

KANSAS INCOME GAPS: DIFFERENCES ACROSS GEOGRAPHIES, AGE GROUPS, EDUCATION LEVELS, AND ETHNICITIES

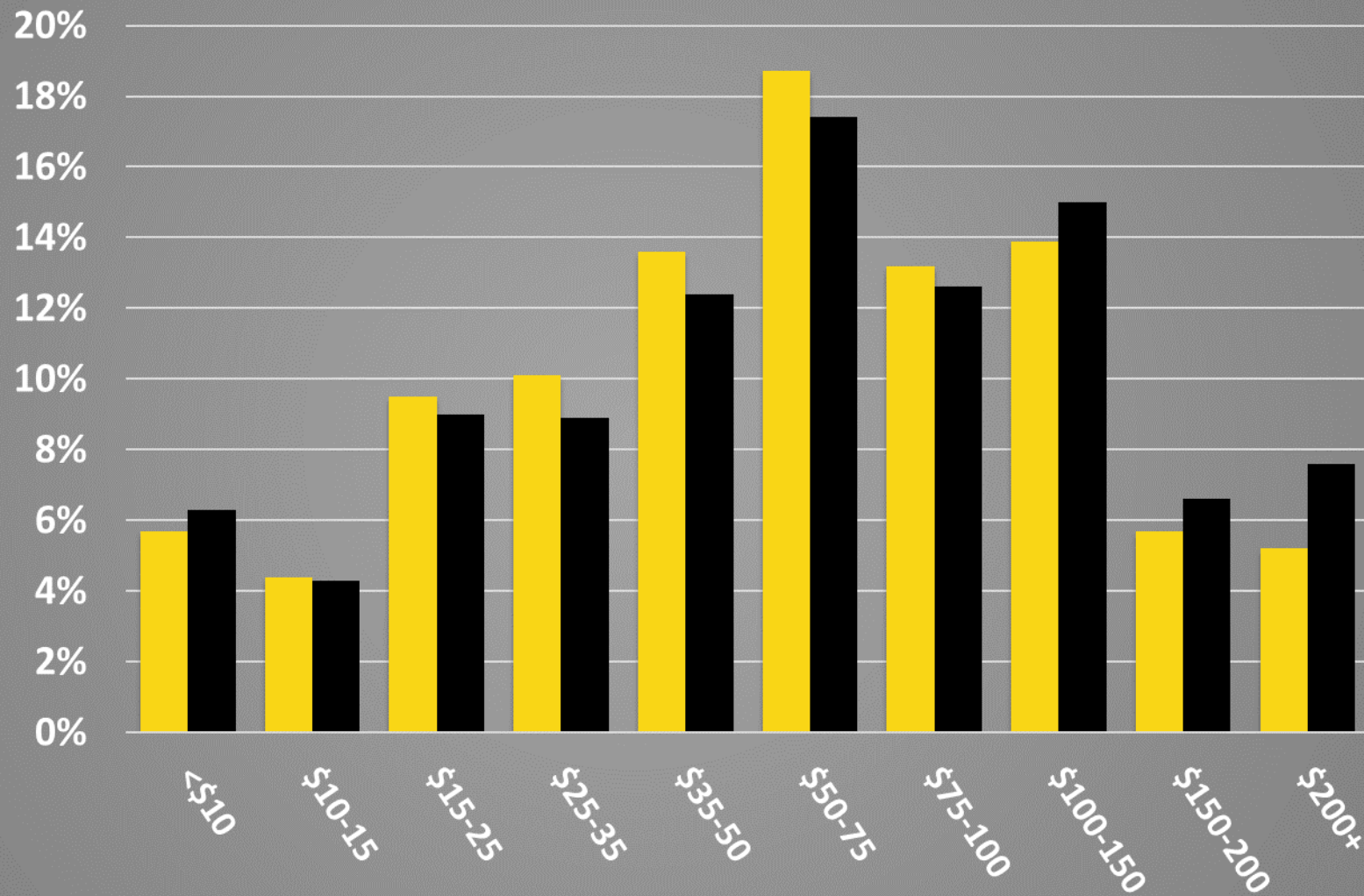
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INCOME IN KANSAS AND THE US

- How does Kansans' income compare to the US average?
- How does income vary among groups within Kansas?

