

Tax Incidence by Income & Location

Donna K. Ginther

Roy A. Roberts Distinguished Professor of Economics
Director, Institute for Policy & Social Research, University of Kansas
Research Associate, National Bureau of Economic Research

March 5, 2021

KU INSTITUTE FOR
POLICY &
SOCIAL RESEARCH
The University of Kansas

Hypothetical Taxpayers

- We will compare taxpayers across income, filing status, and location.
- This approach will demonstrate tax incidence and tax fairness for:
 - Income
 - Property & Motor Vehicles
 - Sales
- The approach can also be used to “personalize” the repercussions of proposed changes in Kansas taxes.

Hypothetical Taxpayer Characteristics

- We constructed 9 hypothetical households to represent a range of income and family characteristics.

Taxpayer Type	Dependent s	Income	Vehicles	Home value
Single	0	\$23,000	1 7 yr old corolla	Varies by location
Head of Household	2	\$28,000	1 6 yr old corolla	
Head of Household	1	\$32,000	1 6 yr old corolla	
Married	0	\$79,000	1 4 yr old camry, 1 6 yr old F150	
Married	1	\$85,000	1 4 yr old camry, 1 6 yr old F150	
Married	2	\$95,000	1 4 yr old camry, 1 6 yr old F150	
Married	3	\$125,000	1 3 yr old Toyota Sienna, 1 6 yr old F150	
Married	1	\$125,000	1 3 yr old ford edge, 1 6 yr old f150	
Married	2	\$150,000	1 3 yr old Lexus RX (SUV), 1 6 yr old F150	

Key assumptions about households

- All income is wage and salary income
- Taxpayers take the standard deduction at the federal and state levels.
- All dependents are children under age 18.
- The sales-taxable purchases of taxpayers depend on income.
- All taxpayers own a home. The value of the home depends on income and location in the state.
- The types and ages of vehicles owned by taxpayers depend on income.
- We examined three locations: Johnson County (Overland Park), Saline County (Salina), and Scott County (Scott City).

How taxes were calculated

Income Tax

- We filled out the federal and Kansas income tax forms for all of the households. We applied federal child credits, federal and state earned income tax credits, and the Kansas food sales tax credit where applicable.

Sales Tax

- We used the federal Consumer Expenditure Survey to estimate the ratio of taxable sales to income by income decile. We then multiplied this ratio by the household's income and applied state and local tax rates.

Residential Property Tax

- We used data from the federal American Community Survey to estimate the value of homes owned by families in various income categories and regions of the state. We combined this with data on average residential single family home values and tax rates provided by KDOR.

