Applied Econometrics II

Project 1 Part 1

1. Looking at Table 1, I do not believe any coefficients have changed significantly from Model 1 to Model 2. The most change in coefficient is of the variable ‘Some college’ which was 57,723.27 in Model 1 and 60,284.86 in Model 2, but in both the models it is statistically significant at 1% level.
2. The coefficient of *treatment* in Model 2 is -5,884.56 and its standard error is 81.16 which makes the model statistically significant at 1% level. The interpretation for *treatment*’s coefficient in Model 2 would be on average, getting an advanced IT training reduces an individual’s income by $5884.56 holding everything else constant. I do not believe the coefficient is economically significant as it is not depicting the true impact of training on an individual’s income. Also, the sign of this coefficient is not supposed to be negative because if IT training is provided to individuals, they are supposed to earn more and the potential explanation for this wrong sign would be the omitted variable bias i.e., exclusion of other important variables in the regression model which would help better understand the regression relationship.
3. The coefficient of *treatment* in Model 3 is 4899.34 and the standard error is 79.34 which displays that the variable is statistically significant at 1% level. Interpretation – On average, giving an advanced IT training to individuals with higher inner-ability would increase their income by $4899.34 holding everything else constant. I believe coefficient of *treatment* in Model 3 is quite economically significant as it is depicting somewhat the true impact of training given to higher inner-ability individuals on their income. Compared to its coefficient in Model 2, it looks like *ability* is an important variable to be included in this regression model and Model 3’s coefficient seems to have a better representation of relationship between advanced IT training and income.

|  |  |  |  |
| --- | --- | --- | --- |
| Table 1: Determinants of Income (Categorical & Interaction Variables) | | | |
|  |  |  |  |
| Regressors | Model1 | Model2 | Model3 |
| Intercept | 116,841.14\*\*\* | 117,818.05\*\*\* | 91,093.15\*\*\* |
|  | (506.93) | (507.98) | (484.23) |
| treatment |  | -5,884.56\*\*\* | 4,899.34\*\*\* |
|  |  | (81.16) | (79.34) |
| ability |  |  | 9,937.81\*\*\* |
|  |  |  | (23.21) |
| Male | 5,926.01\*\*\* | 5,945.98\*\*\* | 5,796.35\*\*\* |
|  | (246.36) | (249.03) | (229.22) |
| Black | -457.27\*\*\* | -444.92\*\*\* | -473.13\*\*\* |
|  | (172.61) | (172.35) | (164.39) |
| Asian | 747.56\*\*\* | 751.82\*\*\* | 723.53\*\*\* |
|  | (241.88) | (240.74) | (230.98) |
| Hispanic | -4,172.37\*\*\* | -4,155.41\*\*\* | -4,143.88\*\*\* |
|  | (172.20) | (172.25) | (163.31) |
| Other | -629.34\* | -618.51\* | -650.53\*\* |
|  | (339.74) | (338.86) | (323.70) |
| High School Graduate | -1,058.36\*\*\* | -1,050.95\*\*\* | -1,072.83\*\*\* |
|  | (205.42) | (207.97) | (190.57) |
| Some College | 57,723.27\*\*\* | 60,284.86\*\*\* | 930.01\*\*\* |
|  | (199.32) | (204.72) | (235.11) |
| College Graduate | 66,118.09\*\*\* | 68,687.00\*\*\* | 9,328.48\*\*\* |
|  | (220.39) | (225.01) | (251.75) |
| Graduate Degree | 83,059.33\*\*\* | 85,625.02\*\*\* | 26,256.01\*\*\* |
|  | (248.33) | (251.88) | (274.87) |
| Male\*Black | -6,361.93\*\*\* | -6,378.54\*\*\* | -6,340.02\*\*\* |
|  | (250.42) | (250.39) | (237.80) |
| Male\*Asian | -7,614.85\*\*\* | -7,607.83\*\*\* | -7,741.98\*\*\* |
|  | (337.48) | (335.95) | (322.58) |
| Male\*Hispanic | -4,508.36\*\*\* | -4,512.33\*\*\* | -4,433.73\*\*\* |
|  | (229.79) | (230.21) | (217.53) |
| Male\*Other | -5,275.17\*\*\* | -5,294.75\*\*\* | -5,315.75\*\*\* |
|  | (475.27) | (474.58) | (451.72) |
| Male\*High School Graduate | 3,073.40\*\*\* | 3,064.74\*\*\* | 3,134.94\*\*\* |
|  | (269.03) | (272.42) | (249.58) |
| Male\*Some College | 5,040.47\*\*\* | 5,025.64\*\*\* | 5,146.59\*\*\* |
|  | (261.73) | (263.60) | (245.20) |
| Male\*College Graduate | 17,593.28\*\*\* | 17,564.39\*\*\* | 17,719.04\*\*\* |
|  | (286.19) | (287.49) | (269.27) |
| Male\*Graduate Degree | 31,751.88\*\*\* | 31,727.09\*\*\* | 31,861.24\*\*\* |
|  | (317.08) | (317.67) | (299.80) |
| Number of Weeks Worked LAst Year | 937.30\*\*\* | 937.52\*\*\* | 939.08\*\*\* |
|  | (1.87) | (1.87) | (1.78) |
| State, Occupation, and Industry Controls? | YES | YES | YES |
| Number of Obs | 1,788,022 | 1,788,022 | 1,788,022 |
| Adjusted R-sq | 0.5271 | 0.5286 | 0.5721 |
| Overall Significance | 20,525.07\*\*\* | 20,269.07\*\*\* | 24,463.02\*\*\* |
|  |  |  |  |
| Note: robust standard errors are in parentheses. \*, \*\*, and \*\*\* indicate 10%, 5%, and 1% significance levels, respectively. | | | |