2018 Mean Household Income	
United States	\$87,864
Kansas	\$78,972
Source: Census - ACS	

2018 Household Income Distribution (in \$000s)



Source: CEDBR, ACS

■ Kansas

■ US

KANSAS INCOME DISTRIBUTION

- Kansas has a narrower distribution of income than the US
 - Fewer extremely high or extremely low income households
- Median Kansas household income was 6 percent lower than US
 - Mean was 10.2 percent lower
- Poverty rate for US was 13.1 percent, for Kansas only 12.0 percent
- Why was Kansas' median household income lower?

2018 Median Household Income

United States	\$61,937
Kansas	\$58,218

Source: Census - ACS

KANSAS INDIVIDUAL EARNINGS

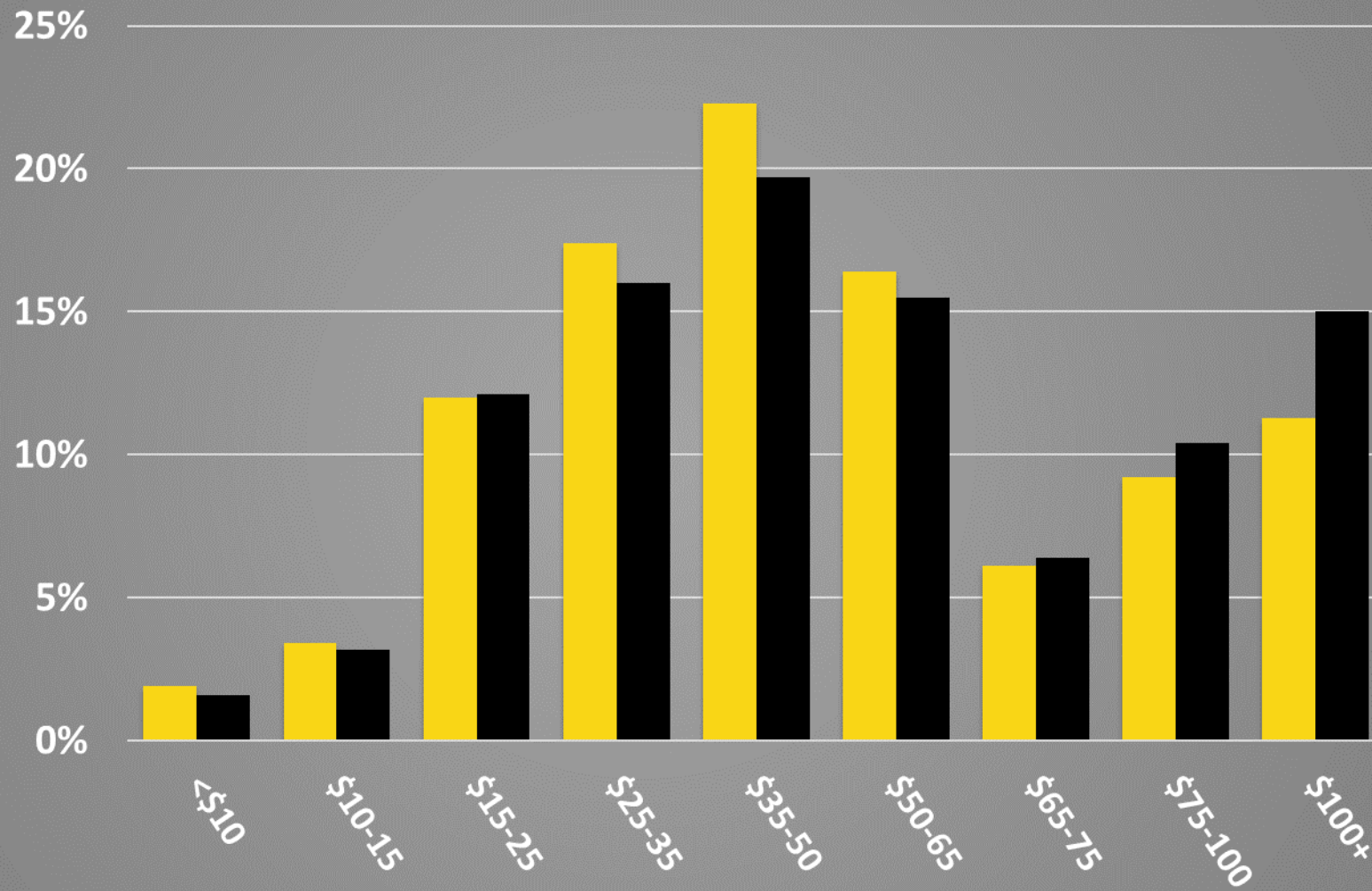
- At the individual level, median earnings are only 4.2 percent lower
- Almost a third of the difference in median household income can be explained by fewer members of households working in Kansas