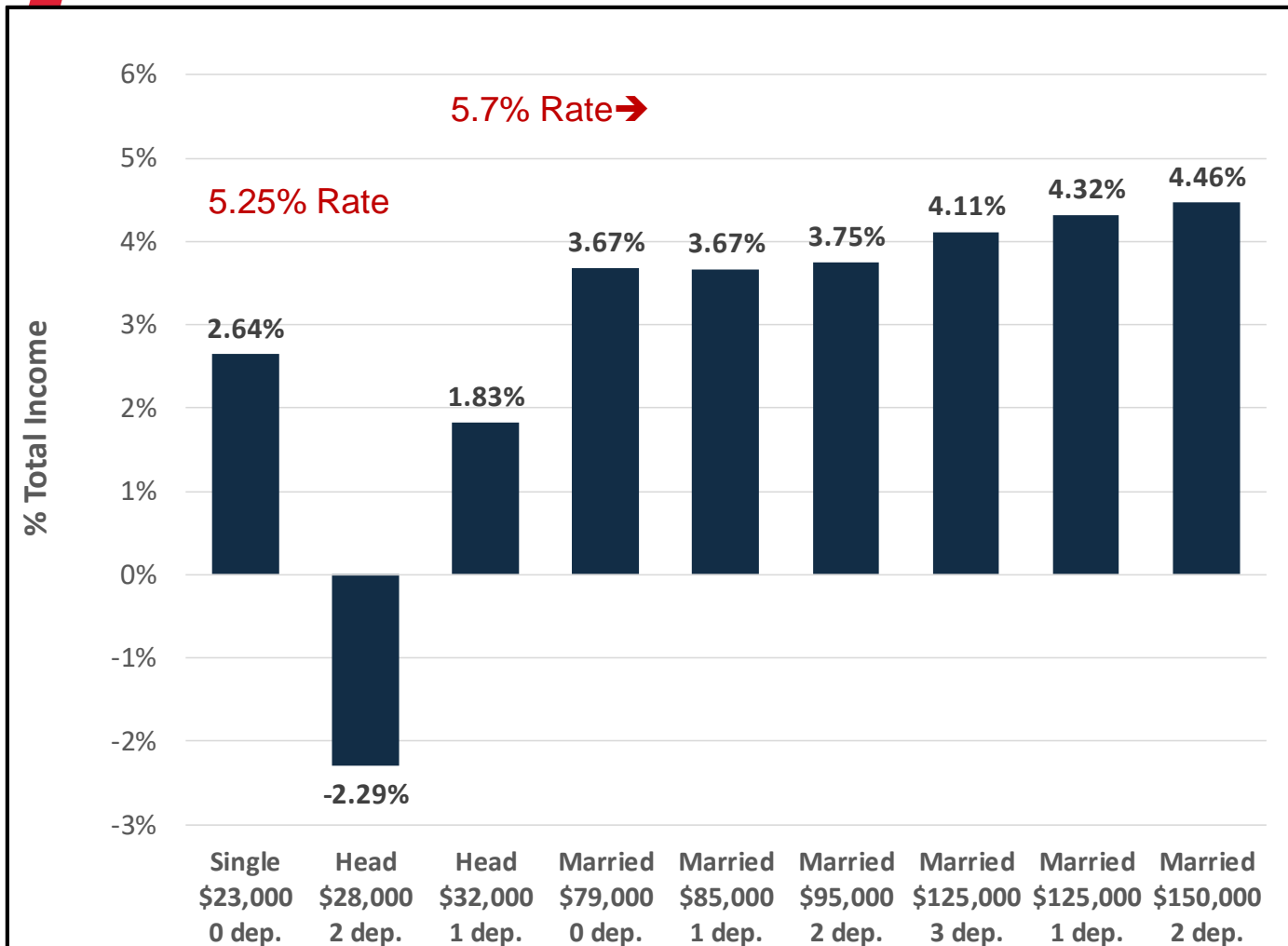
Vehicle Property Tax

- We used KDOR's interactive web site to look up estimated taxes for 2020 for each make, model, and year and county assigned to the hypothetical families.

Tax results

- We now turn to our estimates of four taxes paid by the households:
 - Kansas income
 - State and local sales
 - Vehicle property tax
 - Residential property tax.
- With the exception of the income tax, these taxes vary by location.

Kansas Income Tax Paid as Percentage of Total Income

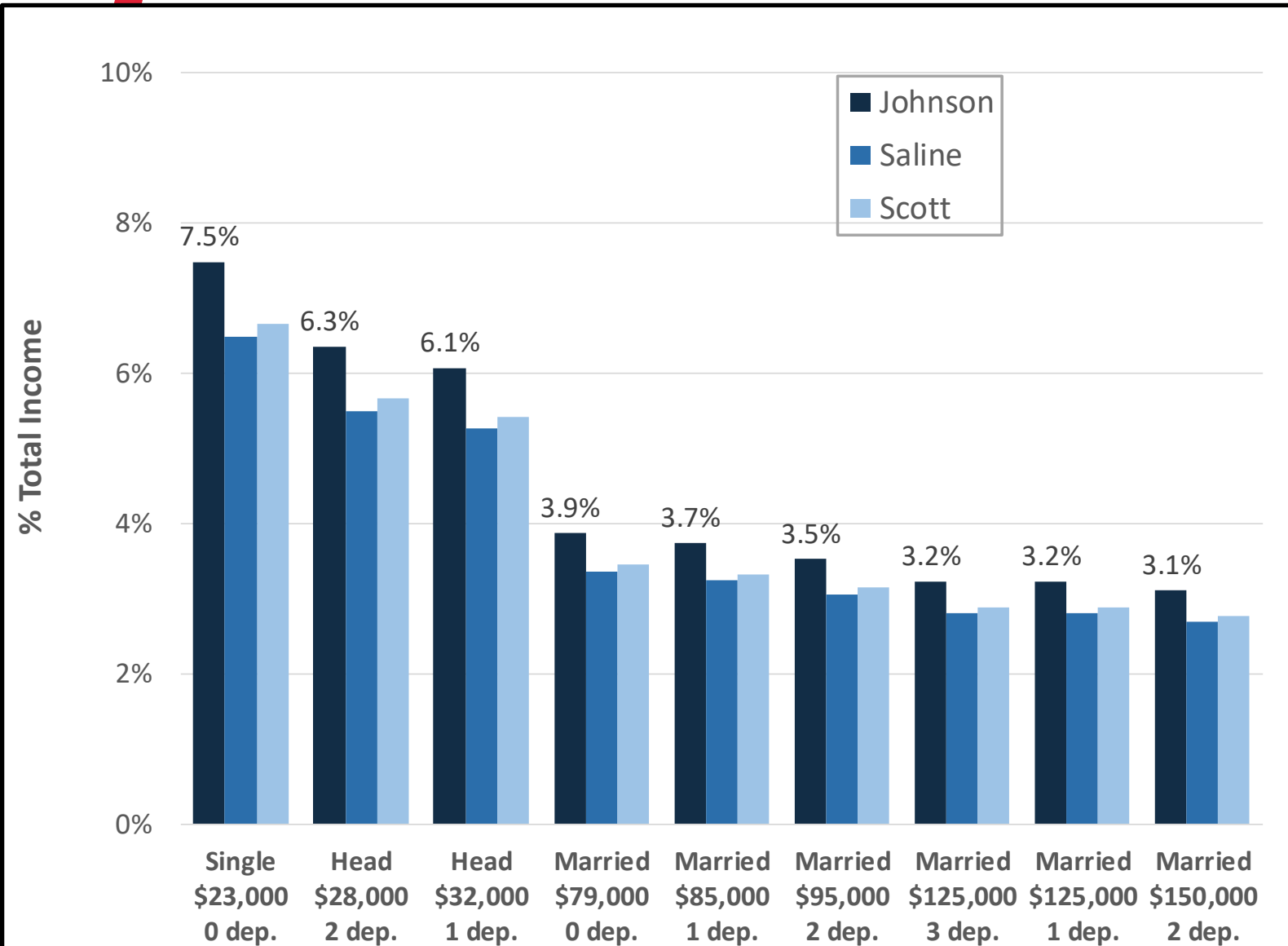


- Taxpayers 2 and 3 qualify for the earned income tax credit and the Kansas food sales tax credit.
- The Kansas tax brackets (married) are 3.10% for the first \$15,000 of income, 5.25% for the second \$15,000, and 5.7% above \$30,000. However effective tax rates are always below the highest bracket rate.
- The income tax is progressive, but its progressivity levels off as income rises.