Appendix

SAS Code

/\*Calling the library\*/

libname AEData "~/my\_shared\_file\_links/u47408605/Data"

access=readonly;

run;

/\*Merged data\*/

data Merged\_data;

merge AEData.db1 AEData.db2 AEData.db3;

by id;

run;

/\*Model 1\*/

ods output ParameterEstimates=PEforModel1 DataSummary=ObsModel1 FitStatistics=AdjRsqModel1 Effects=OverallSigModel1;

Proc SurveyReg data=Merged\_data plots=none;

Class raceethnic ed occ ind statefips / Ref=first;

Model1: Model income=male raceethnic ed wkswork occ ind statefips male\*raceethnic male\*ed /Solution Adjrsq;

run;

/\*Model 2\*/

ods output ParameterEstimates=PEforModel2 DataSummary=ObsModel2 FitStatistics=AdjRsqModel2 Effects=OverallSigModel2;

Proc SurveyReg data=Merged\_data plots=none;

Class raceethnic ed occ ind statefips / Ref=first;

Model2: Model income=male raceethnic ed wkswork occ ind statefips male\*raceethnic male\*ed treatment/Solution Adjrsq;

run;

/\*Model 3\*/

ods output ParameterEstimates=PEforModel3 DataSummary=ObsModel3 FitStatistics=AdjRsqModel3 Effects=OverallSigModel3;

Proc SurveyReg data=Merged\_data plots=none;

Class raceethnic ed occ ind statefips / Ref=first;

Model3: Model income=male raceethnic ed wkswork occ ind statefips male\*raceethnic male\*ed treatment ability/Solution Adjrsq;

run;

/\* Step 1: Cleaning up the output of the regression analysis \*/

Data Table\_Long\_Project;

length Model $10;

length Parameter $30;

set PEforModel1 PEforModel2 PEforModel3 indsname=M;

keep Model Parameter EditedResults;

if M="WORK.PEFORMODEL1" then Model="Model1";

else if M="WORK.PEFORMODEL2" then Model="Model2";

else if M="WORK.PEFORMODEL3" then Model="Model3";

Where Estimate ne 0;

if Probt le 0.01 then Star="\*\*\*";

else if Probt le 0.05 then Star="\*\*";

else if Probt le 0.1 then Star="\*";

Results=Estimate;

EditedResults=Cats(put(Results,comma16.2),Star);

output;

Results=stderr;

EditedResults=Cats("(",put(Results,comma16.2),")");

output;

run;

/\* Sorting table \*/

proc sort data=Table\_Long\_Project out=Table\_Long\_Sorted;

by Model Parameter;

run;

/\* Step 2: Creating separate results columns corresponding to each model \*/

data Model1Results(rename=(EditedREsults=Model1))

Model2Results(rename=(EditedREsults=Model2))

Model3Results(rename=(EditedResults=Model3));

set Table\_Long\_Sorted;

if Model="Model1" then output Model1Results;

else if Model="Model2" then output Model2Results;

else if Model="Model3" then output Model3Results;

drop Model;

run;

