**SAS Code**

/\*Import IPUMS dataset\*/

**PROC** **IMPORT**

DATAFILE="C:\Users\pss46\Desktop\Project 3\usa\_00011.csv"

OUT=project.project

DBMS=csv

REPLACE;

**RUN**; **QUIT**;

/\*create weekly income variable\*/

**data** project.project;

set project.project;

WeeklyIncome = (INCWAGE/WKSWORK1);

**run**; **quit**;

/\*create hourly wages variable\*/

**data** project.project;

set project.project;

HourlyWages = (WeeklyIncome/UHRSWORK);

**run**; **quit**;

/\*dropped off variables\*/

**data** project.project (drop= race raced educd empstatd wkswork1 uhrswork income incwage occ);

set project.project;

**run**; **quit**;

/\*dropped off all null values in HourlyWages\*/

**data** Project.project;

set project.project;

where HourlyWages>**0**;

**run**;

/\*Import Education file\*/

**PROC** **IMPORT**

DATAFILE="C:\Users\pss46\Desktop\Project 3\Education Attainment.xlsx"

OUT=project.Education

DBMS=xlsx

REPLACE;

SHEET="Sheet1";

GETNAMES=YES;

**RUN**; **QUIT**;

/\*merged education and ipums data\*/

**data** project.datamerge;

merge project.education project.project;

by statefip;

**run**; **quit**;

/\*Keeping only employed people in the dataset\*/

**data** Project.datamerge;

set project.datamerge;

where EMPSTAT=**1**;

**run**; **quit**;

**data** project.datamerge;

set project.datamerge;

Employed = EMPSTAT;

**run**; **quit**;

/\*Dropping EMPSTAT\*/

**data** project.datamerge (drop= EMPSTAT);

set project.datamerge;

**run**; **quit**;

/\*creating variable years of education\*/

**data** project.datamerge;

set project.datamerge;

if educ>= **11** then educyr= **18**;

else if educ=**10** then educyr= **17**;

else if educ=**9** then educyr=**16**;

else if educ=**8** then educyr=**15**;

else if educ=**7** then educyr=**14**;

else if educ=**6** then educyr= **13**;

else if educ=**5** then educyr=**12**;

else if educ=**4** then educyr=**11**;

else if educ=**3** then educyr=**10**;

else if educ=**2** then educyr=**8**;

else if educ=**1** then educyr=**6**;

else if educ=**0** then educyr=**0**;

**run**; **quit**;

/\*dropped educ variable\*/

**data** project.datamerge (drop = educ);

set project.datamerge;

**run**; **quit**;

/\*dropped weekly income\*/

**data** project.datamerge (drop = WeeklyIncome);

set project.datamerge;

**run**; **quit**;

/\*Created log(HourlyWages)\*/

**data** project.datamerge;

set project.datamerge;

lhrwage = log(HourlyWages);

**run**; **quit**;

/\*Created Marital Status variable\*/

**data** project.datamerge;

set project.datamerge;

if marst<=**2** then MaritalStatus =**1**;

else if marst>**2** then MaritalStatus =**2**;

**run**; **quit**;

/\*dropped MARST\*/

**data** project.datamerge (drop = MARST);

set project.datamerge;

**run**; **quit**;

/\*Created Experience\*/

**data** project.datamerge;

set project.datamerge;

Experience = (Age-educyr);

**run**; **quit**;

/\*Created Experiencesq\*/

**data** project.datamerge;

set project.datamerge;

Experiencesq = Experience\*\***2**;

**run**; **quit**;

/\*Changing Industry (7870) into quantitative data\*/

/\* 7870 - Educational Services (Colleges, Universities, and Professional Schoola, including junior colleges\*/

**data** project.datamerge;

set project.datamerge;

if ind=**7870** then indeduc=**0**;

else if ind>**7870** then indeduc=**2**;

else if ind<**7870** then indeduc=**1**;

**run**;

**quit**;

/\*eduind = 1 is 7870 Industry\*/

**data** project.datamerge;

set project.datamerge;

if indeduc=**0** then eduind=**0**;

else if indeduc>**0** then eduind=**1**;

**run**;

**quit**;

/\*dropped IND and indeduc\*/

**data** project.datamerge (drop = IND indeduc);

set project.datamerge;

**run**; **quit**;

/\*Descriptive statistics\*/

**PROC** **MEANS** DATA=project.datamerge;

VAR edu2019 educyr lhrwage experience experiencesq;

**RUN**;

**quit**;

/\*Regression 1\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr ;

**run**; **quit**;

/\*Regression 2\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience experiencesq ;

**run**; **quit**;

/\*Regression 3\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience experiencesq edu2019 ;

**run**; **quit**;

/\*Regression 4\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience experiencesq edu2019 maritalstatus;

**run**; **quit**;

/\*Created interaction term\*/

**data** project.datamerge;

set project.datamerge;

educyr19 = edu2019\*educyr;

**run**;

**quit**;

/\*Regression 5\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience experiencesq edu2019 educyr19 maritalstatus eduind;

**run**; **quit**;

/\*to check for multicollinearity\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience experiencesq edu2019 educyr19 maritalstatus eduind / vif tol ;

**run**; **quit**;

/\*to check for hetereoskedascity\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience experiencesq edu2019 educyr19 maritalstatus eduind/acov ;

**run**; **quit**;

/\*Hypothesis test\*/

**proc** **reg** data=project.datamerge;

model lhrwage = educyr experience;

t1: test experience=**0**;

**run**; **quit**;