# Replication Paper - Log Files

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This is the pdf version of log files used in the process of replicating the paper – Does Compulsory School Attendance Affect Schooling and Earning. The full STATA codes and Log files could be found at `www.github.com/winsup/angrist_krueger_1991`.

## Contents

# 1 Log Files

## 1.1 Table I

```
. do "Table I"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_I
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2.         gen YR`i´=0
  3.         replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2.         gen QTR`i´=0
  3.         replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies  1/4 Not same as 4-8 ********
. foreach k of numlist 1/4 {
  2. foreach j in 00 25 50 75 {
  3.         if `k´-1==`j´/25{
  4.         foreach i of numlist 0/9 {
  5.                 gen YQ`i´`j´=QTR`k´*YR`i´
  6.         }
  7.         }
  8. }
  9. }
. **********  Gen Other Variables ********
. gen COHORT=2029
```

```
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
(816,435 real changes made)
. gen AGEQSQ= AGEQ*AGEQ
.
. **********  Gen Table 1 helper Variables ********
. // drop YQ
. gen YQ=0
. foreach j of numlist 1/4 {
  2. foreach i of numlist 20/49 {
  3. replace YQ=100*(`i´)+25*(`j´-1) if (YOB==`i´ & QOB ==`j´)
  4. }
  5. }
(6,434 real changes made)
(6,298 real changes made)
(6,104 real changes made)
(6,159 real changes made)
(6,382 real changes made)
(6,342 real changes made)
(6,113 real changes made)
(6,511 real changes made)
(6,293 real changes made)
(5,992 real changes made)
(8,395 real changes made)
(7,642 real changes made)
(8,252 real changes made)
(7,818 real changes made)
(7,782 real changes made)
(7,995 real changes made)
(8,192 real changes made)
(8,187 real changes made)
(8,708 real changes made)
(8,700 real changes made)
(9,336 real changes made)
(9,333 real changes made)
(10,358 real changes made)
(11,760 real changes made)
(10,898 real changes made)
(10,935 real changes made)
(10,792 real changes made)
(15,921 real changes made)
(14,348 real changes made)
(14,039 real changes made)
(5,813 real changes made)
(6,271 real changes made)
(5,874 real changes made)
(6,101 real changes made)
(6,330 real changes made)
(6,052 real changes made)
(6,035 real changes made)
(6,184 real changes made)
(6,104 real changes made)
(6,124 real changes made)
(8,396 real changes made)
(7,634 real changes made)
(7,751 real changes made)
(7,572 real changes made)
(7,591 real changes made)
(8,002 real changes made)
(7,945 real changes made)
(8,182 real changes made)
(8,482 real changes made)
(8,583 real changes made)
(9,338 real changes made)
(9,150 real changes made)
(10,338 real changes made)
(11,284 real changes made)
(10,521 real changes made)
(10,720 real changes made)
(11,391 real changes made)
(14,914 real changes made)
(13,416 real changes made)
(13,635 real changes made)
```

```
(6,070 real changes made)
(6,291 real changes made)
(6,418 real changes made)
(6,191 real changes made)
(6,616 real changes made)
(6,502 real changes made)
(6,448 real changes made)
(6,719 real changes made)
(6,365 real changes made)
(6,468 real changes made)
(8,722 real changes made)
(7,980 real changes made)
(8,311 real changes made)
(7,718 real changes made)
(8,474 real changes made)
(8,792 real changes made)
(8,579 real changes made)
(9,226 real changes made)
(9,371 real changes made)
(9,683 real changes made)
(10,235 real changes made)
(10,314 real changes made)
(11,950 real changes made)
(12,155 real changes made)
(11,742 real changes made)
(11,787 real changes made)
(15,332 real changes made)
(15,662 real changes made)
(15,403 real changes made)
(15,225 real changes made)
(5,408 real changes made)
(6,118 real changes made)
(5,868 real changes made)
(5,894 real changes made)
(6,220 real changes made)
(5,938 real changes made)
(5,835 real changes made)
(6,236 real changes made)
(5,852 real changes made)
(6,226 real changes made)
(8,089 real changes made)
(7,327 real changes made)
(7,897 real changes made)
(7,643 real changes made)
(8,069 real changes made)
(7,984 real changes made)
(7,960 real changes made)
(8,374 real changes made)
(8,662 real changes made)
(8,839 real changes made)
(9,309 real changes made)
(9,590 real changes made)
(12,372 real changes made)
(11,150 real changes made)
(11,226 real changes made)
(11,104 real changes made)
(16,607 real changes made)
(14,291 real changes made)
(14,525 real changes made)
(14,520 real changes made)
. ************************************************
. **********  Start Total years of Education ********
.
. foreach j of varlist YQ* {
  2.                 sum EDUC if (COHORT>3000 & COHORT <3040 & `j´==1)
  3.                 scalar mean_3039_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |      8,395    12.28041    3.446516          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |      7,642    12.54043    3.412833          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |      8,252    12.53393    3.436765          0         20
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| EDUC | 7,818 | 12.67319 | 3.396866 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,782 | 12.64726 | 3.333896 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,995 | 12.65091 | 3.311164 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,192 | 12.74304 | 3.198746 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,187 | 12.8323 | 3.203817 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,708 | 12.93868 | 3.189243 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,700 | 13.00299 | 3.114918 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,396 | 12.42842 | 3.477349 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,634 | 12.53105 | 3.418477 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,751 | 12.6096 | 3.457216 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,572 | 12.63471 | 3.354493 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,591 | 12.72797 | 3.356178 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,002 | 12.79693 | 3.296933 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,945 | 12.81108 | 3.250715 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,182 | 12.84405 | 3.27083 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,482 | 13.00766 | 3.175236 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,583 | 13.0134 | 3.192048 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,722 | 12.49186 | 3.400863 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,980 | 12.68672 | 3.383067 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,311 | 12.66045 | 3.336589 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 7,718 | 12.75395 | 3.316561 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,474 | 12.70805 | 3.325628 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 8,792 | 12.86135 | 3.209125 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| EDUC | 8,579 | 12.88623 | 3.22479 | 0 | 20 |
| EDUC | 9,226 | 12.96217 | 3.098593 | 0 | 20 |
| EDUC | 9,371 | 12.98655 | 3.112551 | 0 | 20 |
| EDUC | 9,683 | 12.98926 | 3.089936 | 0 | 20 |
| EDUC | 8,089 | 12.62468 | 3.410479 | 0 | 20 |
| EDUC | 7,327 | 12.61212 | 3.300486 | 0 | 20 |
| EDUC | 7,897 | 12.72711 | 3.359892 | 0 | 20 |
| EDUC | 7,643 | 12.69227 | 3.343233 | 0 | 20 |
| EDUC | 8,069 | 12.79787 | 3.247159 | 0 | 20 |
| EDUC | 7,984 | 12.81964 | 3.23187 | 0 | 20 |
| EDUC | 7,960 | 12.92802 | 3.110152 | 0 | 20 |
| EDUC | 8,374 | 12.97098 | 3.1073 | 0 | 20 |
| EDUC | 8,662 | 13.03013 | 3.116584 | 0 | 20 |
| EDUC | 8,839 | 13.11653 | 3.112545 | 0 | 20 |

```
    EDUC |          0
```

```
. foreach j of varlist YQ* {
  2.                 sum EDUC if (COHORT>4000 & `j´==1)
  3.                 scalar mean_4049_`j´ = r(mean)
  4. }
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| EDUC | 9,336 | 13.01939 | 3.122246 | 0 | 20 |
| EDUC | 9,333 | 13.0975 | 3.154326 | 0 | 20 |
| EDUC | 10,358 | 13.22977 | 3.108124 | 0 | 20 |
| EDUC | 11,760 | 13.42211 | 3.064084 | 0 | 20 |
| EDUC | 10,898 | 13.4387 | 3.075889 | 0 | 20 |
| EDUC | 10,935 | 13.53233 | 3.099743 | 0 | 20 |
| EDUC | 10,792 | 13.61694 | 3.0464 | 0 | 20 |

