>0.2%</b>

**Conclusion**

A \$350 million reduction in state spending would result in the loss of approximately \$420 million in output. More specifically, the spending reduction would result in the loss of approximately \$292 million in value added, \$214 million in labor income, \$202 million in employee compensation, \$64 million in other property income, and \$13 million in proprietors' income. In addition, the state spending reduction would result in the loss of \$19 million in other state and local taxes and \$14 million in indirect business taxes. A \$350 million reduction in state spending would also result in the loss of 5,177 jobs across the state.

A one-cent state retail sales tax increase would generate approximately \$350 million in additional revenue, but would result in the loss of approximately \$363 million in output. More specifically, the tax increase would result in the loss of approximately \$209 million in value added, \$113 million in labor income, \$98 million in employee compensation, \$74 million in other property income, and \$15 million in proprietors' income. In addition, the sales tax increase would result in the loss of \$24 million in other state and local taxes and \$23 million in indirect business taxes. A one-cent state sales tax increase would also result in the loss of 3,231 jobs across the state.

A one-cent retail sales tax increase is combined with the preservation of \$350 million in state spending. Under this approach, the preservation of \$350 million in state spending will sustain \$420 million in total state output, \$292 million in total value added, \$214 million in labor income, and 5,177 jobs. Conversely, a one-cent increase in sales taxes will result in the loss of \$363 million in total state output, \$209 million in total value added, \$113 million in labor income, and 3,231 jobs. Thus, the combined effect of these

changes is maintaining \$57 million in total state output, \$84 million in total value added, \$102 million in labor income, and 1,946 jobs.

There are at least three reasons why a sales tax increase would have a lesser negative impact than state spending reductions. First, a high percentage of government expenditures initially stay within the state's economy, going either to employees (state residents) in the form of salaries or to local businesses for the purchase of goods and services. In contrast, though most spending by Kansas residents takes place within Kansas, much of those monies quickly leave the state's economy, particularly since so few manufactured goods are built within the state.

Second, the revenue enhancement scenario spreads the negative effects throughout the state, both geographically and across all 2.8 million residents. The effect on any individual and on any business is minor. In contrast, the spending reduction scenario severely affects a small number of state residents and businesses—state employees and those private-sector businesses that serve state employees and state government directly. The likelihood of a business failing under this scenario is much greater than in the tax increase scenario. A business failure will have a ripple effect across the economy.

Third, a portion of the sales tax increase will be exported to tourists and other visitors to the state. The full effect of the tax increase is not felt within Kansas. In addition, since state taxes are deductible on the federal income tax return, some of the state tax increase ends up being exported to the federal government.

According to data compiled by the Tax Foundation as of September 29, 2009 Kansas had the 23<sup>rd</sup> highest combined state and average local sales tax rate at 6.95 percent. Oklahoma ranked fourth with a combined rate of 8.44 percent, Colorado ranked 13<sup>th</sup> with a combined rate of 7.24 percent, Missouri ranked 15<sup>th</sup> with a combined rate of 7.18 percent, and Nebraska ranked 27<sup>th</sup> with a combined rate of 6.51 percent.

A one-cent increase in the Kansas state retail sales tax would raise the combined state and local sales tax rate to 7.95 percent. This would move Kansas to the ninth highest combined state and average local sales tax rate assuming that other states keep their sales tax rates constant. This assumption may prove to be somewhat dubious given that most states are facing the same fiscal issues as Kansas.

An average Kansas household would pay an additional \$266 in retail sales taxes annually. The largest amounts would go to housing (\$78), food (\$69), and transportation (\$43). Households earning less than \$10,000 would see a tax increase of \$243, while households earning \$150,000 or more would see a tax increase of \$607. The smallest increase would be experienced by households with incomes from \$10,000 to \$14,999 at \$121, while the largest increased would be incurred by households with income from \$100,000 to \$149,999 at \$886.

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