/\* Step 3: Creating the final results table that would include all models side-by-side\*/

data Table\_Wide;

merge Model1Results Model2Results Model3Results ;

by Parameter;

if mod(\_n\_,2)=1 then Regressors=Parameter;

length Order 3;

if Parameter="Intercept" then Order=1;

else if substr(Parameter,1,10)= "treatment " then Order =2;

else if substr(Parameter,1,8)= "ability " then Order =3;

else if Parameter="male" then Order=4;

else if substr(Parameter,1,11)="raceethnic " then Order=5;

else if substr(Parameter,1,3)="ed " then Order=6;

else if substr(Parameter,1,15)="male\*raceethnic" then Order=7;

else if substr(Parameter,1,7)="male\*ed" then Order=8;

else if substr(Parameter,1,13)="raceethnic\*ed" then Order=9;

else if substr(Parameter,1,4)="occ " then Order =10;

else if substr(Parameter,1,4)="ind " then Order = 11;

else if substr(Parameter,1,10)= "statefips " then Order =12;

else if Parameter="wkswork " then Order = 13;

else Order=100;

run;

/\* Ordering the variables in the results table \*/

proc sort data=Table\_Wide out=Table\_Wide\_Sorted(drop=Order Parameter);

by Order;

run;

/\*Step 4: Create the rows for other statistics\*/

/\* The row for Number of Obs \*/

data NumofObs(keep=Label1 Model1 Model2 Model3);

merge ObsModel1(rename=(nvalue1=NVMoel1)) ObsModel2(rename=(nvalue1=NVMoel2)) ObsModel3(rename=(nvalue1=NVMoel3));

by Label1;

where Label1="Number of Observations";

Model1=put(NVMoel1,comma16.0);

Model2=put(NVMoel2,comma16.0);

Model3=put(NVMoel3,comma16.0);

run;

/\* The row for Adj R-sq \*/

Data AdjRsq;

merge AdjRsqModel1(rename=(cvalue1=Model1)) AdjRsqModel2(rename=(cvalue1=Model2)) AdjRsqModel3(rename=(cvalue1=Model3));

by Label1;

Where Label1="Adjusted R-Square";

drop nvalue1;

run;

/\* The row for Overall Significance \*/

data OSM1(rename=(EditedValue=Model1)) OSM2(rename=(EditedValue=Model2)) OSM3(rename=(EditedValue=Model3)) ;

set OverallSigModel1 OverallSigModel2 OverallSigModel3 indsname=M;

Where Effect="Model";

Label1="Overall Significance";

if ProbF le 0.01 then Star="\*\*\*";

else if ProbF le 0.05 then Star="\*\*";

else if ProbF le 0.1 then Star="\*";

EditedValue=Cats(Put(FValue,comma16.2),Star);

if M="WORK.OVERALLSIGMODEL1" then output OSM1;

else if M="WORK.OVERALLSIGMODEL2" then output OSM2;

else if M="WORK.OVERALLSIGMODEL3" then output OSM3;

keep Label1 EditedValue;

run;

Data OverallSig;

merge OSM1 OSM2 OSM3;

by Label1;

run;

/\* Combining all rows for other statistics \*/

Data OtherStat;

set NumofObs AdjRsq OverallSig;

rename Label1=Regressors;

Run;

/\* Step 5: Adding other statistics to the results table \*/

Data Table\_Wide\_Sorted\_WithStat;

set Table\_Wide\_Sorted OtherStat;

run;

/\* creating new name for variables in the regression results table through defining a new format\*/

proc format;

value $VariableName(default=50) "age"="Age"

"wkswork"="Number of Weeks Worked LAst Year"

"Number of Observations"="Number of Obs"

"Adjusted R-Square"="Adjusted R-sq"

"male"="Male"

"raceethnic 2"="Black"

"raceethnic 3"="Asian"

"raceethnic 4"="Hispanic"

"raceethnic 5"="Other "

"ed 2"="High School Graduate"

"ed 3"="Some College"

"ed 4"="College Graduate"

"ed 5"="Graduate Degree "

"occ 2"="Management Related Occupations"

"occ 3"="Professional Specialty Occupations "

"occ 4"="Technicians "

"occ 5"="Sales "

"occ 6"="Administrative Support Occupations"

"occ 7"="Service Occupations "