2018 Median Individual Earnings

United States	\$33,439
Kansas	\$32,032

Source: Census - ACS

2018 Individual Earnings Distribution (in \$000s)



Source: CEDBR, ACS

■ Kansas

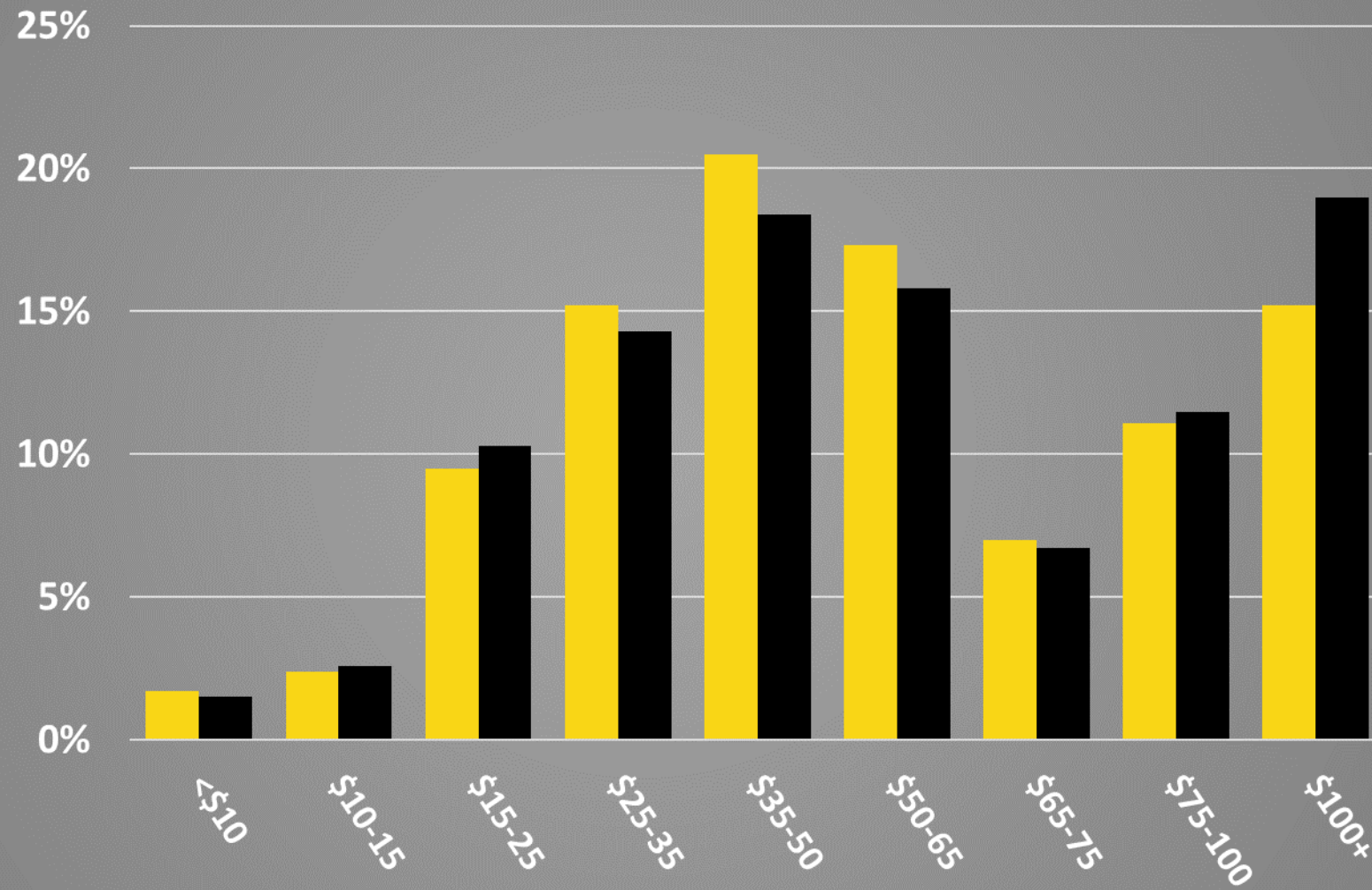
■ US

EARNING BY GENDER

- Kansas has a larger gender gap in pay in than the national average
 - Nationally, women's earnings are 70.3% of men's
 - In Kansas, women's earnings are 67% of men's
- Men's earnings in Kansas only 2.3 percent lower than national average

2018 Median Earnings, by Gender		
	Men	Women
United States	\$40,168	\$28,269
Kansas	\$39,217	\$26,279
Source: Census - ACS		

