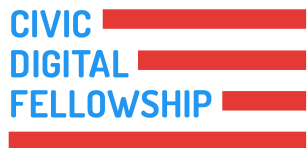# LOCAL LABOR MARKET OPPORTUNITIES FOR PEOPLE WITH CRIMINAL RECORDS

United States Census Bureau
Supervised by Keith Finlay

CIVIC DIGITAL FELLOWSHIP

United States Census Bureau

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PROJECT MOTIVATION

- Criminal records affect access to employment, but stable employment and income reduces chances of reoffending

- Criminal Justice Administrative Records System (CJARS)

    - Collaboration between University of Michigan and U.S. Census Bureau

- Interest from administrators with the power to choose and invest in corrections training programs

PROJECT GOALS

Create an analytic file in STATA quantifying local labor market opportunities:

- Help people with records understand opportunities in their labor markets
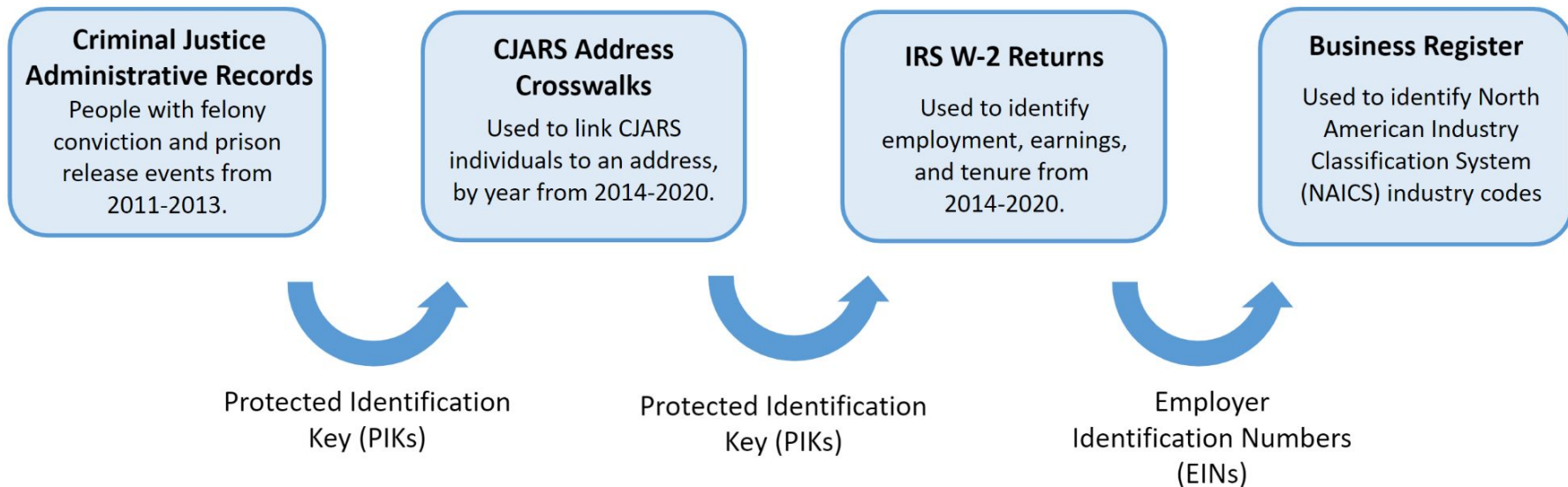- Allow researchers to study opportunities and patterns across the country

Create visualizations in R to ensure the quality of the data product and assist in interpreting the product

Use cluster analysis in R to understand patterns in labor market opportunities across our covered regions
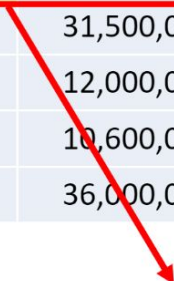
DATA SOURCES USED

Criminal Justice Administrative Records
People with felony conviction and prison release events from 2011-2013.

CJARS Address Crosswalks
Used to link CJARS individuals to an address, by year from 2014-2020.

IRS W-2 Returns
Used to identify employment, earnings, and tenure from 2014-2020.