Sales tax calculations

- Our calculations include both sales and use taxes owed by Kansans on taxable items.
- Sales tax rates may vary within a city because of special taxing districts.
 - For Overland Park, we used a median rate of 10.1% (many shopping areas appear to be within special districts).
 - For Salina we used the overall city rate of 8.75%
 - For Fort Scott we used the overall city rate of 9%

Sales Taxes as a Percentage of Total Income



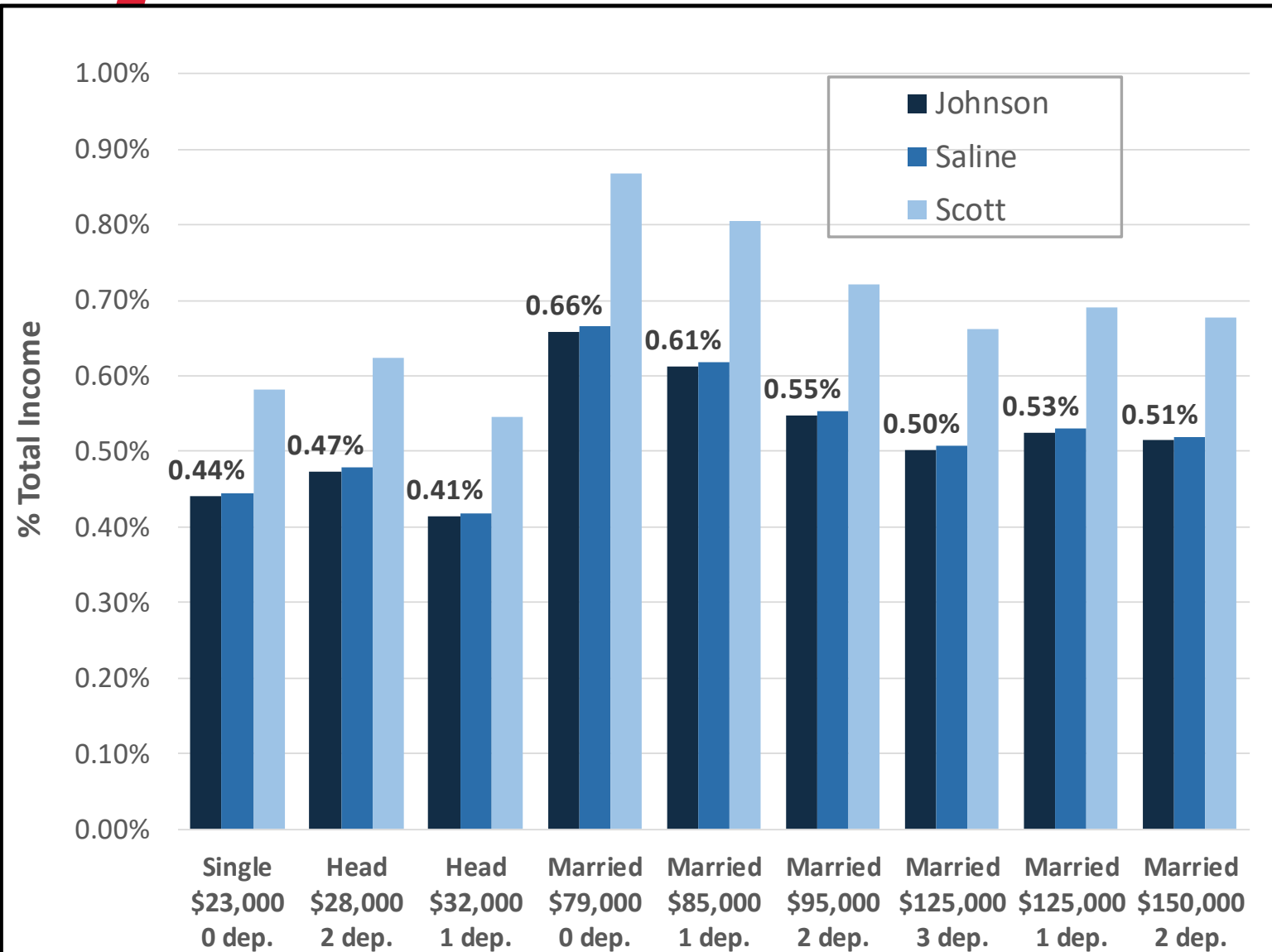
- Sales taxes show a distinct regressive pattern.
 - Low income families spend all of their income on consumption.
 - Food is taxed at full sales tax rate.
 - High income families purchase more services and many services are not taxed.

Motor vehicle tax calculations

- In Kansas, the property tax on a motor vehicle depends on the price of the vehicle when it was new, the age of the vehicle, and the county average mill rate applied to vehicles.
- The vehicle tax levy is higher in Scott county than in the other two areas analyzed.