"occ 8"="Farming, Forestry And Fishing"

"occ 9"="Supervisors Of Production Workers"

"occ 10"="Mechanics and repairers "

"occ 11"="Construction"

"occ 12"="Other production workers "

"occ 13"="Machine operators "

"occ 14"="Motor vehicle operators "

"occ 15"="Other transportation"

"occ 16"="Military"

"ind 2"="Mining"

"ind 3"="Construction"

"ind 4"="Nondurable goods manufacturing"

"ind 5"="Durable goods manufacturing "

"ind 6"="Transportation, Communications and Utilities "

"ind 7"="Wholesale trade"

"ind 8"="Retail trade"

"ind 9"="Finance, insurance and real estate"

"ind 10"="Business and repair services"

"ind 11"="Personal services "

"ind 12"="Entertainment and recreation services "

"ind 13"="Professional and related services"

"ind 14"="Public administration 15=Military"

"male\*raceethnic 2"="Male\*Black"

"male\*raceethnic 3"="Male\*Asian"

"male\*raceethnic 4"="Male\*Hispanic"

"male\*raceethnic 5"="Male\*Other "

"male\*ed 2"="Male\*High School Graduate"

"male\*ed 3"="Male\*Some College"

"male\*ed 4"="Male\*College Graduate"

"male\*ed 5"="Male\*Graduate Degree "

"statefips 2"="Alaska"

"statefips 4"="Arizona"

"statefips 5"="Arkansas"

"statefips 6"="California"

"statefips 8"="Colorado"

"statefips 9"="Connecticut"

"statefips 10"="Delaware"

"statefips 11"="District of Columbia"

"statefips 12"="Florida"

"statefips 13"="Georgia"

"statefips 15"="Hawaii"

"statefips 16"="Idaho"

"statefips 17"="Illinois"

"statefips 18"="Indiana"

"statefips 19"="Iowa"

"statefips 20"="Kansas"

"statefips 21"="Kentucky"

"statefips 22"="Louisiana"

"statefips 23"="Maine"

"statefips 24"="Maryland"

"statefips 25"="Massachusetts"

"statefips 26"="Michigan"

"statefips 27"="Minnesota"

"statefips 28"="Mississippi"

"statefips 29"="Missouri"

"statefips 30"="Montana"

"statefips 31"="Nebraska"

"statefips 32"="Nevada"

"statefips 33"="New Hampshire"

"statefips 34"="New Jersey"

"statefips 35"="New Mexico"

"statefips 36"="New York"

"statefips 37"="North Carolina"

"statefips 38"="North Dakota"

"statefips 39"="Ohio"

"statefips 40"="Oklahoma"

"statefips 41"="Oregon"

"statefips 42"="Pennsylvania"

"statefips 44"="Rhode Island"

"statefips 45"="South Carolina"

"statefips 46"="South Dakota"

"statefips 47"="Tennessee"

"statefips 48"="Texas"

"statefips 49"="Utah"

"statefips 50"="Vermont"

"statefips 51"="Virginia"

"statefips 53"="Washington"

"statefips 54"="West Virginia"

"statefips 55"="Wisconsin"

"statefips 56"="Wyoming"

"statefips 60"="American Samoa"

"statefips 66"="Guam"

"statefips 69"="Northern Mariana Islands"

"statefips 72"="Puerto Rico"

"statefips 74"="U.S. Minor Outlying Islands"

"statefips 78"="U.S. Virgin Islands";

Run;

/\* Printing the clean results table \*/

ods excel file="/home/u60659161/MySAS/Project1\_Part1.xlsx" options(Embedded\_Titles="ON" Embedded\_Footnotes="ON"); /\*Use the path to your MySAS folder \*/

Title "Table 3: Determinants of Income (Categorical & Interaction Variables)";

footnote justify=left "Note: robust standard errors are in parentheses. \*, \*\*, and \*\*\* indicate

10%, 5%, and 1% significance levels, respectively.";

proc print data=Table\_Wide\_Sorted\_withstat noobs;

var Regressors;

var Model1-Model3 /style(header)={just=center} style(data)={just=center tagattr="type:String"};

format Regressors $VariableName.;

run;

ods excel close;