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| EDUC | 15,921 | 13.79662 | 2.902514 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 14,348 | 13.74185 | 2.856599 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 14,039 | 13.77805 | 2.803591 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 9,338 | 13.05558 | 3.183613 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 9,150 | 13.22874 | 3.118953 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 10,338 | 13.39321 | 3.084452 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 11,284 | 13.39649 | 3.065304 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 10,521 | 13.43884 | 3.113397 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 10,720 | 13.66623 | 3.050127 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 11,391 | 13.68905 | 3.023244 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 14,914 | 13.88481 | 2.906649 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 13,416 | 13.81075 | 2.841869 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 13,635 | 13.7491 | 2.781921 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 10,235 | 13.15916 | 3.094431 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 10,314 | 13.26808 | 3.081078 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 11,950 | 13.37498 | 3.051716 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 12,155 | 13.46475 | 3.035439 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 11,742 | 13.47786 | 3.062222 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 11,787 | 13.65072 | 3.042699 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 15,332 | 13.78789 | 2.925691 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 15,662 | 13.79671 | 2.832473 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 15,403 | 13.76381 | 2.807053 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| EDUC | 15,225 | 13.7598 | 2.740898 | 0 | 20 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |

```
        EDUC |      9,309    13.26555    3.063424          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |      9,590    13.28728    3.090216          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     12,372    13.55456    3.040643          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     11,150    13.48206    2.970297          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     11,226    13.54784    3.026958          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     11,104    13.60735    3.068406          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     16,607    13.85952    2.883265          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     14,291    13.77293    2.823848          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     14,525    13.77301    2.768899          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     14,520    13.74463    2.713963          0         20
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |          0
. **********  30-39 **********
. drop MA
. gen MA=0
. replace MA = (mean_3039_YQ000+mean_3039_YQ025+mean_3039_YQ075+mean_3039_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=30 & YQ/100<=
(8,722 real changes made)
. replace MA = (mean_3039_YQ025+mean_3039_YQ050+mean_3039_YQ100+mean_3039_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=30 & YQ/100<=
(8,089 real changes made)
. replace MA = (mean_3039_YQ050+mean_3039_YQ075+mean_3039_YQ125+mean_3039_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=30 & YQ/100
(7,642 real changes made)
. replace MA = (mean_3039_YQ075+mean_3039_YQ100+mean_3039_YQ150+mean_3039_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=30 & YQ/100
(7,634 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_3039_YQ`pm2´+mean_3039_YQ`pm1´+mean_3039_YQ`pn1´+mean_3039_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ
  8. }
(7,980 real changes made)
(7,327 real changes made)
(8,252 real changes made)
(7,751 real changes made)
(8,311 real changes made)
(7,897 real changes made)
(7,818 real changes made)
(7,572 real changes made)
(7,718 real changes made)
(7,643 real changes made)
(7,782 real changes made)
(7,591 real changes made)
(8,474 real changes made)
(8,069 real changes made)
(7,995 real changes made)
(8,002 real changes made)
(8,792 real changes made)
(7,984 real changes made)
(8,192 real changes made)
```

```
(7,945 real changes made)
(8,579 real changes made)
(7,960 real changes made)
(8,187 real changes made)
(8,182 real changes made)
(9,226 real changes made)
(8,374 real changes made)
(8,708 real changes made)
(8,482 real changes made)
(9,371 real changes made)
(8,662 real changes made)
(8,700 real changes made)
(8,583 real changes made)
. replace MA = (mean_3039_YQ900+mean_3039_YQ925+mean_3039_YQ975+mean_4049_YQ000)/4 if (mod(YQ,1000)==950 & YQ/100>=30 & YQ/100<
(9,683 real changes made)
. replace MA = (mean_3039_YQ925+mean_3039_YQ950+mean_4049_YQ000+mean_4049_YQ025)/4 if (mod(YQ,1000)==975 & YQ/100>=30 & YQ/100<
(8,839 real changes made)
.
. **********  40-49 **********
. // drop MA
. replace MA = (mean_4049_YQ000+mean_4049_YQ025+mean_4049_YQ075+mean_4049_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=40 & YQ/100<=
(10,235 real changes made)
. replace MA = (mean_4049_YQ025+mean_4049_YQ050+mean_4049_YQ100+mean_4049_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=40 & YQ/100<=
(9,309 real changes made)
. replace MA = (mean_4049_YQ050+mean_4049_YQ075+mean_4049_YQ125+mean_4049_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=40 & YQ/100<
(9,333 real changes made)
. replace MA = (mean_4049_YQ075+mean_4049_YQ100+mean_4049_YQ150+mean_4049_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=40 & YQ/100<
(9,150 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_4049_YQ`pm2´+mean_4049_YQ`pm1´+mean_4049_YQ`pn1´+mean_4049_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ/
  8. }
(10,314 real changes made)
(9,590 real changes made)
(10,358 real changes made)
(10,338 real changes made)
(11,950 real changes made)
(12,372 real changes made)
(11,760 real changes made)
(11,284 real changes made)
(12,155 real changes made)
(11,150 real changes made)
(10,898 real changes made)
(10,521 real changes made)
(11,742 real changes made)
(11,226 real changes made)
(10,935 real changes made)
(10,720 real changes made)
(11,787 real changes made)
(11,104 real changes made)
(10,792 real changes made)
(11,391 real changes made)
(15,332 real changes made)
(16,607 real changes made)
(15,921 real changes made)
(14,914 real changes made)
(15,662 real changes made)
(14,291 real changes made)
(14,348 real changes made)
(13,416 real changes made)
(15,403 real changes made)
(14,525 real changes made)
(14,039 real changes made)
(13,635 real changes made)
. replace MA = (mean_3039_YQ950+mean_3039_YQ975+mean_4049_YQ025+mean_4049_YQ050)/4 if (mod(YQ,1000)==0 & YQ/100>=40 & YQ/100<=4
(9,336 real changes made)
. replace MA = (mean_3039_YQ975+mean_4049_YQ000+mean_4049_YQ050+mean_4049_YQ175)/4 if (mod(YQ,1000)==25 & YQ/100>=40 & YQ/100<=
```

```
(9,338 real changes made)
.
. **********  Regression Year EDUC **********
. gen EDUC_s = EDUC-MA
.
. **********  Total years of Education **********
. sum EDUC if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    312,718    12.79222    3.269731          0         20
. sum EDUC if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    457,181    13.56001    2.995541          0         20
. eststo clear
. reg EDUC_s QTR1-QTR3  if (COHORT>3000 & COHORT <3040 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   312,718
-------------+----------------------------------   F(3, 312714)    =     25.12
       Model |  803.733413         3  267.911138   Prob > F        =    0.0000
    Residual |  3335397.99   312,714  10.6659695   R-squared       =    0.0002
-------------+----------------------------------   Adj R-squared   =    0.0002
       Total |  3336201.72   312,717  10.6684373   Root MSE        =    3.2659

------------------------------------------------------------------------------
      EDUC_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.1242856   .0166581    -7.46   0.000     -.156935   -.0916363
        QTR2 |  -.0859973   .0167512    -5.13   0.000    -.1188292   -.0531653
        QTR3 |  -.0148872   .0159604    -0.93   0.351     -.046169    .0163947
       _cons |   .0574542   .0114862     5.00   0.000     .0349416    .0799669
------------------------------------------------------------------------------

. eststo model1
. reg EDUC_s QTR1-QTR3  if (COHORT>4000 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   457,181
-------------+----------------------------------   F(3, 457177)    =     17.36
       Model |  464.448901         3   154.8163   Prob > F        =    0.0000
    Residual |  4077943.09   457,177  8.9198343   R-squared       =    0.0001
-------------+----------------------------------   Adj R-squared   =    0.0001
       Total |  4078407.54   457,180 8.92079167   Root MSE        =    2.9866

------------------------------------------------------------------------------
      EDUC_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0854568   .0125193    -6.83   0.000    -.1099943   -.0609194
        QTR2 |  -.0352745   .0125985    -2.80   0.005    -.0599673   -.0105818
        QTR3 |  -.0188388    .012602    -1.49   0.135    -.0435383    .0058607
       _cons |   .0368347   .0089979     4.09   0.000     .0191992    .0544703
------------------------------------------------------------------------------

. eststo model2
.
.
.
.
. ************************************************
. **********  Regression Year High School **********
. gen hs_grad=0
. replace hs_grad=1 if EDUC>=12
(821,663 real changes made)
. sum hs_grad if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |    312,718     .774068    .4181953          0          1
. sum hs_grad if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |    457,181    .8636907     .343117          0          1
.
. sum EDUC if (YQ>=3050 & YQ<=3975 & hs_grad==1)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    242,065    14.00601    2.453309         12         20
. sum EDUC if (YQ>=4000 & YQ<=4925 & hs_grad==1)
```

```
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    394,863    14.28134     2.44578         12         20

.
. **********  Years of educ. for high school graduates **********
. reg EDUC_s QTR1-QTR3  if (COHORT>3000 & COHORT <3040 & MA !=0 & hs_grad==1)
      Source |       SS           df       MS      Number of obs   =   242,065
-------------+----------------------------------   F(3, 242061)    =      3.79
       Model |  68.7635442         3  22.9211814   Prob > F        =    0.0099
    Residual |  1463383.04   242,061  6.04551348   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |   1463451.8   242,064  6.04572262   Root MSE        =    2.4588

------------------------------------------------------------------------------
      EDUC_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0296008   .0142548    -2.08   0.038    -.0575399   -.0016617
        QTR2 |   .0050956   .0143257     0.36   0.722    -.0229823    .0331735
        QTR3 |   .0165048   .0136098     1.21   0.225    -.0101701    .0431797
       _cons |   1.214717   .0097795   124.21   0.000     1.195549    1.233885
------------------------------------------------------------------------------

. eststo model3
. reg EDUC_s QTR1-QTR3  if (COHORT>4000 & MA !=0 & hs_grad==1)
      Source |       SS           df       MS      Number of obs   =   394,863
-------------+----------------------------------   F(3, 394859)    =      2.58
       Model |  46.3958152         3  15.4652717   Prob > F        =    0.0515
    Residual |  2364685.91   394,859  5.98868434   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  2364732.31   394,862  5.98875634   Root MSE        =    2.4472

------------------------------------------------------------------------------
      EDUC_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0093476   .0110349    -0.85   0.397    -.0309756    .0122804
        QTR2 |   .0200636   .0110922     1.81   0.070    -.0016768     .041804
        QTR3 |   .0079357   .0110816     0.72   0.474     -.013784    .0296553
       _cons |   .7109541   .0079014    89.98   0.000     .6954676    .7264405
------------------------------------------------------------------------------

. eststo model4
.
. foreach j of varlist YQ* {
  2.                 sum hs_grad if (COHORT>3000 & COHORT <3040 & `j´==1)
  3.                 scalar mean_3039_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      8,395    .7161406    .4508963         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      7,642    .7427375    .4371539         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      8,252    .7398206    .4387589         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      7,818    .7513431    .4322622         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      7,782    .7492932    .4334478         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      7,995    .7572233     .428788         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      8,192    .7728271    .4190308         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      8,187    .7873458      .40921         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |      8,708    .7970831    .4021942         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| hs_grad | 8,700 | .7985057 | .4011394 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,396 | .7170081 | .4504794 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,634 | .740896 | .4381715 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,751 | .7413237 | .4379356 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,572 | .75 | .4330413 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,591 | .7576077 | .4285586 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,002 | .7700575 | .4208219 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,945 | .7755821 | .4172246 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,182 | .7796382 | .4145159 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,482 | .7996935 | .4002533 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,583 | .7979727 | .4015358 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,722 | .7315983 | .4431532 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,980 | .7592732 | .4275515 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,311 | .7535796 | .4309521 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,718 | .760171 | .4270066 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,474 | .7619778 | .4258979 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,792 | .7861692 | .4100321 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,579 | .7865719 | .4097513 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 9,226 | .8052244 | .3960494 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 9,371 | .8074912 | .3942915 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 9,683 | .8053289 | .3959677 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 8,089 | .74966 | .4332356 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 7,327 | .7502388 | .4329043 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |

