

PA #1

Data Section

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The Current Population Survey (CPS) is the Government's monthly survey on labor force status thus the primary source of labor force statistics for the population of the United States. At present, data is collected by the U.S. Census Bureau and U.S. Bureau of Labor Statistics (BLS) is taking the responsibility of analyzing and publishing the data. It can be access from the website of the United States Census Bureau or the NBER website. The data was collected by the mean of questionnaires and interviews. The questionnaire consists of more than 200 questions is filled in on average 8 months of interviews.

Over the years, researchers use CPS dataset to observe the income distribution in the United States. R. Burkhauser, et al. (2000) used CPS dataset, combined with SIPP data, found the increase in minimum wage have a significant negative employment effect on vulnerable groups. And CPS data also helped D. Autor, et al (2016) found that the minimum wage reduces inequality in the lower tail of the wage distribution.

The dataset contains several key variables, including family income level, race, country of birth, employment status, etc. The completion of questionnaire is satisfying that most of them are complete. (Figure 1)

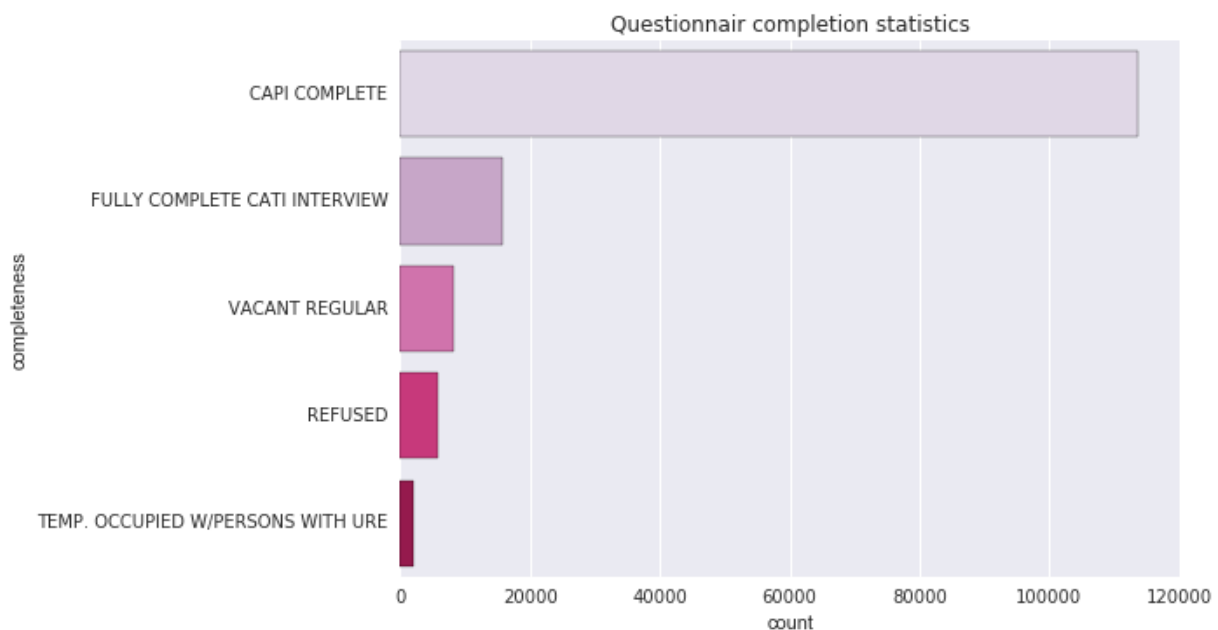


Figure 1: Questionnaire completion statistics

The descriptive statistics for 8 key variables are reported below (Table 1):

	race	household type	gender	state data	employment data	education data	job type data	complete status
mean	1.262744	2.203675	1.307476	28.219442	1.155632	28.060844	1.741454	183.119701
std	1.382317	2.178182	0.698982	16.18289	1.087642	18.601334	2.156329	62.841663
min	0	0	0	1	0	0	0	1
25%	1	1	1	13	0	0	0	201
50%	1	1	1	29	1	39	0	201
75%	1	4	2	42	2	41	4	201
max	26	9	2	56	5	46	8	259