Table with all variables

|  |  |  |  |
| --- | --- | --- | --- |
| Table 2: Determinants of Income (Categorical & Interaction Variables) | | | |
|  |  |  |  |
| Regressors | Model1 | Model2 | Model3 |
| Intercept | 116,841.14\*\*\* | 117,818.05\*\*\* | 91,093.15\*\*\* |
|  | (506.93) | (507.98) | (484.23) |
| treatment |  | -5,884.56\*\*\* | 4,899.34\*\*\* |
|  |  | (81.16) | (79.34) |
| ability |  |  | 9,937.81\*\*\* |
|  |  |  | (23.21) |
| Male | 5,926.01\*\*\* | 5,945.98\*\*\* | 5,796.35\*\*\* |
|  | (246.36) | (249.03) | (229.22) |
| Black | -457.27\*\*\* | -444.92\*\*\* | -473.13\*\*\* |
|  | (172.61) | (172.35) | (164.39) |
| Asian | 747.56\*\*\* | 751.82\*\*\* | 723.53\*\*\* |
|  | (241.88) | (240.74) | (230.98) |
| Hispanic | -4,172.37\*\*\* | -4,155.41\*\*\* | -4,143.88\*\*\* |
|  | (172.20) | (172.25) | (163.31) |
| Other | -629.34\* | -618.51\* | -650.53\*\* |
|  | (339.74) | (338.86) | (323.70) |
| High School Graduate | -1,058.36\*\*\* | -1,050.95\*\*\* | -1,072.83\*\*\* |
|  | (205.42) | (207.97) | (190.57) |
| Some College | 57,723.27\*\*\* | 60,284.86\*\*\* | 930.01\*\*\* |
|  | (199.32) | (204.72) | (235.11) |
| College Graduate | 66,118.09\*\*\* | 68,687.00\*\*\* | 9,328.48\*\*\* |
|  | (220.39) | (225.01) | (251.75) |
| Graduate Degree | 83,059.33\*\*\* | 85,625.02\*\*\* | 26,256.01\*\*\* |
|  | (248.33) | (251.88) | (274.87) |
| Male\*Black | -6,361.93\*\*\* | -6,378.54\*\*\* | -6,340.02\*\*\* |
|  | (250.42) | (250.39) | (237.80) |
| Male\*Asian | -7,614.85\*\*\* | -7,607.83\*\*\* | -7,741.98\*\*\* |
|  | (337.48) | (335.95) | (322.58) |
| Male\*Hispanic | -4,508.36\*\*\* | -4,512.33\*\*\* | -4,433.73\*\*\* |
|  | (229.79) | (230.21) | (217.53) |
| Male\*Other | -5,275.17\*\*\* | -5,294.75\*\*\* | -5,315.75\*\*\* |
|  | (475.27) | (474.58) | (451.72) |
| Male\*High School Graduate | 3,073.40\*\*\* | 3,064.74\*\*\* | 3,134.94\*\*\* |
|  | (269.03) | (272.42) | (249.58) |
| Male\*Some College | 5,040.47\*\*\* | 5,025.64\*\*\* | 5,146.59\*\*\* |
|  | (261.73) | (263.60) | (245.20) |
| Male\*College Graduate | 17,593.28\*\*\* | 17,564.39\*\*\* | 17,719.04\*\*\* |
|  | (286.19) | (287.49) | (269.27) |
| Male\*Graduate Degree | 31,751.88\*\*\* | 31,727.09\*\*\* | 31,861.24\*\*\* |
|  | (317.08) | (317.67) | (299.80) |
| Mechanics and repairers | -30,033.91\*\*\* | -30,017.03\*\*\* | -30,087.52\*\*\* |
|  | (255.92) | (255.97) | (242.81) |
| Construction | -30,202.19\*\*\* | -30,173.87\*\*\* | -30,127.75\*\*\* |
|  | (266.84) | (267.29) | (253.10) |
| Other production workers | -29,261.57\*\*\* | -29,243.41\*\*\* | -29,375.99\*\*\* |
|  | (279.05) | (279.12) | (264.31) |
| Machine operators | -36,896.10\*\*\* | -36,891.14\*\*\* | -36,882.85\*\*\* |
|  | (232.86) | (233.08) | (220.66) |
| Motor vehicle operators | -37,031.19\*\*\* | -37,034.75\*\*\* | -36,905.35\*\*\* |