2018 Individual Male Earnings Distribution (in \$000s)

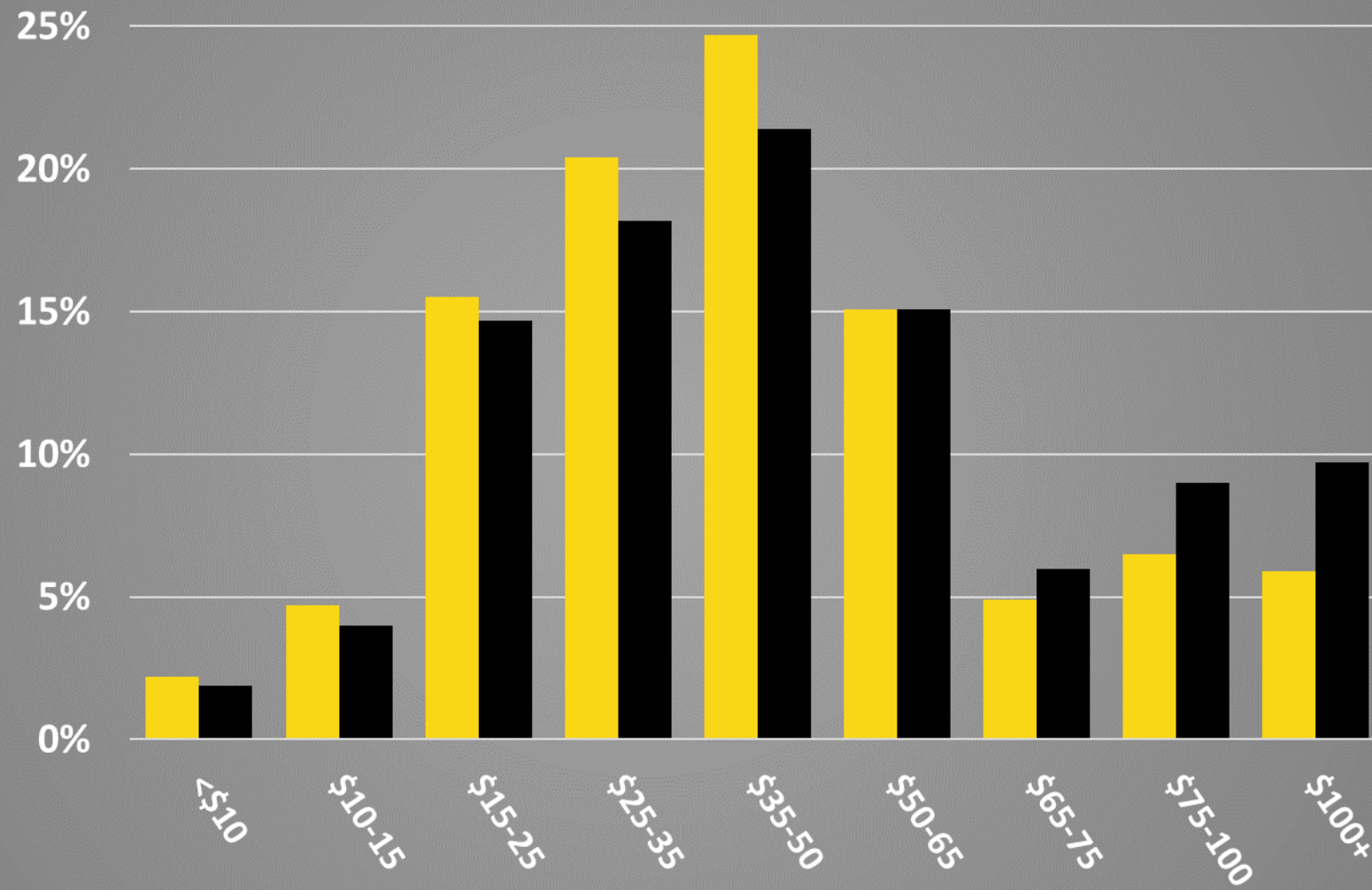


Source: CEDBR, ACS

■ Kansas

■ US

2018 Individual Female Earnings Distribution (in \$000s)



Source: CEDBR, ACS

■ Kansas

■ US

HOUSEHOLD INCOME BY ETHNICITY

- Household income is lower across every ethnicity in Kansas
- Gaps are larger for every ethnic group than the overall gap of 6 percent
 - Due to Kansas having higher share of high earning groups

2018 Median Household Income			
	United States	Kansas	Ratio
Total	\$61,937	\$58,218	94.0%
White	\$67,937	\$61,447	90.4%
Black	\$41,511	\$35,412	85.3%
Hispanic	\$51,404	\$45,938	89.4%
Asian	\$87,243	\$70,834	81.2%
Source: Census - ACS			

EARNINGS BY EDUCATION

- Income gap grows with education
 - Peaks at 15.4 percent with graduate degrees

2018 Median Earnings by Education			
	United States	Kansas	Ratio
Total (25 and Over)	\$40,867	\$39,658	97.0%
Less than high school graduate	\$24,530	\$26,462	107.9%
High school graduate (includes equivalency)	\$31,269	\$30,792	98.5%
Some college or associate's degree	\$36,854	\$35,549	96.5%
Bachelor's degree	\$54,628	\$49,852	91.3%
Graduate or professional degree	\$72,492	\$61,361	84.6%
Source: Census - ACS			