```
    hs_grad |      7,897    .7559833    .4295299          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      7,643    .7557242    .4296851          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      8,069     .771595    .4198309          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      7,984    .7849449    .4108863          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      7,960    .8075377    .3942589          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      8,374    .8063052    .3952161          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      8,662    .8098592    .3924348          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      8,839    .8164951    .3871018          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |          0

. foreach j of varlist YQ* {
  2.                 sum hs_grad if (COHORT>4000 & `j´==1)
  3.                 scalar mean_4049_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      9,336     .801521    .3988761          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      9,333     .811529    .3911088          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     10,358    .8231319    .3815755          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     11,760    .8493197    .3577522          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     10,898    .8474032    .3596149          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     10,935    .8562414    .3508608          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     10,792    .8598036    .3472068          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     15,921    .8917782    .3106701          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     14,348    .8875105    .3159788          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     14,039    .8937246    .3082007          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      9,338    .8065967    .3949876          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |      9,150    .8240437    .3808038          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    hs_grad |     10,338    .8355581     .370694          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| hs_grad | 11,284 | .842609 | .3641852 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 10,521 | .8450718 | .3618535 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 10,720 | .8648321 | .3419188 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,391 | .8748134 | .3309448 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 14,914 | .8952662 | .3062204 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 13,416 | .8894603 | .3135729 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 13,635 | .8935827 | .3083823 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 10,235 | .8249145 | .3800588 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 10,314 | .8303277 | .3753628 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,950 | .8461088 | .3608595 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 12,155 | .8526532 | .3544658 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,742 | .8548799 | .3522369 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,787 | .8702808 | .3360085 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 15,332 | .8895121 | .3135071 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 15,662 | .8947772 | .3068501 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 15,403 | .8938518 | .3080371 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 15,225 | .8967488 | .3042967 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 9,309 | .8332796 | .3727461 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 9,590 | .8347237 | .3714491 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 12,372 | .8606531 | .3463222 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,150 | .8587444 | .3483006 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,226 | .8610369 | .3459234 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 11,104 | .8612212 | .3457311 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| hs_grad | 16,607 | .8959475 | .3053378 | 0 | 1 |

```
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |     14,291    .8950388    .3065141         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |     14,525    .8977625    .3029708         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |     14,520    .9002755    .2996427         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     hs_grad |          0
. **********  30-39 **********
. drop MA
. gen MA=0
. replace MA = (mean_3039_YQ000+mean_3039_YQ025+mean_3039_YQ075+mean_3039_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=30 & YQ/100<=
(8,722 real changes made)
. replace MA = (mean_3039_YQ025+mean_3039_YQ050+mean_3039_YQ100+mean_3039_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=30 & YQ/100<=
(8,089 real changes made)
. replace MA = (mean_3039_YQ050+mean_3039_YQ075+mean_3039_YQ125+mean_3039_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=30 & YQ/100
(7,642 real changes made)
. replace MA = (mean_3039_YQ075+mean_3039_YQ100+mean_3039_YQ150+mean_3039_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=30 & YQ/100
(7,634 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_3039_YQ`pm2´+mean_3039_YQ`pm1´+mean_3039_YQ`pn1´+mean_3039_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ/
  8. }
(7,980 real changes made)
(7,327 real changes made)
(8,252 real changes made)
(7,751 real changes made)
(8,311 real changes made)
(7,897 real changes made)
(7,818 real changes made)
(7,572 real changes made)
(7,718 real changes made)
(7,643 real changes made)
(7,782 real changes made)
(7,591 real changes made)
(8,474 real changes made)
(8,069 real changes made)
(7,995 real changes made)
(8,002 real changes made)
(8,792 real changes made)
(7,984 real changes made)
(8,192 real changes made)
(7,945 real changes made)
(8,579 real changes made)
(7,960 real changes made)
(8,187 real changes made)
(8,182 real changes made)
(9,226 real changes made)
(8,374 real changes made)
(8,708 real changes made)
(8,482 real changes made)
(9,371 real changes made)
(8,662 real changes made)
(8,700 real changes made)
(8,583 real changes made)
. replace MA = (mean_3039_YQ900+mean_3039_YQ925+mean_3039_YQ975+mean_4049_YQ000)/4 if (mod(YQ,1000)==950 & YQ/100>=30 & YQ/100
(9,683 real changes made)
. replace MA = (mean_3039_YQ925+mean_3039_YQ950+mean_4049_YQ000+mean_4049_YQ025)/4 if (mod(YQ,1000)==975 & YQ/100>=30 & YQ/100
(8,839 real changes made)
.
. **********  40-49 **********
```

```
. // drop MA
. replace MA = (mean_4049_YQ000+mean_4049_YQ025+mean_4049_YQ075+mean_4049_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=40 & YQ/100<=
(10,235 real changes made)
. replace MA = (mean_4049_YQ025+mean_4049_YQ050+mean_4049_YQ100+mean_4049_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=40 & YQ/100<=
(9,309 real changes made)
. replace MA = (mean_4049_YQ050+mean_4049_YQ075+mean_4049_YQ125+mean_4049_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=40 & YQ/100<
(9,333 real changes made)
. replace MA = (mean_4049_YQ075+mean_4049_YQ100+mean_4049_YQ150+mean_4049_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=40 & YQ/100<
(9,150 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_4049_YQ`pm2´+mean_4049_YQ`pm1´+mean_4049_YQ`pn1´+mean_4049_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ/
  8. }
(10,314 real changes made)
(9,590 real changes made)
(10,358 real changes made)
(10,338 real changes made)
(11,950 real changes made)
(12,372 real changes made)
(11,760 real changes made)
(11,284 real changes made)
(12,155 real changes made)
(11,150 real changes made)
(10,898 real changes made)
(10,521 real changes made)
(11,742 real changes made)
(11,226 real changes made)
(10,935 real changes made)
(10,720 real changes made)
(11,787 real changes made)
(11,104 real changes made)
(10,792 real changes made)
(11,391 real changes made)
(15,332 real changes made)
(16,607 real changes made)
(15,921 real changes made)
(14,914 real changes made)
(15,662 real changes made)
(14,291 real changes made)
(14,348 real changes made)
(13,416 real changes made)
(15,403 real changes made)
(14,525 real changes made)
(14,039 real changes made)
(13,635 real changes made)
. replace MA = (mean_3039_YQ950+mean_3039_YQ975+mean_4049_YQ025+mean_4049_YQ050)/4 if (mod(YQ,1000)==0 & YQ/100>=40 & YQ/100<=4
(9,336 real changes made)
. replace MA = (mean_3039_YQ975+mean_4049_YQ000+mean_4049_YQ050+mean_4049_YQ175)/4 if (mod(YQ,1000)==25 & YQ/100>=40 & YQ/100<=
(9,338 real changes made)
.
. **********  Regression**********
. gen hs_grad_s = hs_grad-MA
.
.
. sum EDUC if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    312,718    12.79222    3.269731          0         20
. sum EDUC if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    457,181    13.56001    2.995541          0         20
.
. reg hs_grad_s QTR1-QTR3  if (COHORT>3000 & COHORT <3040 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   312,718
-------------+----------------------------------   F(3, 312714)    =     46.60
```

```
      Model |  24.3681612         3  8.12272041   Prob > F        =    0.0000
   Residual |  54510.5749   312,714  .174314469   R-squared       =    0.0004
-------------+------------------------------   Adj R-squared   =    0.0004
      Total |   54534.943   312,717  .174390721   Root MSE        =    .41751

------------------------------------------------------------------------------
   hs_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0191356   .0021296    -8.99   0.000    -.0233095   -.0149617
        QTR2 |  -.0198344   .0021415    -9.26   0.000    -.0240316   -.0156372
        QTR3 |  -.0038982   .0020404    -1.91   0.056    -.0078972    .0001009
       _cons |    .010838   .0014684     7.38   0.000       .00796    .0137161
------------------------------------------------------------------------------

. eststo model5

. reg hs_grad_s QTR1-QTR3  if (COHORT>4000 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   457,181
-------------+------------------------------   F(3, 457177)    =     51.26
       Model |  17.988658         3  5.99621933   Prob > F        =    0.0000
    Residual |  53480.4021   457,177  .116979643   R-squared       =    0.0003
-------------+------------------------------   Adj R-squared   =    0.0003
       Total |  53498.3908   457,180  .117018222   Root MSE        =    .34202

------------------------------------------------------------------------------
   hs_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0145416   .0014337   -10.14   0.000    -.0173516   -.0117316
        QTR2 |  -.0121225   .0014428    -8.40   0.000    -.0149503   -.0092947
        QTR3 |  -.0019522   .0014432    -1.35   0.176    -.0047808    .0008763
       _cons |    .007374   .0010304     7.16   0.000     .0053544    .0093936
------------------------------------------------------------------------------

. eststo model6

.
. ************************************************
. **********  Regression Year Bachelor **********
. // drop bach_grad
. gen bach_grad=0

. replace bach_grad=1 if EDUC>=16
(262,809 real changes made)

. sum bach_grad if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |    312,718    .2356244    .4243891          0          1

. sum bach_grad if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |    457,181    .2995881    .4580781          0          1

.
. sum EDUC if (YQ>=3050 & YQ<=3975 & bach_grad==1)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     73,684    17.29811    1.478809         16         20

. sum EDUC if (YQ>=4000 & YQ<=4925 & bach_grad==1)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    136,966    17.22905    1.419707         16         20

.
.
. foreach j of varlist YQ* {
  2.                sum bach_grad if (COHORT>3000 & COHORT <3040 & `j´==1)
  3.                scalar mean_3039_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |      8,395    .2015485    .4011806          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |      7,642    .2274274    .4191982          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |      8,252    .2253999    .4178707          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| bach_grad | 7,818 | .2391916 | .4266172 | 0 | 1 |
| bach_grad | 7,782 | .227191 | .4190439 | 0 | 1 |
| bach_grad | 7,995 | .227142 | .4190113 | 0 | 1 |
| bach_grad | 8,192 | .2230225 | .4162987 | 0 | 1 |
| bach_grad | 8,187 | .2278002 | .4194386 | 0 | 1 |
| bach_grad | 8,708 | .2379421 | .425848 | 0 | 1 |
| bach_grad | 8,700 | .2481609 | .4319705 | 0 | 1 |
| bach_grad | 8,396 | .2234397 | .4165754 | 0 | 1 |
| bach_grad | 7,634 | .2291066 | .4202855 | 0 | 1 |
| bach_grad | 7,751 | .2375177 | .4255895 | 0 | 1 |
| bach_grad | 7,572 | .2333597 | .4229972 | 0 | 1 |
| bach_grad | 7,591 | .2394941 | .4268029 | 0 | 1 |
| bach_grad | 8,002 | .2363159 | .424845 | 0 | 1 |
| bach_grad | 7,945 | .234613 | .4237833 | 0 | 1 |
| bach_grad | 8,182 | .2379614 | .4258614 | 0 | 1 |
| bach_grad | 8,482 | .2459326 | .4306641 | 0 | 1 |
| bach_grad | 8,583 | .2472329 | .4314284 | 0 | 1 |
| bach_grad | 8,722 | .2262096 | .4184004 | 0 | 1 |
| bach_grad | 7,980 | .2368421 | .4251712 | 0 | 1 |
| bach_grad | 8,311 | .2329443 | .4227325 | 0 | 1 |
| bach_grad | 7,718 | .2441047 | .4295829 | 0 | 1 |
| bach_grad | 8,474 | .2333019 | .4229577 | 0 | 1 |
| bach_grad | 8,792 | .2397634 | .4269633 | 0 | 1 |
| bach_grad | 8,579 | .2403544 | .4273236 | 0 | 1 |

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| bach_grad | 9,226 | .2308693 | .4214118 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 9,371 | .2407427 | .4275572 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 9,683 | .2351544 | .4241172 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 8,089 | .228582 | .4199453 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 7,327 | .2201447 | .4143723 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 7,897 | .2376852 | .4256922 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 7,643 | .2356405 | .4244262 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 8,069 | .2419135 | .4282687 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 7,984 | .2305862 | .4212344 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 7,960 | .2345477 | .4237424 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 8,374 | .2401481 | .4271987 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 8,662 | .241861 | .4282352 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 8,839 | .2517253 | .4340288 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 0 | | | | |