Motor Vehicle Tax 2020				
County	Total Tax	Vehicles	Average Tax	County Motor Vehicle Mill Levy
Johnson	105,210,460	464,880	\$226.32	0.102275
Saline	6,907,319	43,357	\$159.31	0.103202
Scott	1,108,779	4,426	\$250.51	0.134580

Kansas Motor Vehicle Property Tax as a Share of Total Income



- Higher income taxpayers tend to have more expensive cars.
- The share of income going to vehicle taxes does not differ much across income.
- Scott county tax rates are substantially higher than those in Johnson or Saline counties. Hence Scott County residents pay more taxes for the same type of car or truck.

Probability of home ownership

We used data from the American Community Survey to calculate the probability of home ownership in various regions of the state.

Income category	Probability of Home Ownership		
	Johnson County	North Central KS inc. Salina	Northwest KS including Scott City
<= \$35,000	30.0%	30.6%	47.4%
\$35,001-\$65,000	39.9%	69.4%	55.4%
\$65,001-\$95,000	66.7%	90.2%	85.2%
\$95,001-\$125,000	82.2%	99.5%	99.0%
\$125,001-\$175,000	94.7%	99.0%	98.9%
>= \$175,000	91.2%	96.8%	98.5%

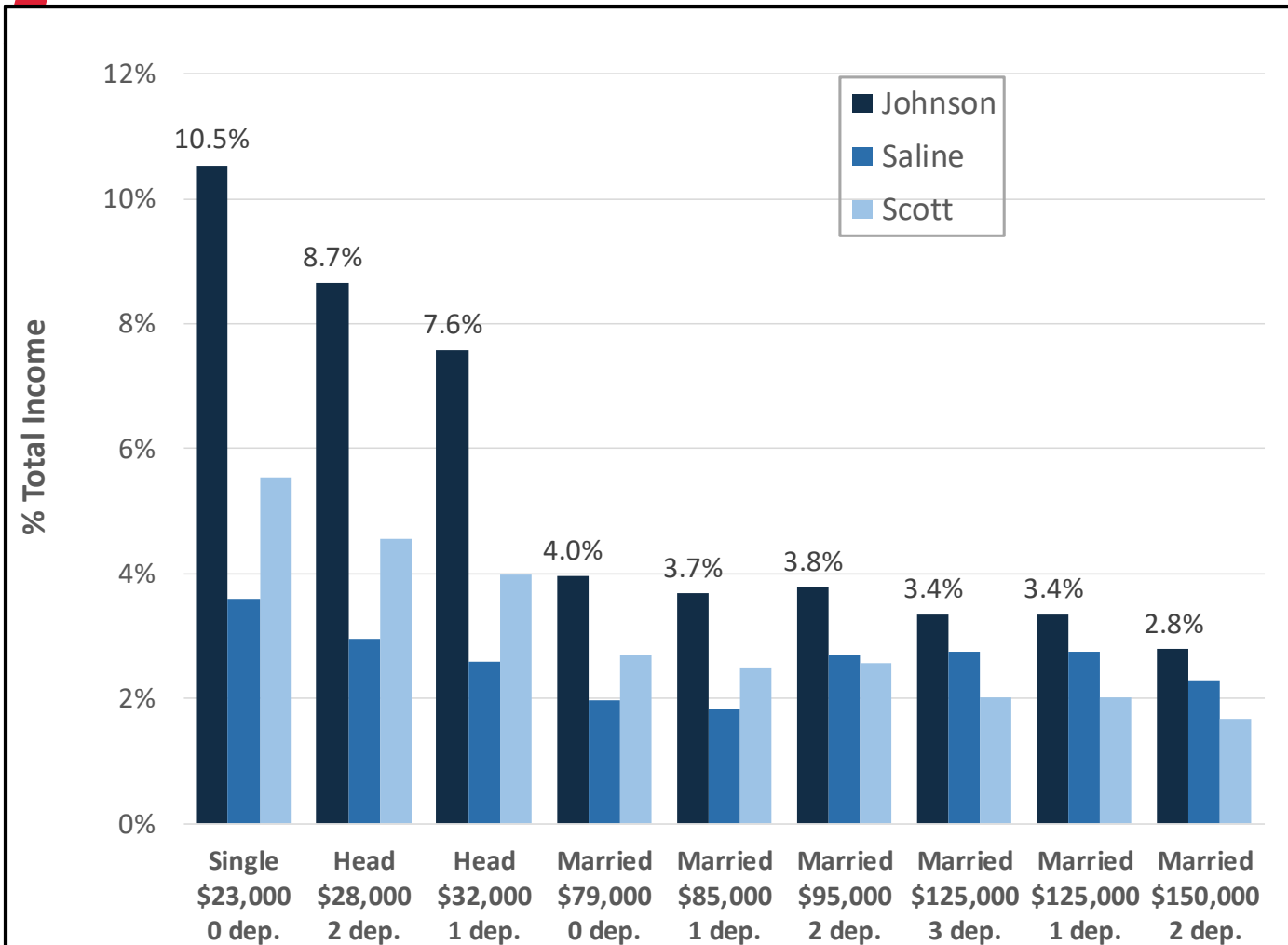
- A key assumption of our model is that the hypothetical taxpayers own a home.
 - That might not be realistic for lower income families.
- For low-income families, home ownership percentages are much higher in NW Kansas than in N Central Kansas or Johnson County

Property tax calculations

Home values and mill levies vary substantially by region.