Business Register
Used to identify North American Industry Classification System (NAICS) industry codes

Protected Identification Key (PIKs)

Protected Identification Key (PIKs)

Employer Identification Numbers (EINs)

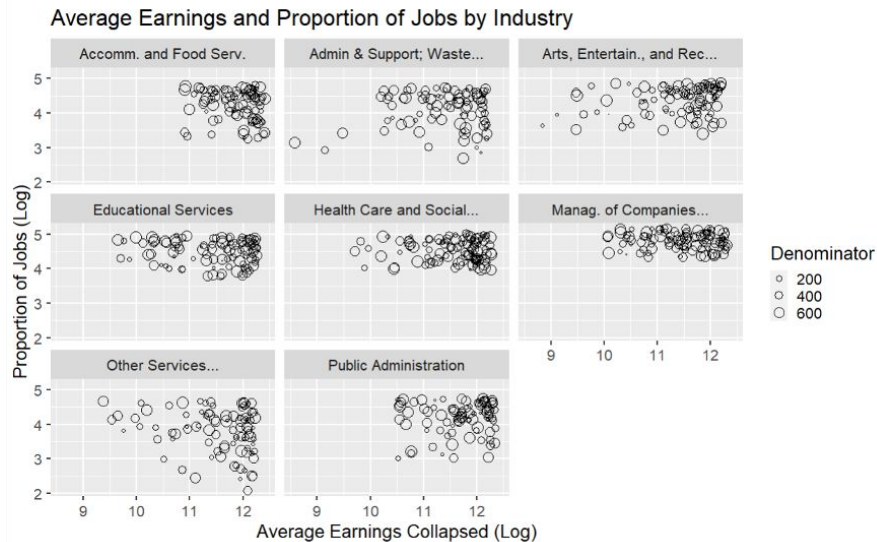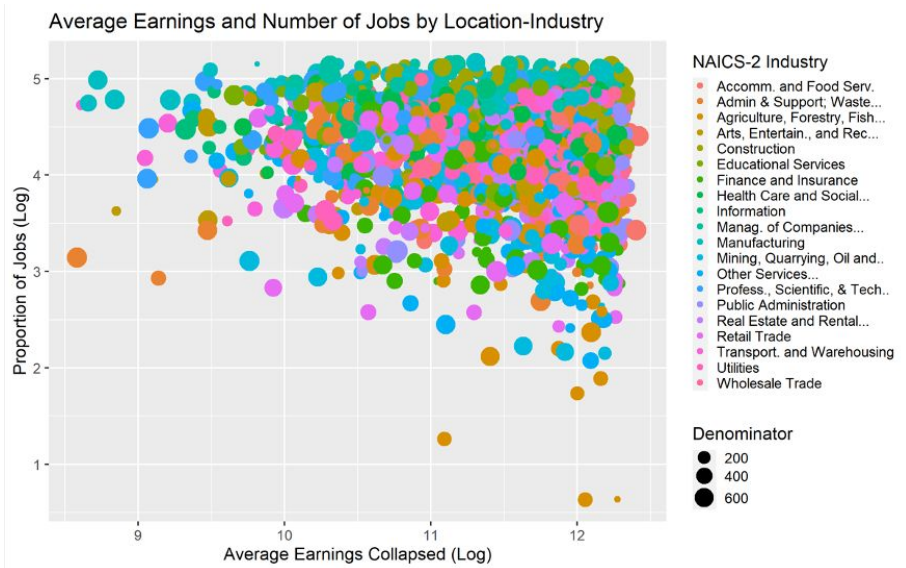# DATA PRODUCT – EXAMPLE SCHEMA

State	County	Industry	Number of People	Number of Jobs	Proportion of Jobs	Total Earnings	Avg. Earnings	Avg. Earnings Collapsed by Tenure	Avg. Tenure (years)
TX	Harris	Food Services	750	500	.20	15,000,000	20,000	22,000	1.5
TX	Harris	Manufacturing	750	300	.10	31,500,000	40,000	42,000	2.5
TX	Harris	Retail Trade	400	200	.25	12,000,000	30,000	31,000	2.0
IL	Cook	Food Services	440	400	.12	10,600,000	25,000	24,000	1.2
IL	Cook	Manufacturing	800	200	.15	36,000,000	45,000	46,000	4.0

Note: All data presented here are fake.

- 20% of jobs in Harris County are in the Food Services industry.
- Individuals in this industry can expect to make $20,000 on average.
- Employees will stay in the job for an average of 1.5 years.

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DATA VISUALIZATIONS

Note: These visualizations are created with fake data.