```
. foreach j of varlist YQ* {
  2.                 sum bach_grad if (COHORT>4000 & `j´==1)
  3.                 scalar mean_4049_`j´ = r(mean)
  4. }
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| bach_grad | 9,336 | .2481791 | .4319794 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 9,333 | .2537233 | .4351645 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 10,358 | .2651091 | .4414126 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 11,760 | .2816327 | .4498143 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 10,898 | .2889521 | .4532964 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 10,935 | .3042524 | .4601111 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| bach_grad | 10,792 | .3179207 | .46569 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| bach_grad | 15,921 | .3254821 | .4685694 | 0 | 1 |
| bach_grad | 14,348 | .3151659 | .4645981 | 0 | 1 |
| bach_grad | 14,039 | .3153359 | .464666 | 0 | 1 |
| bach_grad | 9,338 | .2525166 | .4344792 | 0 | 1 |
| bach_grad | 9,150 | .2679781 | .4429304 | 0 | 1 |
| bach_grad | 10,338 | .2830335 | .4504943 | 0 | 1 |
| bach_grad | 11,284 | .2821694 | .4500753 | 0 | 1 |
| bach_grad | 10,521 | .297025 | .4569694 | 0 | 1 |
| bach_grad | 10,720 | .3185634 | .465941 | 0 | 1 |
| bach_grad | 11,391 | .3186726 | .4659822 | 0 | 1 |
| bach_grad | 14,914 | .3363283 | .4724686 | 0 | 1 |
| bach_grad | 13,416 | .3249106 | .4683589 | 0 | 1 |
| bach_grad | 13,635 | .3121379 | .4633827 | 0 | 1 |
| bach_grad | 10,235 | .2522716 | .4343375 | 0 | 1 |
| bach_grad | 10,314 | .2681792 | .4430329 | 0 | 1 |
| bach_grad | 11,950 | .2779079 | .4479865 | 0 | 1 |
| bach_grad | 12,155 | .2862197 | .4520119 | 0 | 1 |
| bach_grad | 11,742 | .2910066 | .4542459 | 0 | 1 |
| bach_grad | 11,787 | .3144142 | .4643018 | 0 | 1 |
| bach_grad | 15,332 | .3259849 | .4687569 | 0 | 1 |
| bach_grad | 15,662 | .3220534 | .4672782 | 0 | 1 |
| bach_grad | 15,403 | .3177303 | .4656091 | 0 | 1 |
| bach_grad | 15,225 | .3115271 | .4631329 | 0 | 1 |
| bach_grad | 9,309 | .2628639 | .4402128 | 0 | 1 |

```
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |      9,590    .2673618    .4426058         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     12,372    .2935661    .4554139         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     11,150    .2870852     .452422         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     11,226    .2983253    .4575434         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     11,104    .3129503    .4637152         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     16,607    .3305835    .4704374         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     14,291    .3176825    .4655915         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     14,525    .3138726    .4640813         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |     14,520    .3067493    .4611603         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
   bach_grad |          0

. ********** 30-39 **********
. drop MA
. gen MA=0
. replace MA = (mean_3039_YQ000+mean_3039_YQ025+mean_3039_YQ075+mean_3039_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=30 & YQ/100<=
(8,722 real changes made)
. replace MA = (mean_3039_YQ025+mean_3039_YQ050+mean_3039_YQ100+mean_3039_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=30 & YQ/100<=
(8,089 real changes made)
. replace MA = (mean_3039_YQ050+mean_3039_YQ075+mean_3039_YQ125+mean_3039_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=30 & YQ/100
(7,642 real changes made)
. replace MA = (mean_3039_YQ075+mean_3039_YQ100+mean_3039_YQ150+mean_3039_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=30 & YQ/100
(7,634 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_3039_YQ`pm2´+mean_3039_YQ`pm1´+mean_3039_YQ`pn1´+mean_3039_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ
  8. }
(7,980 real changes made)
(7,327 real changes made)
(8,252 real changes made)
(7,751 real changes made)
(8,311 real changes made)
(7,897 real changes made)
(7,818 real changes made)
(7,572 real changes made)
(7,718 real changes made)
(7,643 real changes made)
(7,782 real changes made)
(7,591 real changes made)
(8,474 real changes made)
(8,069 real changes made)
(7,995 real changes made)
(8,002 real changes made)
(8,792 real changes made)
(7,984 real changes made)
(8,192 real changes made)
```

```
(7,945 real changes made)
(8,579 real changes made)
(7,960 real changes made)
(8,187 real changes made)
(8,182 real changes made)
(9,226 real changes made)
(8,374 real changes made)
(8,708 real changes made)
(8,482 real changes made)
(9,371 real changes made)
(8,662 real changes made)
(8,700 real changes made)
(8,583 real changes made)
. replace MA = (mean_3039_YQ900+mean_3039_YQ925+mean_3039_YQ975+mean_4049_YQ000)/4 if (mod(YQ,1000)==950 & YQ/100>=30 & YQ/100<
(9,683 real changes made)
. replace MA = (mean_3039_YQ925+mean_3039_YQ950+mean_4049_YQ000+mean_4049_YQ025)/4 if (mod(YQ,1000)==975 & YQ/100>=30 & YQ/100<
(8,839 real changes made)
.
. **********  40-49 **********
. // drop MA
. replace MA = (mean_4049_YQ000+mean_4049_YQ025+mean_4049_YQ075+mean_4049_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=40 & YQ/100<=
(10,235 real changes made)
. replace MA = (mean_4049_YQ025+mean_4049_YQ050+mean_4049_YQ100+mean_4049_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=40 & YQ/100<=
(9,309 real changes made)
. replace MA = (mean_4049_YQ050+mean_4049_YQ075+mean_4049_YQ125+mean_4049_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=40 & YQ/100<
(9,333 real changes made)
. replace MA = (mean_4049_YQ075+mean_4049_YQ100+mean_4049_YQ150+mean_4049_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=40 & YQ/100<
(9,150 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_4049_YQ`pm2´+mean_4049_YQ`pm1´+mean_4049_YQ`pn1´+mean_4049_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ/
  8. }
(10,314 real changes made)
(9,590 real changes made)
(10,358 real changes made)
(10,338 real changes made)
(11,950 real changes made)
(12,372 real changes made)
(11,760 real changes made)
(11,284 real changes made)
(12,155 real changes made)
(11,150 real changes made)
(10,898 real changes made)
(10,521 real changes made)
(11,742 real changes made)
(11,226 real changes made)
(10,935 real changes made)
(10,720 real changes made)
(11,787 real changes made)
(11,104 real changes made)
(10,792 real changes made)
(11,391 real changes made)
(15,332 real changes made)
(16,607 real changes made)
(15,921 real changes made)
(14,914 real changes made)
(15,662 real changes made)
(14,291 real changes made)
(14,348 real changes made)
(13,416 real changes made)
(15,403 real changes made)
(14,525 real changes made)
(14,039 real changes made)
(13,635 real changes made)
. replace MA = (mean_3039_YQ950+mean_3039_YQ975+mean_4049_YQ025+mean_4049_YQ050)/4 if (mod(YQ,1000)==0 & YQ/100>=40 & YQ/100<=4
(9,336 real changes made)
. replace MA = (mean_3039_YQ975+mean_4049_YQ000+mean_4049_YQ050+mean_4049_YQ175)/4 if (mod(YQ,1000)==25 & YQ/100>=40 & YQ/100<=
```

```
(9,338 real changes made)
.
. **********  Regression **********
. // drop EDUC_s
. gen bach_grad_s = bach_grad-MA
.
.
. sum EDUC if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    312,718    12.79222    3.269731          0         20
. sum EDUC if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    457,181    13.56001    2.995541          0         20
.
. reg bach_grad_s QTR1-QTR3  if (COHORT>3000 & COHORT <3040 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   312,718
-------------+----------------------------------   F(3, 312714)    =      5.00
       Model |  2.70012278         3  .900040925   Prob > F        =    0.0018
    Residual |  56318.0031   312,714  .180094282   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  56320.7033   312,717  .180101188   Root MSE        =    .42438

------------------------------------------------------------------------------
 bach_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |   -.005028   .0021646    -2.32   0.020    -.0092705   -.0007855
        QTR2 |   .0027638   .0021767     1.27   0.204    -.0015024    .0070301
        QTR3 |   .0018581   .0020739     0.90   0.370    -.0022067    .0059229
       _cons |   .0001647   .0014925     0.11   0.912    -.0027607      .00309
------------------------------------------------------------------------------

. eststo model7
. reg bach_grad_s QTR1-QTR3  if (COHORT>4000 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   457,181
-------------+----------------------------------   F(3, 457177)    =      5.01
       Model |  3.14425922         3  1.04808641   Prob > F        =    0.0018
    Residual |   95666.531   457,177  .209254908   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  95669.6752   457,180  .209260412   Root MSE        =    .45744

------------------------------------------------------------------------------
 bach_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0027701   .0019175    -1.44   0.149    -.0065283    .0009882
        QTR2 |   .0044954   .0019297     2.33   0.020     .0007133    .0082775
        QTR3 |  -.0000155   .0019302    -0.01   0.994    -.0037986    .0037675
       _cons |   -.000236   .0013782    -0.17   0.864    -.0029372    .0024651
------------------------------------------------------------------------------

. eststo model8
.
.
.
. ************************************************
. **********  Regression Year Master **********
. // drop bach_grad
. gen ms_grad=0
. replace ms_grad=1 if EDUC>=18
(94,222 real changes made)
. sum ms_grad if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |    312,718    .0898285    .2859364          0          1
. sum ms_grad if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |    457,181    .1101511    .3130784          0          1
.
.
. sum EDUC if (YQ>=3050 & YQ<=3975 & ms_grad==1)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
```

```
        EDUC |     28,091    18.99302    .8866446         18         20

. sum EDUC if (YQ>=4000 & YQ<=4925 & ms_grad==1)

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     50,359    18.89835    .8634092         18         20

.
.
. foreach j of varlist YQ* {
  2.                 sum ms_grad if (COHORT>3000 & COHORT <3040 & `j´==1)
  3.                 scalar mean_3039_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,395    .0759976    .2650101         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,642    .0837477    .2770272         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,252     .084222    .2777373         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,818    .0911998    .2879114         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,782    .0841686    .2776583         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,995    .0841776    .2776714         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,192    .0863037    .2808291         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,187    .0896543    .2857033         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,708    .0963482    .2950851         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,700     .096092    .2947342         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,396    .0849214    .2787813         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,634    .0842285    .2777483         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,751    .0882467    .2836716         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,572    .0829371    .2758054         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,591    .0872085     .282159         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,002    .0909773    .2875947         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      7,945    .0910006    .2876281         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,182    .0942312     .292168         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      8,482    .0999764    .2999862         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
```

```
    ms_grad |      8,583    .1021787    .3029008          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,722    .0827792     .275564          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,980     .087218     .282172          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,311    .0842257    .2777427          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,718    .0857735    .2800475          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,474    .0860278    .2804217          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,792    .0882621    .2836918          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,579    .0906866    .2871796          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      9,226    .0937568    .2915058          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      9,371    .0925195    .2897733          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      9,683    .0951152    .2933891          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,089    .0893806      .28531          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,327    .0821619    .2746299          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,897    .0925668    .2898428          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,643    .0876619    .2828211          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,069    .0861321    .2805764          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,984    .0889279    .2846574          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      7,960    .0856784    .2799061          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,374    .0886076    .2841935          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,662    .0995151    .2993697          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |      8,839    .1020477    .3027282          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------

    ms_grad |          0
. foreach j of varlist YQ* {
  2.                 sum ms_grad if (COHORT>4000 & `j´==1)
  3.                 scalar mean_4049_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| ms_grad | 9,336 | .0970437 | .2960331 | 0 | 1 |
| ms_grad | 9,333 | .1059681 | .3078132 | 0 | 1 |
| ms_grad | 10,358 | .1090944 | .3117727 | 0 | 1 |
| ms_grad | 11,760 | .1125 | .3159941 | 0 | 1 |
| ms_grad | 10,898 | .1124977 | .3159923 | 0 | 1 |
| ms_grad | 10,935 | .1183356 | .3230199 | 0 | 1 |
| ms_grad | 10,792 | .1144366 | .3183556 | 0 | 1 |
| ms_grad | 15,921 | .1110483 | .3142018 | 0 | 1 |
| ms_grad | 14,348 | .1039866 | .3052538 | 0 | 1 |
| ms_grad | 14,039 | .1006482 | .300873 | 0 | 1 |
| ms_grad | 9,338 | .1005569 | .3007572 | 0 | 1 |
| ms_grad | 9,150 | .1102732 | .3132471 | 0 | 1 |
| ms_grad | 10,338 | .1163668 | .3206798 | 0 | 1 |
| ms_grad | 11,284 | .1133463 | .3170297 | 0 | 1 |
| ms_grad | 10,521 | .1132972 | .3169708 | 0 | 1 |
| ms_grad | 10,720 | .1213619 | .3265627 | 0 | 1 |
| ms_grad | 11,391 | .1185146 | .3232307 | 0 | 1 |
| ms_grad | 14,914 | .1205579 | .3256237 | 0 | 1 |
| ms_grad | 13,416 | .1045021 | .3059222 | 0 | 1 |
| ms_grad | 13,635 | .0940227 | .291871 | 0 | 1 |
| ms_grad | 10,235 | .1030777 | .3040752 | 0 | 1 |
| ms_grad | 10,314 | .1095598 | .3123554 | 0 | 1 |
| ms_grad | 11,950 | .1097908 | .3126419 | 0 | 1 |
| ms_grad | 12,155 | .1132867 | .316956 | 0 | 1 |