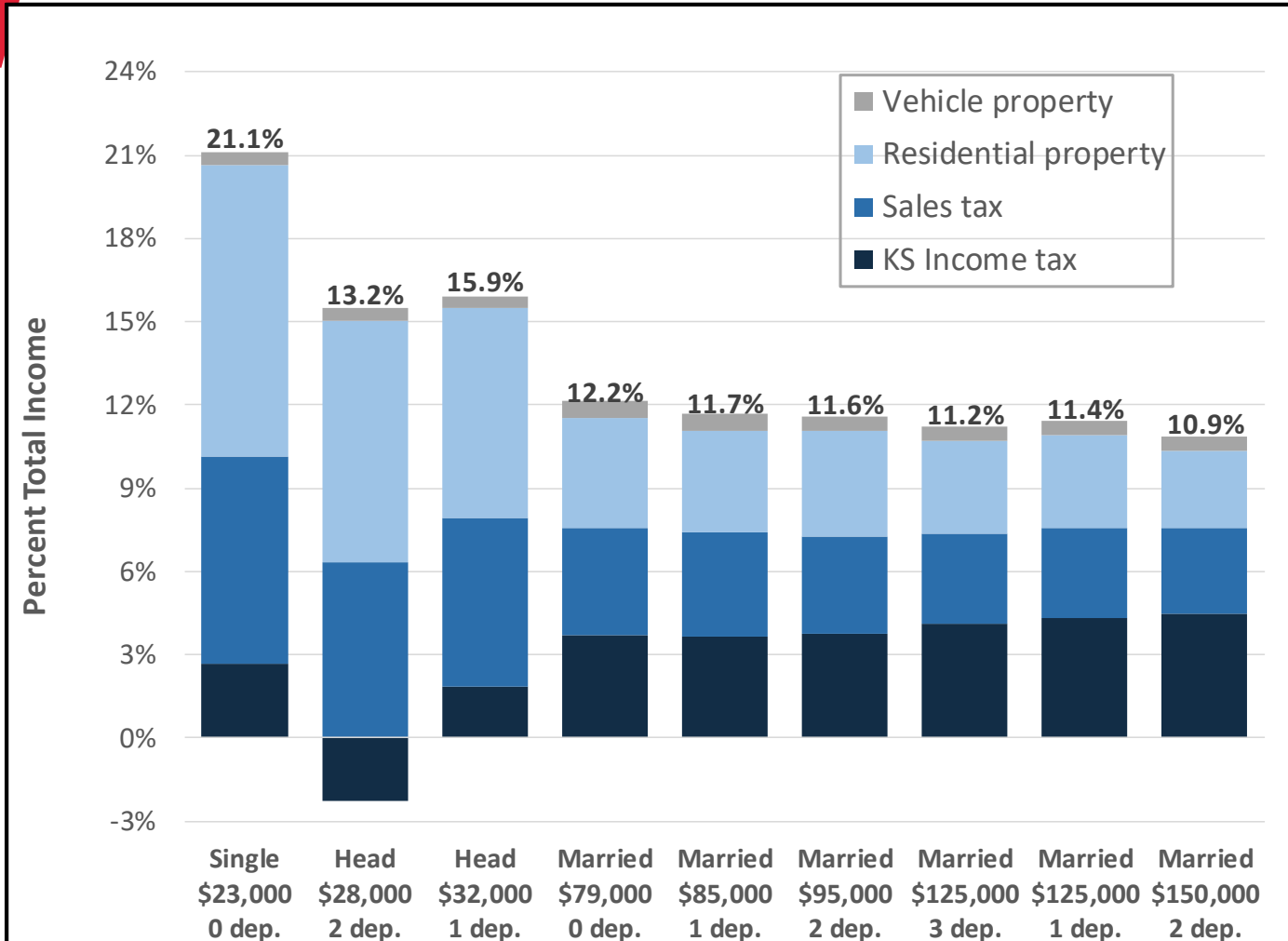
County	Total Assessed Residential Valuation	Single-Family Parcels	Average Market Value	Average Assessed Value	Average Levy	Average Tax
Johnson	6,458,096,199	162,329	345,948	39,784	0.1181	\$4,698.37
Saline Urban	262,419,782	16,501	138,289	15,903	0.1383	\$2,199.04
Scott Urban	18,146,580	1,558	101,281	11,647	0.1998	\$2,327.35
Source: Kansas Department of Revenue						