|  | (245.78) | (246.14) | (232.76) |
| Other transportation | -34,635.00\*\*\* | -34,620.91\*\*\* | -34,642.38\*\*\* |
|  | (230.08) | (230.56) | (217.59) |
| Military | -22,049.93\*\*\* | -22,034.45\*\*\* | -22,501.43\*\*\* |
|  | (2,047.30) | (2,041.66) | (2,026.16) |
| Management Related Occupations | -15,432.97\*\*\* | -15,427.30\*\*\* | -15,505.70\*\*\* |
|  | (214.59) | (212.98) | (206.29) |
| Professional Specialty Occupations | -20,516.31\*\*\* | -20,501.14\*\*\* | -20,520.93\*\*\* |
|  | (156.27) | (155.11) | (150.16) |
| Technicians | -17,194.98\*\*\* | -17,175.30\*\*\* | -17,187.02\*\*\* |
|  | (229.24) | (227.74) | (220.27) |
| Sales | -24,693.32\*\*\* | -24,671.22\*\*\* | -24,747.96\*\*\* |
|  | (174.25) | (173.56) | (166.63) |
| Administrative Support Occupations | -31,833.57\*\*\* | -31,823.61\*\*\* | -31,809.24\*\*\* |
|  | (158.92) | (158.18) | (152.01) |
| Service Occupations | -33,009.07\*\*\* | -32,993.72\*\*\* | -33,031.03\*\*\* |
|  | (162.27) | (161.74) | (154.94) |
| Farming, Forestry And Fishing | -36,480.48\*\*\* | -36,474.85\*\*\* | -36,374.52\*\*\* |
|  | (366.30) | (366.88) | (347.04) |
| Supervisors Of Production Workers | -16,378.38\*\*\* | -16,367.28\*\*\* | -16,121.12\*\*\* |
|  | (807.69) | (805.80) | (775.79) |
| Business and repair services | 5,019.14\*\*\* | 5,023.54\*\*\* | 5,005.51\*\*\* |
|  | (372.44) | (372.93) | (352.96) |
| Personal services | -3,489.19\*\*\* | -3,501.58\*\*\* | -3,462.97\*\*\* |
|  | (387.99) | (388.66) | (367.28) |
| Entertainment and recreation services | -3,135.69\*\*\* | -3,091.14\*\*\* | -3,077.65\*\*\* |
|  | (423.24) | (423.65) | (400.97) |
| Professional and related services | 2,200.43\*\*\* | 2,193.71\*\*\* | 2,152.12\*\*\* |
|  | (350.13) | (350.63) | (331.83) |
| Public administration 15=Military | 12,924.40\*\*\* | 12,917.19\*\*\* | 12,859.85\*\*\* |
|  | (375.87) | (376.08) | (356.73) |
| ind 15 | 472.38 | 430.40 | 837.62 |
|  | (2,028.44) | (2,023.23) | (2,008.91) |
| Mining | 31,308.86\*\*\* | 31,313.34\*\*\* | 31,201.19\*\*\* |
|  | (615.21) | (616.57) | (582.21) |
| Construction | 5,854.45\*\*\* | 5,840.04\*\*\* | 5,769.95\*\*\* |
|  | (389.56) | (390.27) | (369.00) |
| Nondurable goods manufacturing | 16,264.08\*\*\* | 16,267.92\*\*\* | 16,180.41\*\*\* |
|  | (387.52) | (388.07) | (367.14) |
| Durable goods manufacturing | 16,258.85\*\*\* | 16,249.60\*\*\* | 16,290.39\*\*\* |
|  | (370.73) | (371.30) | (351.20) |
| Transportation, Communications and Utilities | 15,561.26\*\*\* | 15,554.88\*\*\* | 15,468.49\*\*\* |
|  | (373.11) | (373.63) | (353.69) |
| Wholesale trade | 14,154.92\*\*\* | 14,139.61\*\*\* | 14,129.64\*\*\* |
|  | (404.04) | (404.53) | (383.01) |
| Retail trade | -2,083.60\*\*\* | -2,090.53\*\*\* | -2,076.20\*\*\* |
|  | (355.90) | (356.49) | (337.14) |