```
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     11,742    .117101    .3215543         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     11,787   .1226775    .3280806         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     15,332   .1151839    .3192542         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     15,662   .1070744    .3092177         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     15,403   .0993962     .299203         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     15,225   .0924138    .2896187         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      9,309    .105167     .306785         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |      9,590   .1072993    .3095095         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     12,372    .121484    .3267021         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     11,150   .1082511    .3107112         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     11,226   .1165152     .320856         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     11,104   .1186059    .3233388         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     16,607    .117601    .3221448         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     14,291    .102652    .3035145         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     14,525   .0961102    .2947524         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |     14,520   .0889807    .2847257         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
     ms_grad |          0

. ********** 30-39 **********
. drop MA
. gen MA=0
. replace MA = (mean_3039_YQ000+mean_3039_YQ025+mean_3039_YQ075+mean_3039_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=30 & YQ/100<=
(8,722 real changes made)
. replace MA = (mean_3039_YQ025+mean_3039_YQ050+mean_3039_YQ100+mean_3039_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=30 & YQ/100<=
(8,089 real changes made)
. replace MA = (mean_3039_YQ050+mean_3039_YQ075+mean_3039_YQ125+mean_3039_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=30 & YQ/100
(7,642 real changes made)
. replace MA = (mean_3039_YQ075+mean_3039_YQ100+mean_3039_YQ150+mean_3039_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=30 & YQ/100
(7,634 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
```

```
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_3039_YQ`pm2´+mean_3039_YQ`pm1´+mean_3039_YQ`pn1´+mean_3039_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ
  8. }
(7,980 real changes made)
(7,327 real changes made)
(8,252 real changes made)
(7,751 real changes made)
(8,311 real changes made)
(7,897 real changes made)
(7,818 real changes made)
(7,572 real changes made)
(7,718 real changes made)
(7,643 real changes made)
(7,782 real changes made)
(7,591 real changes made)
(8,474 real changes made)
(8,069 real changes made)
(7,995 real changes made)
(8,002 real changes made)
(8,792 real changes made)
(7,984 real changes made)
(8,192 real changes made)
(7,945 real changes made)
(8,579 real changes made)
(7,960 real changes made)
(8,187 real changes made)
(8,182 real changes made)
(9,226 real changes made)
(8,374 real changes made)
(8,708 real changes made)
(8,482 real changes made)
(9,371 real changes made)
(8,662 real changes made)
(8,700 real changes made)
(8,583 real changes made)
. replace MA = (mean_3039_YQ900+mean_3039_YQ925+mean_3039_YQ975+mean_4049_YQ000)/4 if (mod(YQ,1000)==950 & YQ/100>=30 & YQ/100<
(9,683 real changes made)
. replace MA = (mean_3039_YQ925+mean_3039_YQ950+mean_4049_YQ000+mean_4049_YQ025)/4 if (mod(YQ,1000)==975 & YQ/100>=30 & YQ/100<
(8,839 real changes made)
.
. **********  40-49 **********
. // drop MA
. replace MA = (mean_4049_YQ000+mean_4049_YQ025+mean_4049_YQ075+mean_4049_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=40 & YQ/100<=
(10,235 real changes made)
. replace MA = (mean_4049_YQ025+mean_4049_YQ050+mean_4049_YQ100+mean_4049_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=40 & YQ/100<=
(9,309 real changes made)
. replace MA = (mean_4049_YQ050+mean_4049_YQ075+mean_4049_YQ125+mean_4049_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=40 & YQ/100<
(9,333 real changes made)
. replace MA = (mean_4049_YQ075+mean_4049_YQ100+mean_4049_YQ150+mean_4049_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=40 & YQ/100<
(9,150 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_4049_YQ`pm2´+mean_4049_YQ`pm1´+mean_4049_YQ`pn1´+mean_4049_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ
  8. }
(10,314 real changes made)
(9,590 real changes made)
(10,358 real changes made)
(10,338 real changes made)
(11,950 real changes made)
(12,372 real changes made)
(11,760 real changes made)
(11,284 real changes made)
(12,155 real changes made)
(11,150 real changes made)
(10,898 real changes made)
(10,521 real changes made)
(11,742 real changes made)
```

