**Data Source**

* IPUMS (Motto: **Use it for Good—Never for Evil**!)
  + USA
  + CPS
  + International
  + NAPP
  + Global Health
  + NHGIS
  + Terra
  + Time Use
  + Health Survey
  + Higher Ed
* Institute for Social Research and Data Innovations at the University of Minnesota

**Hypothesis**

**How has the industry changed over time?**

1. **Agriculture, Farming, etc.**
2. **Manufacturing**
3. **Business & Repair Services**
4. **Professional Services**
5. **Public Administration**

**Samples**

* U.S. census from 1950 – 2010, every 10 years
* American Community Surveys (ACS) for 2015 & 2017
* Starting #: **~76 million people**
  + Had to be at least 18 years old
  + Worked in one of the 5 industries listed above
    - **Final sample size: 14,971,915 people**

**Variables Examined**

* Demographics
  + Age, sex, & race
* Education
  + Highest level of educational attainment
* Income
  + Total personal income
    - Median
    - Adjusted for inflation
* Work
  + Employment status
    - Are you currently working?
  + Industry
  + Place of work (state)

**Main Points**

**DEOMGRAPHICS**

* Median age, on average, increases over time.
* Generally, there are more males than females, except in the Professional Services industry.
* There are more employed Caucasians than any other race, regardless of the industry.

**EDUCATION**

* Over time, more people are attempting to gain a higher level of education, regardless of the industry.
  + as the # of high school degrees (or less) decrease, the # of college degrees increases
* The Public Administration industry has the **largest** percentage of college and graduate/professional school graduates (or degree seeking) employees, overall.

**MEDIAN INCOME**

* **Trend for the industries, on average over time**

1. Agriculture, Farming, etc.

LOWEST

1. Business & Repair services
2. Professional Services
3. Public Administration

HIGHEST

1. Manufacturing

**WORK**

* Manufacturing employs the largest # of people (~ 40%) among the 5 industries.
  + While Agriculture employs the least (~7%).
* There is a decrease in the # of workers, on average, moving from the East to West, over time- regardless of the industry.
* On average, males dominate in the 5 industries over time, except in Professional Services.
* As the # of Caucasians employed increases, the # of African Americans employed decreases in Agriculture, Manufacturing, and Business Services.
* Native Indians are only represented in the Public Administration industry.

HIGHLIGHTS are written on below on the graphs

**Relationship between Employment, Income and Age across Industries (3D bubble chart)**

1. This graph presents the interaction of 3 variables for EACH of the industries for a SPECIFIC year:
   1. # of people employed
   2. Median age
   3. Median income (adjusted for inflation)

* 1980 & 2000 are good examples of general OVERALL trends:
  + Manufacturing employs the largest # of people (~ 40%) among the 5 industries across time.
    - While Agriculture employs the least (~7%) among the 5 industries across time.
  + On average, manufacturing and public administration have the largest median income.
    - While agriculture & business industry are the lowest
  + Median age and median income (adjusted for inflation), on average, increase over time, regardless of the industry.
    - * Go to 2000
        + see the median income change from 40K to 50K
        + median ages increase
        + bubbles of each industry move!!
* No observation for Agriculture in 2015.

**Education Level across…**

Regardless of the year,

* Agriculture: Largest % of those with a high school degree (or less)
* Professional Services: Largest % of those with a grad school degree (or less).

Regardless of the year, Agriculture & Professional Services have the largest % of those with a high school & grad school degree, respectively.

* There is a large drop in the # of people who attend school from 1960 to 1970 (across industries).
  + Then a large jump in attendance in 1980.
  + This may be explained by the recession that occurred in the early 70’s.
* No observation for Agriculture in 2015.

**Map**

1. This map presents the # people employed for EACH of the industries for a SPECIFIC year.
   1. At the bottom is the employment range (lowest # to highest # of people) for the chosen variables.
      1. It changes with each year
      2. As the color increases, so the # of people

* There is a decrease in the # of workers, on average, moving from the eastern to western US, over time- regardless of the industry.
  + - * Go from 1960 to 2010 for AGRICULTURE
        + Should see the eastern part of the US lighten up
* No map for 1950 & 1970, 2015 & 2017.

**Demographics**

* On average, Caucasian males dominate in the 5 industries over time, except in the Professional Services industry.
* No observation for Agriculture in 2015