| Finance, insurance and real estate | 14,510.77\*\*\* | 14,504.02\*\*\* | 14,438.05\*\*\* |
|  | (373.31) | (373.57) | (354.18) |
| Delaware | 3,701.60\*\*\* | 3,664.20\*\*\* | 3,634.93\*\*\* |
|  | (718.26) | (717.80) | (677.97) |
| District of Columbia | 16,310.66\*\*\* | 16,231.84\*\*\* | 16,348.03\*\*\* |
|  | (828.14) | (824.00) | (790.42) |
| Florida | 1,320.00\*\*\* | 1,295.63\*\*\* | 1,481.46\*\*\* |
|  | (328.93) | (328.89) | (313.21) |
| Georgia | 1,228.87\*\*\* | 1,211.40\*\*\* | 1,382.90\*\*\* |
|  | (356.68) | (356.62) | (339.43) |
| Hawaii | 2,090.94\*\*\* | 2,028.68\*\*\* | 2,237.85\*\*\* |
|  | (607.14) | (606.30) | (579.61) |
| Idaho | -3,523.50\*\*\* | -3,564.48\*\*\* | -3,437.88\*\*\* |
|  | (581.78) | (581.17) | (554.21) |
| Illinois | 3,182.74\*\*\* | 3,161.69\*\*\* | 3,329.99\*\*\* |
|  | (341.64) | (341.48) | (325.26) |
| Indiana | -812.68\*\* | -819.20\*\* | -780.22\*\* |
|  | (381.60) | (381.60) | (363.04) |
| Iowa | -4,025.41\*\*\* | -4,045.42\*\*\* | -3,772.19\*\*\* |
|  | (452.73) | (452.66) | (430.61) |
| Alaska | 6,444.57\*\*\* | 6,362.57\*\*\* | 6,452.99\*\*\* |
|  | (778.86) | (777.97) | (741.63) |
| Kansas | -2,675.65\*\*\* | -2,713.63\*\*\* | -2,575.10\*\*\* |
|  | (466.70) | (466.07) | (444.55) |
| Kentucky | -2,035.84\*\*\* | -2,075.93\*\*\* | -1,905.09\*\*\* |
|  | (423.49) | (423.50) | (402.63) |
| Louisiana | 1,334.48\*\*\* | 1,311.52\*\*\* | 1,530.66\*\*\* |
|  | (423.84) | (423.88) | (402.25) |
| Maine | -5,420.18\*\*\* | -5,418.49\*\*\* | -5,055.26\*\*\* |
|  | (612.13) | (611.01) | (580.20) |
| Maryland | 9,683.78\*\*\* | 9,656.03\*\*\* | 9,748.88\*\*\* |
|  | (387.09) | (386.79) | (368.99) |
| Massachusetts | 6,331.68\*\*\* | 6,297.75\*\*\* | 6,435.70\*\*\* |
|  | (376.94) | (376.59) | (359.48) |
| Michigan | -242.45 | -269.78 | -69.94 |
|  | (356.26) | (356.08) | (339.16) |
| Minnesota | -114.61 | -144.85 | -115.82 |
|  | (393.64) | (393.42) | (374.66) |
| Mississippi | -1,736.07\*\*\* | -1,759.90\*\*\* | -1,362.64\*\*\* |
|  | (481.47) | (481.28) | (457.91) |
| Missouri | -2,655.96\*\*\* | -2,660.48\*\*\* | -2,561.07\*\*\* |
|  | (386.44) | (386.42) | (367.33) |
| Montana | -6,344.10\*\*\* | -6,338.92\*\*\* | -6,296.02\*\*\* |
|  | (675.10) | (674.12) | (639.29) |
| Nebraska | -5,163.73\*\*\* | -5,192.02\*\*\* | -5,044.62\*\*\* |
|  | (536.87) | (536.34) | (511.97) |
| Nevada | 5,775.46\*\*\* | 5,759.28\*\*\* | 5,620.87\*\*\* |
|  | (479.45) | (479.10) | (454.69) |
| New Hampshire | 874.08 | 842.41 | 731.22 |
|  | (591.18) | (590.91) | (562.34) |
| New Jersey | 12,502.81\*\*\* | 12,482.92\*\*\* | 12,566.43\*\*\* |
|  | (361.72) | (361.46) | (344.36) |
| New Mexico | -1,484.66\*\*\* | -1,529.49\*\*\* | -1,492.25\*\*\* |
|  | (550.72) | (550.22) | (522.35) |
| New York | 7,269.99\*\*\* | 7,241.72\*\*\* | 7,347.49\*\*\* |