```
(11,226 real changes made)
(10,935 real changes made)
(10,720 real changes made)
(11,787 real changes made)
(11,104 real changes made)
(10,792 real changes made)
(11,391 real changes made)
(15,332 real changes made)
(16,607 real changes made)
(15,921 real changes made)
(14,914 real changes made)
(15,662 real changes made)
(14,291 real changes made)
(14,348 real changes made)
(13,416 real changes made)
(15,403 real changes made)
(14,525 real changes made)
(14,039 real changes made)
(13,635 real changes made)
. replace MA = (mean_3039_YQ950+mean_3039_YQ975+mean_4049_YQ025+mean_4049_YQ050)/4 if (mod(YQ,1000)==0 & YQ/100>=40 & YQ/100<=
(9,336 real changes made)
. replace MA = (mean_3039_YQ975+mean_4049_YQ000+mean_4049_YQ050+mean_4049_YQ175)/4 if (mod(YQ,1000)==25 & YQ/100>=40 & YQ/100<=
(9,338 real changes made)
.
. ********** Regression **********
. // drop EDUC_s
. gen ms_grad_s = ms_grad-MA
.
. sum EDUC if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    312,718    12.79222    3.269731          0         20
. sum EDUC if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    457,181    13.56001    2.995541          0         20
.
. reg ms_grad_s QTR1-QTR3  if (COHORT>3000 & COHORT <3040 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   312,718
-------------+----------------------------------   F(3, 312714)    =      1.72
       Model |  .420582784         3  .140194261   Prob > F        =    0.1615
    Residual |  25562.0133   312,714  .081742465   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  25562.4339   312,717  .081743026   Root MSE        =    .28591

------------------------------------------------------------------------------
   ms_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0010254   .0014583    -0.70   0.482    -.0038837    .0018328
        QTR2 |   .0019429   .0014665     1.32   0.185    -.0009313    .0048171
        QTR3 |  -.0009199   .0013972    -0.66   0.510    -.0036584    .0018186
       _cons |   .0001332   .0010055     0.13   0.895    -.0018376    .0021041
------------------------------------------------------------------------------

. eststo model9
. reg ms_grad_s QTR1-QTR3  if (COHORT>4000 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   457,181
-------------+----------------------------------   F(3, 457177)    =      3.76
       Model |  1.10533933         3  .368446443   Prob > F        =    0.0103
    Residual |  44790.1745   457,177   .09797119   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  44791.2799   457,180  .097972964   Root MSE        =      .313

------------------------------------------------------------------------------
   ms_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |   .0000612   .0013121     0.05   0.963    -.0025104    .0026328
        QTR2 |   .0038261   .0013204     2.90   0.004     .0012382    .0064139
        QTR3 |   .0010261   .0013207     0.78   0.437    -.0015624    .0036147
       _cons |  -.0011407    .000943    -1.21   0.226    -.0029889    .0007075
------------------------------------------------------------------------------

. eststo model10
.
.
.
```

```
.
.
. ************************************************
. **********  Regression Year Doctoral **********
. // drop bach_grad
. gen doc_grad=0
. replace doc_grad=1 if EDUC>=20
(28,671 real changes made)
. sum doc_grad if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |    312,718    .0349964    .1837709          0          1
. sum doc_grad if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |    457,181    .0360273    .1863583          0          1
.
. sum EDUC if (YQ>=3050 & YQ<=3975 & doc_grad==1)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     10,944          20           0         20         20
. sum EDUC if (YQ>=4000 & YQ<=4925 & doc_grad==1)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     16,471          20           0         20         20
.
.
. foreach j of varlist YQ* {
  2.                 sum doc_grad if (COHORT>3000 & COHORT <3040 & `j´==1)
  3.                 scalar mean_3039_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,395    .0275164    .1635922          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,642    .0336299    .1802865          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,252    .0353854     .184763          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,818    .0356869    .1855201          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,782    .0359805    .1862534          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,995      .03202    .1760642          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,192    .0318604    .1756389          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,187    .0373763    .1896938          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,708    .0418006    .2001448          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,700    .0332184    .1792167          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,396    .0363268    .1871132          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,634    .0317003    .1752124          0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,751    .0344472    .1823865          0          1
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| doc_grad | 7,572 | .0314316 | .1744926 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,591 | .0359636 | .1862118 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,002 | .0364909 | .1875198 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,945 | .037382 | .189708 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,182 | .0372769 | .1894512 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,482 | .0383164 | .1919704 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,583 | .0400792 | .1961565 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,722 | .0309562 | .173209 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,980 | .0347118 | .1830603 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,311 | .0302009 | .1711501 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,718 | .0323918 | .1770498 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,474 | .0351664 | .1842111 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,792 | .0340082 | .1812605 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,579 | .0359016 | .1860557 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 9,226 | .0366356 | .1878756 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 9,371 | .0369224 | .1885814 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 9,683 | .0365589 | .1876859 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,089 | .0368402 | .1883808 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,327 | .0312543 | .174016 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,897 | .0336837 | .1804251 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,643 | .0323172 | .1768526 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 8,069 | .0330896 | .1788817 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 7,984 | .0341934 | .181737 | 0 | 1 |

```
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      7,960    .0330402    .1787528         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,374    .0349893    .1837635         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,662    .0363657    .1872093         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      8,839    .0379002    .1909657         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |          0

. foreach j of varlist YQ* {
  2.                 sum doc_grad if (COHORT>4000 & `j´==1)
  3.                 scalar mean_4049_`j´ = r(mean)
  4. }
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      9,336    .0347044    .1830398         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      9,333    .0366442    .1878967         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,358     .038714    .1929219         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     11,760     .042432    .2015811         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,898    .0398238    .1955541         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,935    .0399634    .1958822         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,792    .0346553    .1829137         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     15,921    .0312166    .1739082         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     14,348    .0282966    .1658247         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     14,039    .0262839    .1599841         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      9,338    .0394089    .1945761         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |      9,150    .0403279    .1967378         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,338    .0414007    .1992247         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     11,284    .0412088    .1987816         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,521    .0393499    .1944352         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     10,720    .0411381    .1986187         0          1
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    doc_grad |     11,391      .03573    .1856242         0          1
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| doc_grad | 14,914 | .0356712 | .1854752 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 13,416 | .0301133 | .1709054 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 13,635 | .0278695 | .1646048 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 10,235 | .041915 | .2004047 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 10,314 | .0396548 | .1951564 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 11,950 | .0413389 | .1990812 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 12,155 | .0415467 | .1995591 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 11,742 | .0385795 | .1925987 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 11,787 | .0366505 | .1879103 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 15,332 | .0350248 | .1838485 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 15,662 | .0302005 | .1711441 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 15,403 | .0264883 | .1605876 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 15,225 | .0238424 | .1525629 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 9,309 | .0416801 | .1998678 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 9,590 | .0386861 | .1928559 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 12,372 | .0471225 | .2119095 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 11,150 | .03713 | .1890889 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 11,226 | .0392838 | .194278 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 11,104 | .0357529 | .1856818 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 16,607 | .0356476 | .1854156 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 14,291 | .0316283 | .1750145 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 14,525 | .0276764 | .1640497 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| doc_grad | 14,520 | .0245868 | .1548674 | 0 | 1 |
| Variable | Obs | Mean | Std. Dev. | Min | Max |

```
-------------+-----------------------------------------------------------
    doc_grad |          0
. **********  30-39 **********
. drop MA
. gen MA=0
. replace MA = (mean_3039_YQ000+mean_3039_YQ025+mean_3039_YQ075+mean_3039_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=30 & YQ/100<=
(8,722 real changes made)
. replace MA = (mean_3039_YQ025+mean_3039_YQ050+mean_3039_YQ100+mean_3039_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=30 & YQ/100<=
(8,089 real changes made)
. replace MA = (mean_3039_YQ050+mean_3039_YQ075+mean_3039_YQ125+mean_3039_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=30 & YQ/100<
(7,642 real changes made)
. replace MA = (mean_3039_YQ075+mean_3039_YQ100+mean_3039_YQ150+mean_3039_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=30 & YQ/100<
(7,634 real changes made)
.
. foreach j of numlist 6/37{
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_3039_YQ`pm2´+mean_3039_YQ`pm1´+mean_3039_YQ`pn1´+mean_3039_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ/
  8. }
(7,980 real changes made)
(7,327 real changes made)
(8,252 real changes made)
(7,751 real changes made)
(8,311 real changes made)
(7,897 real changes made)
(7,818 real changes made)
(7,572 real changes made)
(7,718 real changes made)
(7,643 real changes made)
(7,782 real changes made)
(7,591 real changes made)
(8,474 real changes made)
(8,069 real changes made)
(7,995 real changes made)
(8,002 real changes made)
(8,792 real changes made)
(7,984 real changes made)
(8,192 real changes made)
(7,945 real changes made)
(8,579 real changes made)
(7,960 real changes made)
(8,187 real changes made)
(8,182 real changes made)
(9,226 real changes made)
(8,374 real changes made)
(8,708 real changes made)
(8,482 real changes made)
(9,371 real changes made)
(8,662 real changes made)
(8,700 real changes made)
(8,583 real changes made)
. replace MA = (mean_3039_YQ900+mean_3039_YQ925+mean_3039_YQ975+mean_4049_YQ000)/4 if (mod(YQ,1000)==950 & YQ/100>=30 & YQ/100<
(9,683 real changes made)
. replace MA = (mean_3039_YQ925+mean_3039_YQ950+mean_4049_YQ000+mean_4049_YQ025)/4 if (mod(YQ,1000)==975 & YQ/100>=30 & YQ/100<
(8,839 real changes made)
.
. **********  40-49 **********
. // drop MA
. replace MA = (mean_4049_YQ000+mean_4049_YQ025+mean_4049_YQ075+mean_4049_YQ100)/4 if (mod(YQ,1000)==50 & YQ/100>=40 & YQ/100<=
(10,235 real changes made)
. replace MA = (mean_4049_YQ025+mean_4049_YQ050+mean_4049_YQ100+mean_4049_YQ125)/4 if (mod(YQ,1000)==75 & YQ/100>=40 & YQ/100<=
(9,309 real changes made)
. replace MA = (mean_4049_YQ050+mean_4049_YQ075+mean_4049_YQ125+mean_4049_YQ150)/4 if (mod(YQ,1000)==100 & YQ/100>=40 & YQ/100<
(9,333 real changes made)
. replace MA = (mean_4049_YQ075+mean_4049_YQ100+mean_4049_YQ150+mean_4049_YQ175)/4 if (mod(YQ,1000)==125 & YQ/100>=40 & YQ/100<
(9,150 real changes made)
.
. foreach j of numlist 6/37{
```