Kansas Property Taxes as a Percentage of Income



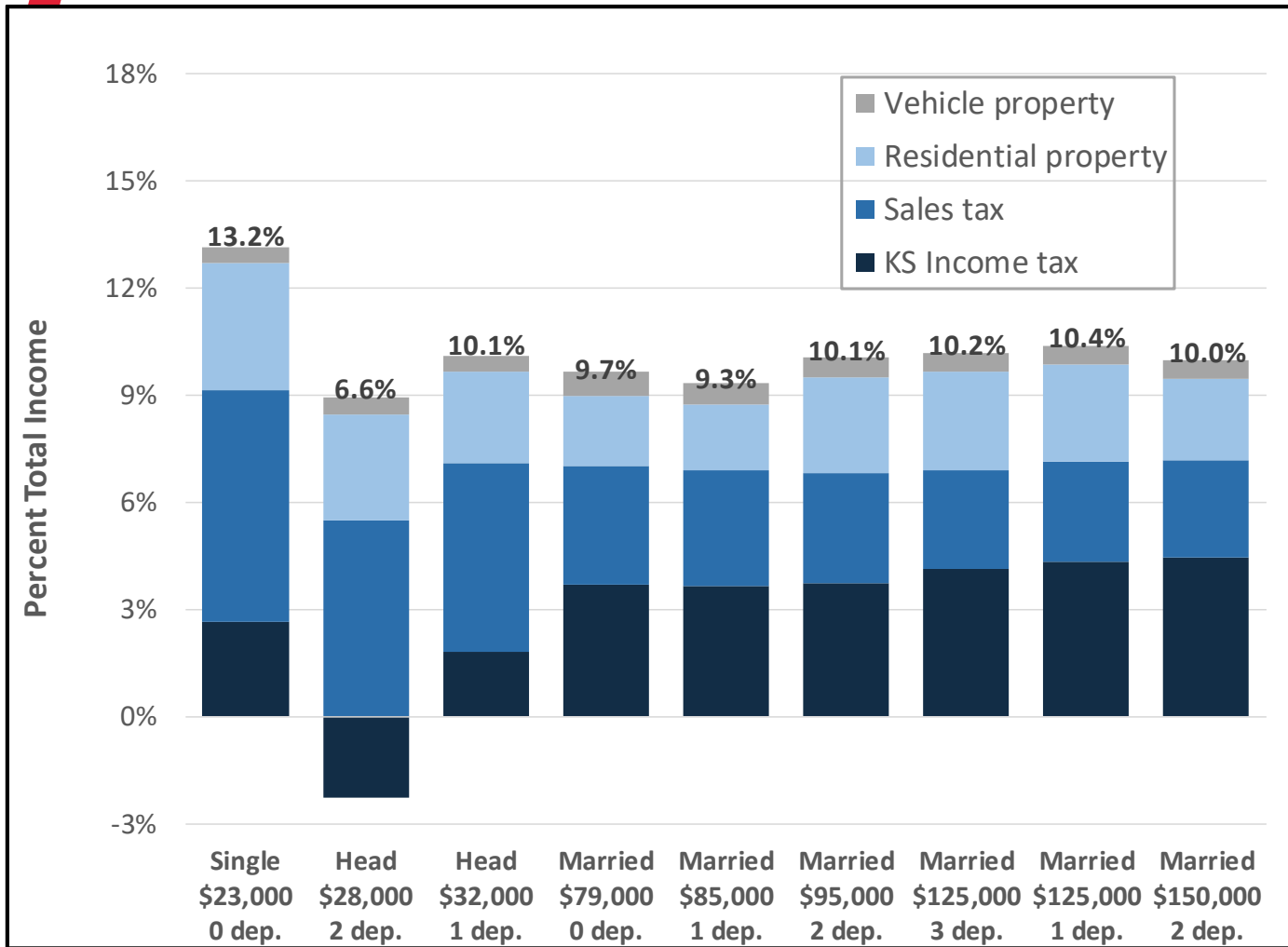
- Property Taxes as a share of income are highest in Johnson County despite mill levies being lower.
- Scott County residents pay a higher share of property taxes than those in Saline County due to their high mill levy.
- Despite having higher property values, high income families pay a lower share of income in property taxes.

Kansas Taxes as Share of Total Income by Tax Type Johnson County



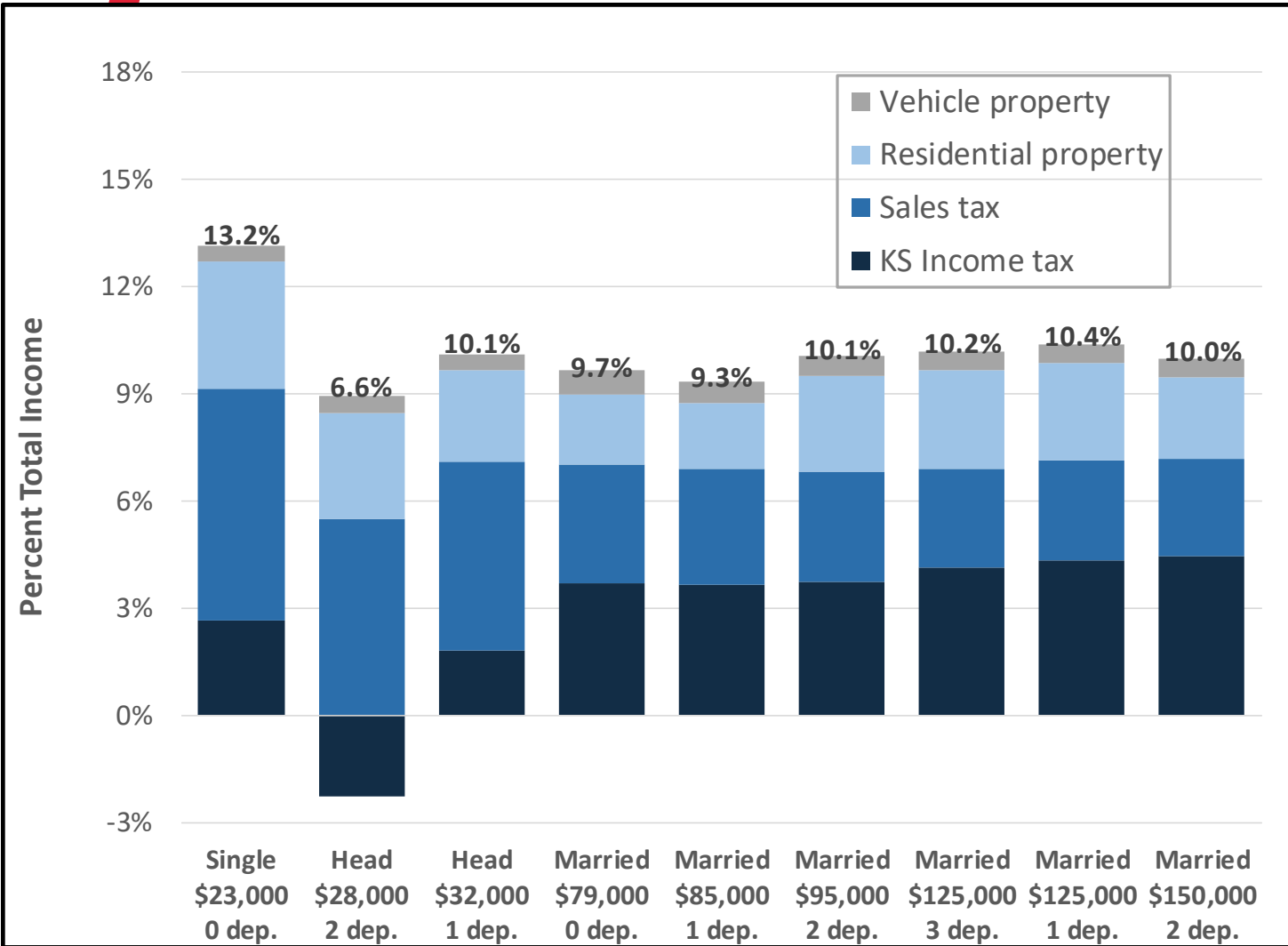
- A Lower-Income Household with one dependent who owns a home in Johnson County would pay 16% of their income in taxes.
- Subtracting off homeownership, the lowest income household in Johnson County is paying ~10% of their income in taxes because of the regressivity of sales taxes.