Average Earnings and Number of Jobs by Location-Industry
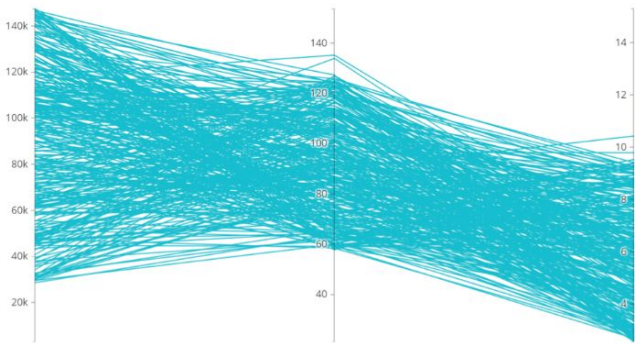

Average Earnings and Proportion of Jobs by Industry

Objective: Identify industry-level patterns in the relationship between demand for employees and average compensation.
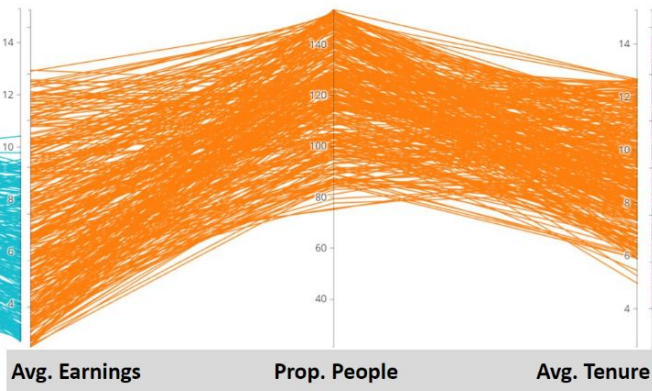
CLUSTERING

Examples:

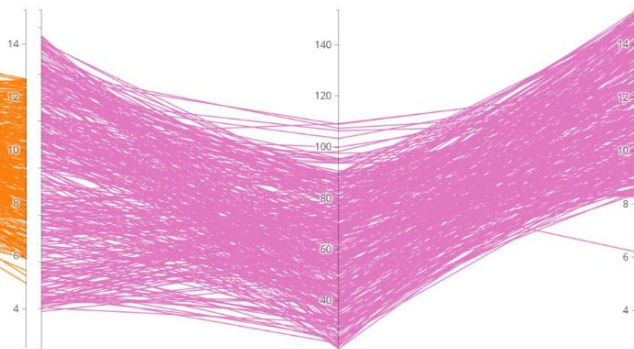Note: These visualizations are created with fake data.

Cluster 1: High paying, low tenure county-industries

Cluster 2: High employing, low paying county-industries

Cluster 3: High paying, high tenure county-industries

Avg. Earnings   Prop. People   Avg. Tenure

Objective: Identify sets of industries by location that present the best opportunities based on areas of desired stability (e.g., tenure vs. income)

ACCOMPLISHMENTS

- Produced dataset of local labor market opportunities for justice-involved populations that follows Census Bureau disclosure rules

- Validated and interpreted the dataset through visualizations

- Proved that clustering methods could provide additional insight into this dataset
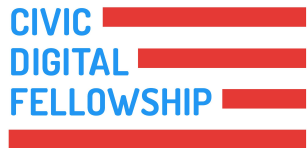
FUTURE DIRECTIONS

- Exploring other clustering methods

- Disentangling the members of the clusters (by location/industry)

- Interactive application for understanding county-level results
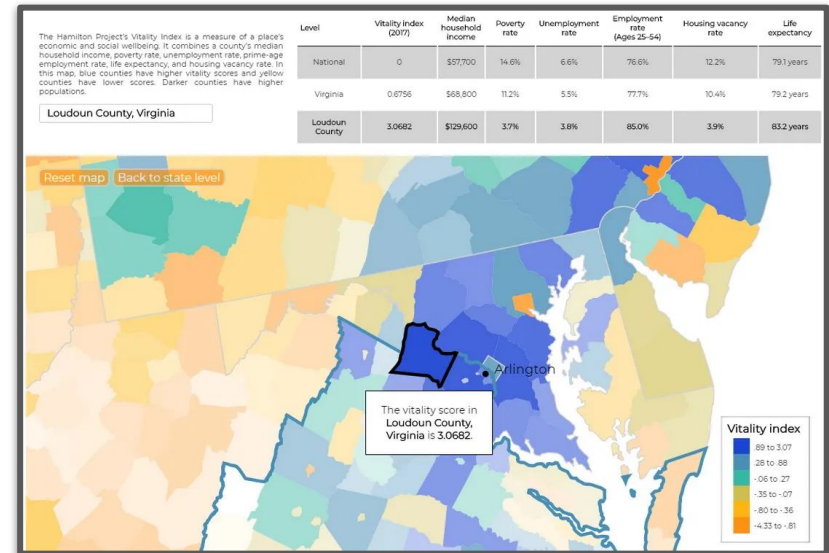
THANK YOU
QUESTIONS/COMMENTS?

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