```
  2.         // 150->6 925-> 37
.         local pm2 = 25*(`j´-2)
  3.         local pm1 = 25*(`j´-1)
  4.         local p0 = 25*(`j´)
  5.         local pn1 = 25*(`j´+1)
  6.         local pn2 = 25*(`j´+2)
  7.
.         replace MA = (mean_4049_YQ`pm2´+mean_4049_YQ`pm1´+mean_4049_YQ`pn1´+mean_4049_YQ`pn2´)/4 if (mod(YQ,1000)==`p0´ & YQ/
  8. }
(10,314 real changes made)
(9,590 real changes made)
(10,358 real changes made)
(10,338 real changes made)
(11,950 real changes made)
(12,372 real changes made)
(11,760 real changes made)
(11,284 real changes made)
(12,155 real changes made)
(11,150 real changes made)
(10,898 real changes made)
(10,521 real changes made)
(11,742 real changes made)
(11,226 real changes made)
(10,935 real changes made)
(10,720 real changes made)
(11,787 real changes made)
(11,104 real changes made)
(10,792 real changes made)
(11,391 real changes made)
(15,332 real changes made)
(16,607 real changes made)
(15,921 real changes made)
(14,914 real changes made)
(15,662 real changes made)
(14,291 real changes made)
(14,348 real changes made)
(13,416 real changes made)
(15,403 real changes made)
(14,525 real changes made)
(14,039 real changes made)
(13,635 real changes made)
. replace MA = (mean_3039_YQ950+mean_3039_YQ975+mean_4049_YQ025+mean_4049_YQ050)/4 if (mod(YQ,1000)==0 & YQ/100>=40 & YQ/100<=
(9,336 real changes made)
. replace MA = (mean_3039_YQ975+mean_4049_YQ000+mean_4049_YQ050+mean_4049_YQ175)/4 if (mod(YQ,1000)==25 & YQ/100>=40 & YQ/100<
(9,338 real changes made)

. ********** Regression **********
. // drop EDUC_s
. gen doc_grad_s = doc_grad-MA

. sum EDUC if (YQ>=3050 & YQ<=3975)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    312,718    12.79222    3.269731          0         20
. sum EDUC if (YQ>=4000 & YQ<=4925)
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    457,181    13.56001    2.995541          0         20

. reg doc_grad_s QTR1-QTR3  if (COHORT>3000 & COHORT <3040 & MA !=0)
      Source |       SS           df       MS      Number of obs   =   312,718
-------------+----------------------------------   F(3, 312714)    =      2.88
       Model |   .29209508         3  .097365027   Prob > F        =    0.0343
    Residual |  10560.6217   312,714  .033770863   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  10560.9138   312,717  .033771473   Root MSE        =    .18377

------------------------------------------------------------------------------
  doc_grad_s |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |   .0015652   .0009373     1.67   0.095     -.000272    .0034023
        QTR2 |   .0024837   .0009426     2.63   0.008     .0006362    .0043311
        QTR3 |   .0004057   .0008981     0.45   0.651    -.0013545    .0021659
       _cons |  -.0010335   .0006463    -1.60   0.110    -.0023002    .0002333
------------------------------------------------------------------------------
```

```
. eststo model11
. reg doc_grad_s QTR1-QTR3  if (COHORT>4000 & MA !=0)
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| | | | | Number of obs | = 457,181 |
| | | | | F(3, 457177) | = 4.48 |
| Model | .466063301 | 3 | .155354434 | Prob > F | = 0.0038 |
| Residual | 15866.3631 | 457,177 | .034705077 | R-squared | = 0.0000 |
| | | | | Adj R-squared | = 0.0000 |
| Total | 15866.8292 | 457,180 | .034705869 | Root MSE | = .18629 |

| doc_grad_s | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| QTR1 | -.0017901 | .0007809 | -2.29 | 0.022 | -.0033206 | -.0002595 |
| QTR2 | .0009889 | .0007858 | 1.26 | 0.208 | -.0005513 | .0025292 |
| QTR3 | -.0005075 | .0007861 | -0.65 | 0.519 | -.0020481 | .0010332 |
| _cons | .0004218 | .0005613 | 0.75 | 0.452 | -.0006783 | .0015218 |

```
. eststo model12
.
. ********** Table **********
. esttab , se r2 drop(_cons)
```

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| | EDUC_s | EDUC_s | EDUC_s | EDUC_s | hs_grad_s | hs_grad_s | bach_grad_s |
| QTR1 | -0.124*** | -0.0855*** | -0.0296* | -0.00935 | -0.0191*** | -0.0145*** | -0.00503* |
| | (0.0167) | (0.0125) | (0.0143) | (0.0110) | (0.00213) | (0.00143) | (0.00216) |
| QTR2 | -0.0860*** | -0.0353** | 0.00510 | 0.0201 | -0.0198*** | -0.0121*** | 0.00276 |
| | (0.0168) | (0.0126) | (0.0143) | (0.0111) | (0.00214) | (0.00144) | (0.00218) |
| QTR3 | -0.0149 | -0.0188 | 0.0165 | 0.00794 | -0.00390 | -0.00195 | 0.00186 |
| | (0.0160) | (0.0126) | (0.0136) | (0.0111) | (0.00204) | (0.00144) | (0.00207) |
| N | 312718 | 457181 | 242065 | 394863 | 312718 | 457181 | 312718 |
| R-sq | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

```
Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001
.
. /* log close */
.
end of do-file
```

## 1.2 Table II

```
. do "Table II"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_I
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v17 SOB
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
```

```
(816,435 real changes made)
. gen AGEQSQ= AGEQ*AGEQ
.
. ********************
. merge m:1 SOB using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\appendix2_ta
    Result                           # of obs.
    -----------------------------------------
    not matched                         4,330
        from master                     4,330  (_merge==1)
        from using                          0  (_merge==2)
    matched                         1,059,304  (_merge==3)
    -----------------------------------------

.
. ** First Column: 16
. scalar yob_table2 = 44
. // drop dt2
.
. // drop dt2
. gen dt2 = 0
. replace dt2=1 if YOB==yob_table2 &at_age1960==16 & EDUC>=12
(29,534 real changes made)
. reg dt2 QTR1 if YOB==yob_table2  & at_age1960==16 // .857225   .0021789
      Source |       SS           df       MS      Number of obs   =    34,535
-------------+----------------------------------   F(1, 34533)     =      3.56
       Model |  .441191003         1  .441191003   Prob > F        =    0.0591
    Residual |  4276.36593    34,533  .123834186   R-squared       =    0.0001
-------------+----------------------------------   Adj R-squared   =    0.0001
       Total |  4276.80712    34,534  .123843375   Root MSE        =     .3519

------------------------------------------------------------------------------
         dt2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0083135   .0044044    -1.89   0.059    -.0169464    .0003193
       _cons |    .857225   .0021789   393.42   0.000     .8529543    .8614958
------------------------------------------------------------------------------

. reg dt2 QTR2 QTR3 QTR4 if YOB==yob_table2  & at_age1960==16 // .8489115   .0038272
      Source |       SS           df       MS      Number of obs   =    34,535
-------------+----------------------------------   F(3, 34531)     =      5.25
       Model |  1.94828415         3  .649428051   Prob > F        =    0.0013
    Residual |  4274.85884    34,531  .123797713   R-squared       =    0.0005
-------------+----------------------------------   Adj R-squared   =    0.0004
       Total |  4276.80712    34,534  .123843375   Root MSE        =    .35185

------------------------------------------------------------------------------
         dt2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR2 |  -.0016094   .0054584    -0.29   0.768    -.0123081    .0090893
        QTR3 |   .0086207   .0053049     1.63   0.104     -.001777    .0190184
        QTR4 |   .0172744   .0053683     3.22   0.001     .0067524    .0277963
       _cons |   .8489115   .0038272   221.81   0.000     .8414101    .8564129
------------------------------------------------------------------------------

.
. ** Second Column: 17 or 18
.
. drop dt2
. gen dt2 = 0
. replace dt2=1 if YOB==yob_table2 &(at_age1960==17 | at_age1960==18) & EDUC>=12
(7,020 real changes made)
. reg dt2 QTR1 if YOB==yob_table2  &(at_age1960==17 | at_age1960==18) // .8599152   .0044417
      Source |       SS           df       MS      Number of obs   =     8,170
-------------+----------------------------------   F(1, 8168)      =      0.09
       Model |   .0111695         1   .0111695   Prob > F        =    0.7612
    Residual |  988.116125     8,168   .12097406   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =   -0.0001
       Total |  988.127295     8,169  .120960619   Root MSE        =    .34781

------------------------------------------------------------------------------
         dt2 |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0027022   .0088931    -0.30   0.761     -.020135    .0147305
       _cons |   .8599152   .0044417   193.60   0.000     .8512084     .868622
------------------------------------------------------------------------------

. reg dt2 QTR2 QTR3 QTR4 if YOB==yob_table2  &(at_age1960==17 | at_age1960==18) // .857213   .0077054
```

| Source | SS | df | MS | Number of obs | = | 8,170 |
|---|---|---|---|---|---|---|
| | | | | F(3, 8166) | = | 0.05 |
| Model | .019018124 | 3 | .006339375 | Prob > F | = | 0.9842 |
| Residual | 988.108277 | 8,166 | .121002728 | R-squared | = | 0.0000 |
| | | | | Adj R-squared | = | -0.0003 |
| Total | 988.127295 | 8,169 | .120960619 | Root MSE | = | .34785 |

| dt2 | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| QTR2 | .004239 | .0110107 | 0.38 | 0.700 | -.0173448 | .0258228 |
| QTR3 | .0024773 | .0107775 | 0.23 | 0.818 | -.0186494 | .0236041 |
| QTR4 | .0014668 | .0108878 | 0.13 | 0.893 | -.019876 | .0228095 |
| _cons | .857213 | .0077054 | 111.25 | 0.000 | .8421084 | .8723175 |

```
. /* log close */
.
.
.
.
end of do-file
```