Table 1: Descriptive statistics for 8 variables

For genders, on average the income level of male is higher than that of female's. However, more women are in employment than men. Moreover, female tend to have higher education level; male is more likely to be self-employed than female. (Table 2)

	INCOME	RACE	HOUSEHOLD	EMPLOYMENT	EDU	JOB	STATE
0	0	0	0	0	0	0	29.185806
1	11.27868	1.462147	2.377816	1.263081	31.989882	2.203037	28.103409
2	10.971774	1.466882	2.722682	1.412706	33.067292	1.848299	28.028984

Table 2: Conditional description on gender

Interestingly, the income distribution is not what I expected – a normal distribution. It appears that the lowest income group has the largest population; and for other, the higher the income level, the more people in the group.



Figure 2: Income Distribution

Breaking down to different variables. Most groups have relatively even income distribution, yet primary individual households generally have higher income than others. And not surprisingly, the higher the education level, the higher mean income of that group.

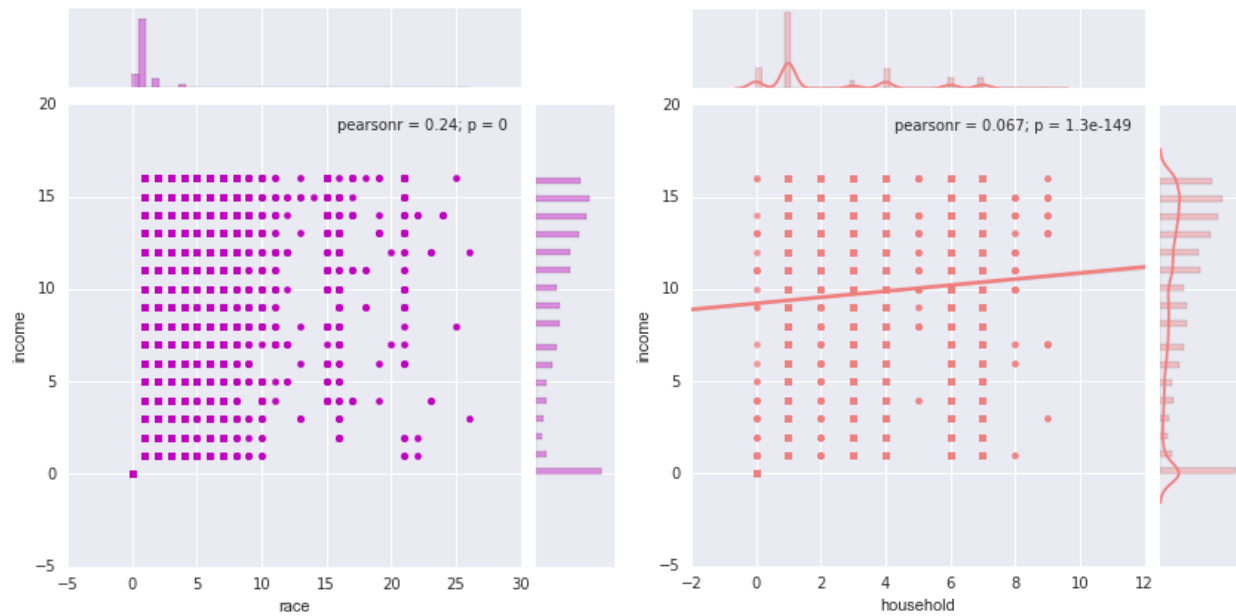


Figure 3: Income distribution in dependent of race and household types

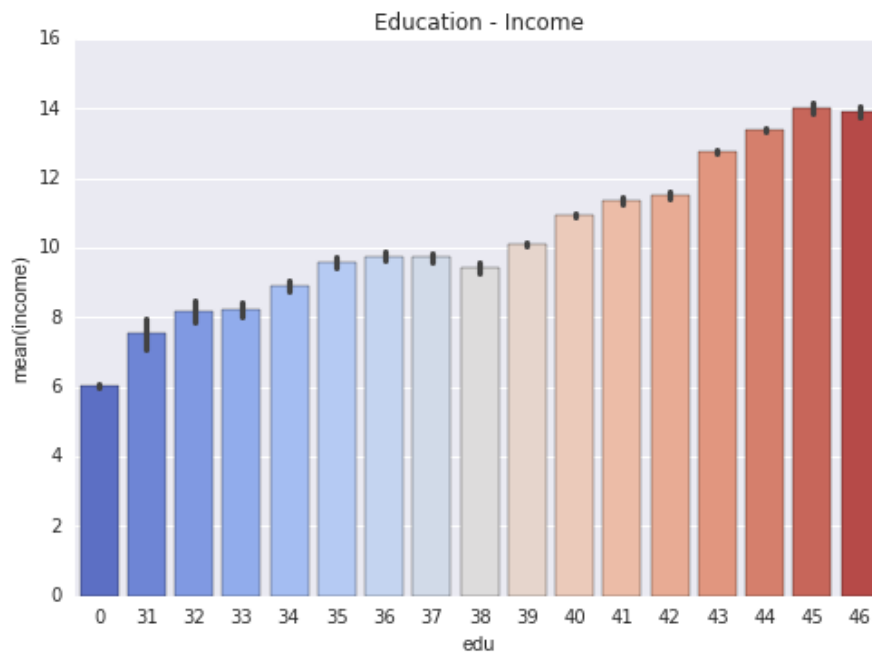


Figure 4: Income distribution in dependent of education level

Apart from the relationship between income level and other variables, I further looked at the relationship between employment and race. The Pearson's r correlation is 0.11, which suggests that there is a weak correlation between employment status and race. (Figure 5)

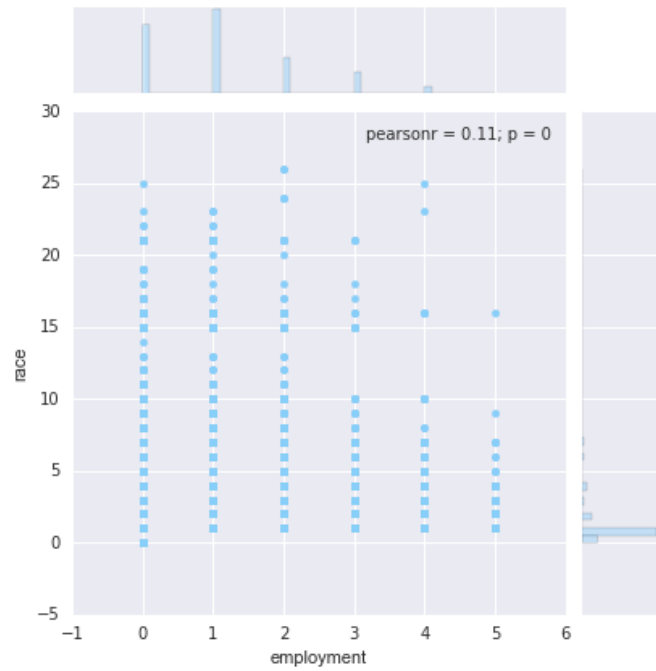


Figure 5: Relationship between employment status and race

Reference:

Burkhauser, Richard V., Kenneth A. Couch, and David C. Wittenburg. "Who Minimum Wage Increases Bite: An Analysis Using Monthly Data from the SIPP and the CPS." *Southern Economic Journal* 67, no. 1 (2000): 16-40. doi:10.2307/1061611.

David, H., Alan Manning, and Christopher L. Smith. "The contribution of the minimum wage to US wage inequality over three decades: a reassessment." *American Economic Journal: Applied Economics* 8, no. 1 (2016): 58-99.