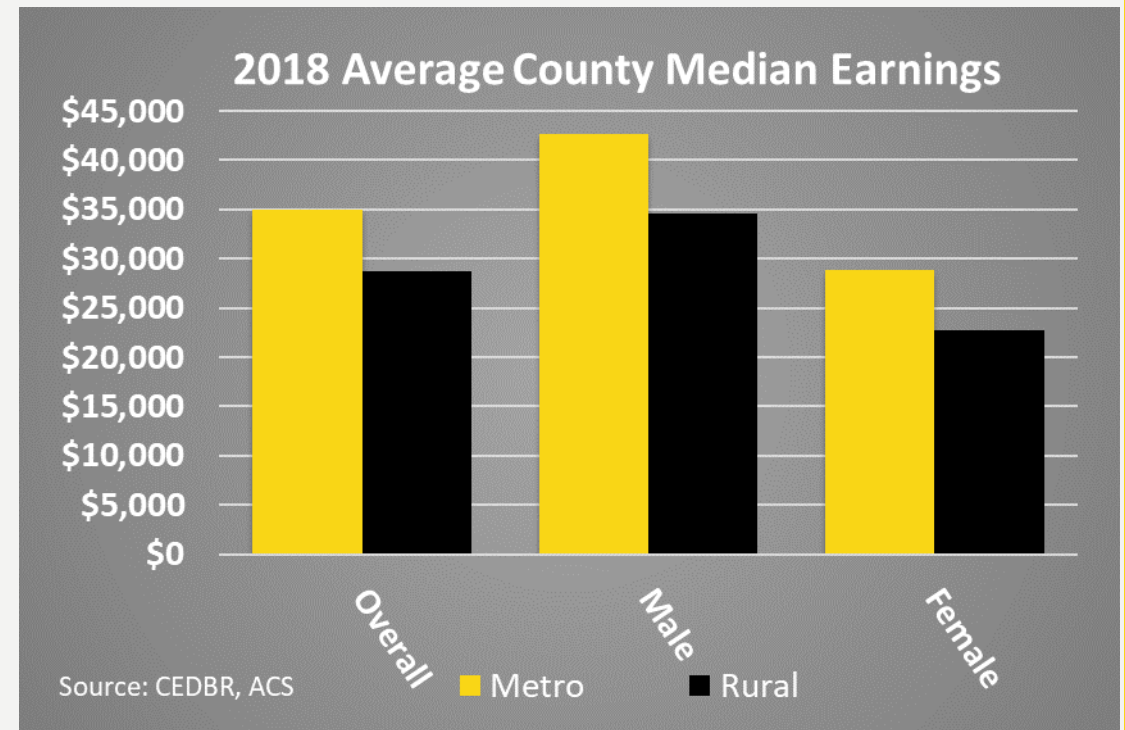
WITHIN KANSAS EARNINGS GAPS

- Within Kansas, the income gap by education ranged from 38.6 to 32.4 percent for women
- Women have higher education than men, on average
 - 35% vs 32.6% bachelors or higher
 - 32.6% vs 31% with associates degree or some college

2018 Kansas Median Earnings by Education			
	Male	Female	Ratio
Total (25 and Over)	\$46,726	\$31,925	68.3%
Less than high school graduate	\$30,896	\$18,975	61.4%
High school graduate (includes equivalency)	\$36,356	\$22,553	62.0%
Some college or associate's degree	\$44,121	\$28,635	64.9%
Bachelor's degree	\$61,752	\$41,299	66.9%
Graduate or professional degree	\$77,273	\$52,291	67.7%
Source: Census - ACS			

RURAL/URBAN EARNINGS GAP

- Rural counties' median earnings were on average 18 percent lower than metro counties'
- Women's median rural earnings were 21 percent lower than women's median metro earnings



COMBINING THE GAPS

- All these income gaps intersect in counties across Kansas
 - Education gaps, rural/urban gaps, gender gaps
- How do we look at all these differences together rather than one at a time?
- Data used: American Community Survey 5-Year Estimates for every Kansas county, from 2010 to 2018

REVISITING THE GENDER GAP

- How much of the gender gap can be explained using other factors?