Kansas Taxes as Share of Total Income by Tax Type Saline County



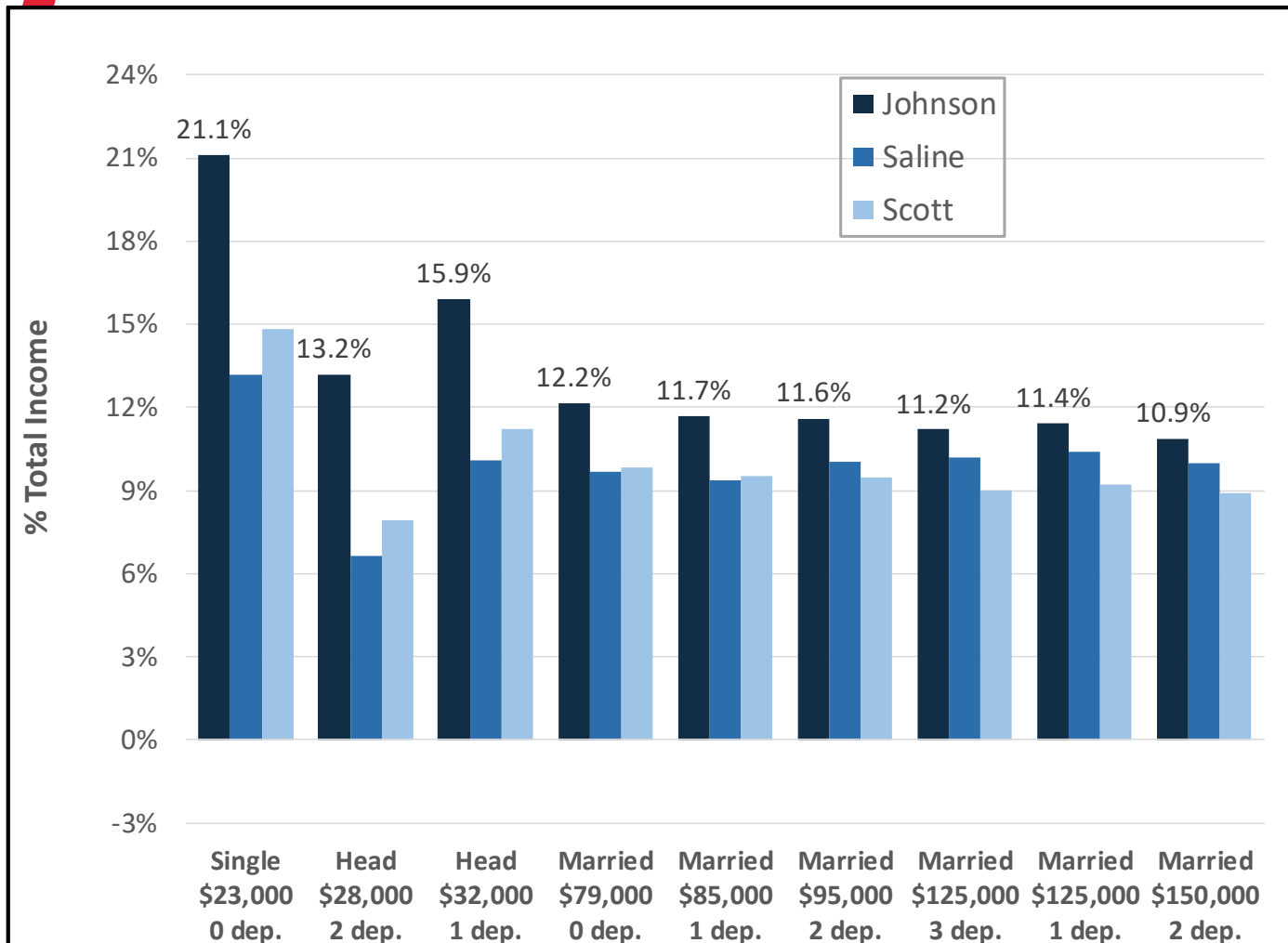
- Property values are lower in Saline County than in Johnson.
- In Saline county, the taxes as a percent of income are flat for income levels above \$32,000.