|  | (328.02) | (327.95) | (312.27) |
| North Carolina | -473.42 | -497.22 | -251.69 |
|  | (356.64) | (356.48) | (339.35) |
| North Dakota | -5,405.05\*\*\* | -5,417.39\*\*\* | -4,962.30\*\*\* |
|  | (763.67) | (761.72) | (725.72) |
| Ohio | -1,072.44\*\*\* | -1,074.47\*\*\* | -991.54\*\*\* |
|  | (345.97) | (346.00) | (329.10) |
| Arizona | 2,002.88\*\*\* | 1,989.11\*\*\* | 1,999.08\*\*\* |
|  | (389.93) | (389.57) | (371.43) |
| Oklahoma | -2,572.71\*\*\* | -2,604.77\*\*\* | -2,657.22\*\*\* |
|  | (440.65) | (440.50) | (419.11) |
| Oregon | -1,220.93\*\*\* | -1,235.46\*\*\* | -1,032.79\*\* |
|  | (432.00) | (431.29) | (410.64) |
| Pennsylvania | 451.06 | 426.77 | 606.11\* |
|  | (342.94) | (342.99) | (326.13) |
| Rhode Island | 3,239.94\*\*\* | 3,217.70\*\*\* | 3,526.59\*\*\* |
|  | (654.73) | (653.84) | (624.85) |
| South Carolina | -1,030.69\*\* | -1,041.83\*\* | -1,021.18\*\*\* |
|  | (412.87) | (412.80) | (392.35) |
| South Dakota | -5,756.76\*\*\* | -5,775.72\*\*\* | -5,762.36\*\*\* |
|  | (734.07) | (734.16) | (700.42) |
| Tennessee | -1,468.91\*\*\* | -1,488.31\*\*\* | -1,465.01\*\*\* |
|  | (385.29) | (385.33) | (366.39) |
| Texas | 3,260.42\*\*\* | 3,231.08\*\*\* | 3,260.05\*\*\* |
|  | (322.56) | (322.53) | (307.08) |
| Utah | -2,371.74\*\*\* | -2,406.89\*\*\* | -2,239.48\*\*\* |
|  | (478.72) | (477.93) | (456.74) |
| Arkansas | -2,675.71\*\*\* | -2,691.53\*\*\* | -2,334.06\*\*\* |
|  | (475.50) | (475.93) | (450.96) |
| Vermont | -5,209.28\*\*\* | -5,242.04\*\*\* | -4,900.63\*\*\* |
|  | (782.37) | (781.70) | (745.70) |
| Virginia | 6,235.30\*\*\* | 6,206.60\*\*\* | 6,317.30\*\*\* |
|  | (365.74) | (365.49) | (348.46) |
| Washington | 3,569.30\*\*\* | 3,543.43\*\*\* | 3,651.00\*\*\* |
|  | (378.49) | (378.09) | (360.55) |
| West Virginia | -2,053.27\*\*\* | -2,080.06\*\*\* | -1,886.69\*\*\* |
|  | (568.05) | (568.44) | (537.09) |
| Wisconsin | -1,864.97\*\*\* | -1,901.63\*\*\* | -1,699.22\*\*\* |
|  | (386.62) | (386.63) | (367.82) |
| Wyoming | -1,733.91\*\* | -1,747.37\*\* | -1,447.57\* |
|  | (850.18) | (849.84) | (803.70) |
| California | 6,790.20\*\*\* | 6,760.92\*\*\* | 6,867.90\*\*\* |
|  | (315.72) | (315.65) | (300.67) |
| Colorado | 1,108.04\*\*\* | 1,081.48\*\*\* | 1,146.20\*\*\* |
|  | (398.19) | (397.68) | (379.27) |
| Connecticut | 12,000.42\*\*\* | 11,968.19\*\*\* | 11,938.40\*\*\* |
|  | (435.47) | (434.86) | (415.30) |
| Number of Weeks Worked LAst Year | 937.30\*\*\* | 937.52\*\*\* | 939.08\*\*\* |
|  | (1.87) | (1.87) | (1.78) |
| Number of Obs | 1,788,022 | 1,788,022 | 1,788,022 |
| Adjusted R-sq | 0.5271 | 0.5286 | 0.5721 |
| Overall Significance | 20,525.07\*\*\* | 20,269.07\*\*\* | 24,463.02\*\*\* |
|  |  |  |  |
| Note: robust standard errors are in parentheses. \*, \*\*, and \*\*\* indicate 10%, 5%, and 1% significance levels, respectively. | | | |