- Estimated the following equation twice, using female and male data:

$$\begin{aligned} \log(Earnings_{it}) \\ = \alpha_t + \beta_1 Age_{it} + \beta_2 College_{it} + \beta_3 Goods_Emp_{it} + \beta_4 Service_Emp_{it} \\ + \beta_5 Hispanic_{it} + \beta_6 Black_{it} + \beta_7 Other_{it} + \beta_8 Metro_{it} + \varepsilon_{it} \end{aligned}$$

- Weighted by county population

VARIABLE DEFINITIONS

- $Earnings_{it}$: Median earnings for county
- Age_{it} : Median Age for county
- $College_{it}$: Share with Bachelor's Degree or higher
- $Goods_Emp_{it}$: Share of workers employed in goods-producing industries
- $Service_Emp_{it}$: Share of workers employed in private service industries
- $Hispanic_{it}$: Share of population that identified as Hispanic
- $Black_{it}$: Share of population that identified as Black or African-American
- $Other_{it}$: Share of population that identified as a race other than white, Hispanic, or African-American
- $Metro_{it}$: 1 if a metro county, 0 if a rural county

RESULTS

- Men tended to earn more in counties with high private goods and service sector employment
- Women tended to earn more in counties with high levels of education and more diverse counties
- After controlling for other factors, the rural-metro gap was similar for women and men

Gender Median Earnings Regression Results

	Men	Women
<i>Age</i>	0.024327	0.037832
<i>College</i>	0.880657	1.247418
<i>Goods_Emp</i>	1.386884	0.802304
<i>Service_Emp</i>	1.248663	0.575386
<i>Hispanic</i>	-0.014557	0.774962
<i>Black</i>	-0.246131	0.117296
<i>Other</i>	-1.023754	0.266000
<i>Metro</i>	0.111766	0.119017

GENDER DIFFERENCES EXPLAINED

- Blinder-Oaxaca Decomposition:

$$\begin{aligned} & \overline{\log(\text{Women's Earnings}_{it})} - \overline{\log(\text{Men's Earnings}_{it})} \\ &= \widehat{\beta_{\text{women}}}(\overline{X_{\text{women}}} - \overline{X_{\text{men}}}) - \overline{X_{\text{men}}}(\widehat{\beta_{\text{women}}} - \widehat{\beta_{\text{men}}}) \end{aligned}$$

- In effect, how much of the difference in men's and women's earnings can we explain using these variables?
- How much of the difference is due to different responses to these variables?

GENDER DIFFERENCES EXPLAINED

- Using these county-level variables, we can explain 22.1 percent of the variation in gender median earnings
- 77.9 percent is unexplained
- Key explanatory variables are differences in earnings response to goods-producing employment, service employment, and education

Gender Differences in Kansas County Earnings

Total Difference	28.4%
Explained	6.3%
Unexplained	22.2%

REVISITING THE RURAL-METRO GAP

- The metro area earnings premium was similar across both men's and women's earnings
- How much of the rural-metro gap can be explained by other economic factors?

- Estimated the following equation twice, using rural and metro data:

$$\begin{aligned} \log(Earnings_{it}) \\ = \alpha_t + \beta_1 Age_{it} + \beta_2 College_{it} + \beta_3 Goods_Emp_{it} + \beta_4 Service_Emp_{it} \\ + \beta_5 Hispanic_{it} + \beta_6 Black_{it} + \beta_7 Other_{it} + \varepsilon_{it} \end{aligned}$$

- Weighted by county population

RURAL-METRO RESULTS

- Metro areas tended to have higher earnings when college education levels and private sector employment share were high

Rural-Metro Median Earnings Regression Results		
	Rural	Metro
<i>Age</i>	-0.001525	0.025892
<i>College</i>	0.311302	0.642595
<i>Goods_Emp</i>	0.402372	0.847599
<i>Service_Emp</i>	-0.109024	1.235209
<i>Hispanic</i>	0.098486	-0.622770
<i>Black</i>	0.502840	0.424031
<i>Other</i>	-1.091108	-0.734749

RURAL-METRO DIFFERENCES EXPLAINED

- Using these county-level variables, we can explain 79.5 percent of the variation in rural-metro median earnings
- 20.5 percent is unexplained
- Key explanatory variables are differences in earnings response to service employment and education

Rural-Metro Differences in Kansas County Earnings	
Total Difference	21.1%
Explained	16.8%
Unexplained	4.3%



QUESTIONS?

THANK YOU!