Kansas Taxes as Share of Total Income by Tax Type Scott County



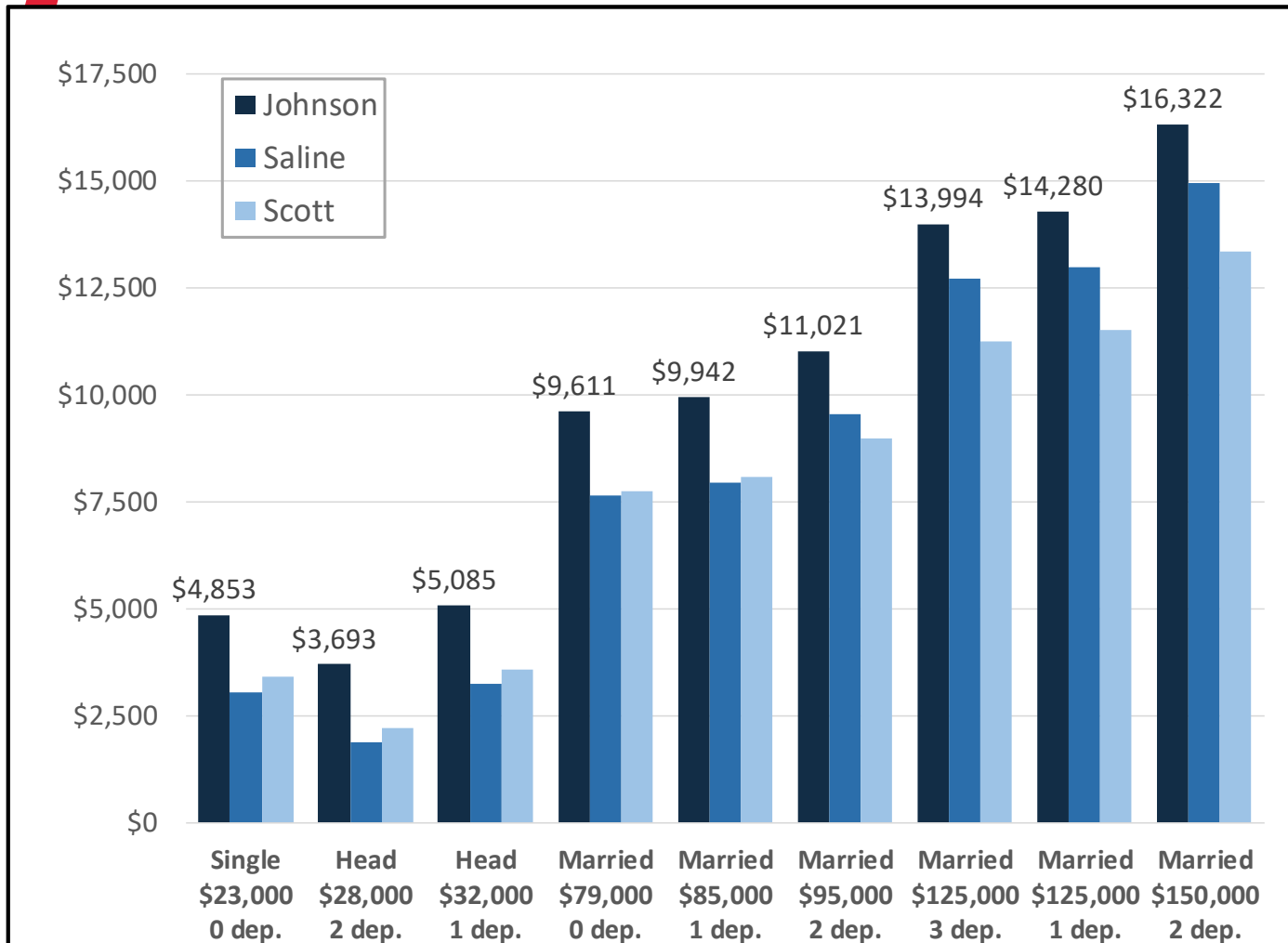
- We see a very similar story for Scott County.

Kansas Taxes as Share of Total Income for Hypothetical Taxpayers



- Johnson County taxes are higher than Saline and Scott because of high residential real estate values
- Wealthy Households in Saline and Scott County have much lower tax burdens after factoring in sales, property and income taxes.

Hypothetical Taxpayer Total Taxes



- Total taxes paid increase with income because:
 - Progressive income tax
 - Wealthier households have higher valued property and cars
 - Wealthier households consume more.

Hypothetical Taxpayers Next Steps

- Do the assumptions we've used make sense?
- Should we consider other types of taxpayers?
- We can use the hypothetical taxpayers to model how changes in tax policy would change the tax incidence of these households.

Thank You!

Thank You
Mahalo
Kiitos
Tack
Toda
Grazie
Thanks
Obrigado
Takk
Danke
Gracias
Merci