## 1.3 Table III

```
. do "Table III"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_I
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v17 SOB
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
```

```
(816,435 real changes made)
. gen AGEQSQ= AGEQ*AGEQ
.
.
. **********  Panel A ********
. sum LWKLYWGE if QTR1==1 & COHORT==2029 // 1
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| LWKLYWGE | 62,628 | 5.148471 | .6548401 | -.0198026 | 8.503235 |

```
. sum LWKLYWGE if QTR1!=1 & COHORT==2029 // 2
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| LWKLYWGE | 184,571 | 5.15745 | .6500542 | -.0198026 | 8.947976 |

```
. sum EDUC if QTR1==1 & COHORT==2029 // 4
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| EDUC | 62,628 | 11.3996 | 3.390094 | 0 | 18 |

```
. sum EDUC if QTR1!=1 & COHORT==2029 // 5
```

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| EDUC | 184,571 | 11.52515 | 3.350032 | 0 | 18 |

```
.
. reg LWKLYWGE QTR1 if COHORT==2029 // 3
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 3.76989396 | 1 | 3.76989396 | Number of obs | = 247,199 |
| Residual | 104849.25 | 247,197 | .424152599 | F(1, 247197) | = 8.89 |
| | | | | Prob > F | = 0.0029 |
| Total | 104853.02 | 247,198 | .424166133 | R-squared | = 0.0000 |
| | | | | Adj R-squared | = 0.0000 |
| | | | | Root MSE | = .65127 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| QTR1 | -.0089789 | .0030117 | -2.98 | 0.003 | -.0148818 | -.0030759 |
| _cons | 5.15745 | .0015159 | 3402.17 | 0.000 | 5.154479 | 5.160421 |

```
. reg EDUC QTR1 if COHORT==2029 // 6
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 737.149181 | 1 | 737.149181 | Number of obs | = 247,199 |
| Residual | 2791131.65 | 247,197 | 11.2911227 | F(1, 247197) | = 65.29 |
| | | | | Prob > F | = 0.0000 |
| Total | 2791868.8 | 247,198 | 11.294059 | R-squared | = 0.0003 |
| | | | | Adj R-squared | = 0.0003 |
| | | | | Root MSE | = 3.3602 |

| EDUC | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| QTR1 | -.1255553 | .0155391 | -8.08 | 0.000 | -.1560115 | -.0950991 |
| _cons | 11.52515 | .0078214 | 1473.53 | 0.000 | 11.50982 | 11.54048 |

```
.
. sureg (eq1:  LWKLYWGE QTR1 ) (eq2:  EDUC QTR1 ) if COHORT==2029
Seemingly unrelated regression
```

| Equation | Obs | Parms | RMSE | "R-sq" | chi2 | P |
|---|---|---|---|---|---|---|
| eq1 | 247,199 | 1 | .6512674 | 0.0000 | 8.89 | 0.0029 |
| eq2 | 247,199 | 1 | 3.360213 | 0.0003 | 65.29 | 0.0000 |

| | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| eq1 | | | | | | |
| QTR1 | -.0089789 | .0030117 | -2.98 | 0.003 | -.0148818 | -.003076 |
| _cons | 5.15745 | .0015159 | 3402.18 | 0.000 | 5.154479 | 5.160421 |
| eq2 | | | | | | |
| QTR1 | -.1255553 | .015539 | -8.08 | 0.000 | -.1560113 | -.0950993 |
| _cons | 11.52515 | .0078214 | 1473.54 | 0.000 | 11.50982 | 11.54048 |

```
. nlcom ratio: [eq1]_b[QTR1]/[eq2]_b[QTR1] // 7
       ratio:  [eq1]_b[QTR1]/[eq2]_b[QTR1]
```

```
------------------------------------------------------------------------------
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       ratio |   .0715133   .0218682     3.27   0.001     .0286525    .1143741
------------------------------------------------------------------------------

.
. reg LWKLYWGE EDUC if  COHORT==2029 // 8
      Source |       SS           df       MS      Number of obs   =   247,199
-------------+----------------------------------   F(1, 247197)    =  50948.11
       Model |  17917.6603         1  17917.6603   Prob > F        =    0.0000
    Residual |  86935.3595   247,197  .351684525   R-squared       =    0.1709
-------------+----------------------------------   Adj R-squared   =    0.1709
       Total |  104853.02   247,198  .424166133   Root MSE        =    .59303

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0801112   .0003549   225.72   0.000     .0794156    .0808068
       _cons |    4.23443     .00425   996.33   0.000       4.2261     4.24276
------------------------------------------------------------------------------

.
. **********  Panel B ********
. sum LWKLYWGE if QTR1==1 & COHORT==3039 // 9
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    LWKLYWGE |     81,671    5.891596    .6809133  -2.341806    10.5321
. sum LWKLYWGE if QTR1!=1 & COHORT==3039 // 10
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
    LWKLYWGE |    247,838    5.902695    .6781127  -2.341806    10.5321
. sum EDUC if QTR1==1 & COHORT==3039 //12
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |     81,671    12.68807    3.309801          0         20
. sum EDUC if QTR1!=1 & COHORT==3039 // 13
    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
        EDUC |    247,838    12.79688    3.271337          0         20

.
. reg LWKLYWGE QTR1 if COHORT==3039 // 11
      Source |       SS           df       MS      Number of obs   =   329,509
-------------+----------------------------------   F(1, 329507)    =     16.42
       Model |  7.56705734         1  7.56705734   Prob > F        =    0.0001
    Residual |  151830.304   329,507  .460780207   R-squared       =    0.0000
-------------+----------------------------------   Adj R-squared   =    0.0000
       Total |  151837.871   329,508  .460801773   Root MSE        =    .67881

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.0110989   .0027388    -4.05   0.000    -.0164669   -.0057309
       _cons |   5.902695   .0013635  4329.00   0.000     5.900022    5.905367
------------------------------------------------------------------------------

. reg EDUC QTR1 if COHORT==3039 // 14
      Source |       SS           df       MS      Number of obs   =   329,509
-------------+----------------------------------   F(1, 329507)    =     67.57
       Model |  727.393313         1  727.393313   Prob > F        =    0.0000
    Residual |  3546940.27   329,507  10.7643852   R-squared       =    0.0002
-------------+----------------------------------   Adj R-squared   =    0.0002
       Total |  3547667.66   329,508    10.76656   Root MSE        =    3.2809

------------------------------------------------------------------------------
        EDUC |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        QTR1 |  -.1088179   .0132376    -8.22   0.000    -.1347633   -.0828725
       _cons |   12.79688   .0065904  1941.75   0.000     12.78397    12.8098
------------------------------------------------------------------------------

.
. sureg (eq1:  LWKLYWGE QTR1 ) (eq2:  EDUC QTR1 ) if COHORT==3039
Seemingly unrelated regression
------------------------------------------------------------------------------
Equation             Obs   Parms        RMSE    "R-sq"       chi2         P
------------------------------------------------------------------------------
eq1                329,509       1    .6788059    0.0000      16.42    0.0001
```

```
eq2              329,509       1    3.280902    0.0002      67.57    0.0000
```

| | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| eq1 | | | | | | |
| QTR1 | -.0110989 | .0027388 | -4.05 | 0.000 | -.0164668 | -.0057309 |
| _cons | 5.902695 | .0013635 | 4329.01 | 0.000 | 5.900022 | 5.905367 |
| eq2 | | | | | | |
| QTR1 | -.1088179 | .0132376 | -8.22 | 0.000 | -.1347631 | -.0828727 |
| _cons | 12.79688 | .0065904 | 1941.76 | 0.000 | 12.78397 | 12.8098 |

```
. nlcom ratio: [eq1]_b[QTR1]/[eq2]_b[QTR1] // 15
       ratio:  [eq1]_b[QTR1]/[eq2]_b[QTR1]
```

| | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| ratio | .101995 | .0239489 | 4.26 | 0.000 | .055056 | .148934 |

```
.
. reg LWKLYWGE EDUC if  COHORT==3039 // 16
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 17808.8293 | 1 | 17808.8293 | Number of obs | = 329,509 |
| Residual | 134029.041 | 329,507 | .40675628 | F(1, 329507) | = 43782.56 |
| | | | | Prob > F | = 0.0000 |
| | | | | R-squared | = 0.1173 |
| | | | | Adj R-squared | = 0.1173 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = .63777 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .070851 | .0003386 | 209.24 | 0.000 | .0701874 | .0715147 |
| _cons | 4.995182 | .0044644 | 1118.88 | 0.000 | 4.986432 | 5.003932 |

```
.
. /* log close */
.
end of do-file
```

## 1.4 Table IV

```
. do "Table IV"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_I
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
(816,435 real changes made)
```

```
. gen AGEQSQ= AGEQ*AGEQ
. ************************************
. keep if COHORT < 2030
(816,435 observations deleted)
. **********  Start Regression ********
. eststo clear
.
. reg  LWKLYWGE EDUC  YR0-YR8
```

| Source | SS | df | MS | Number of obs | = | 247,199 |
|---|---|---|---|---|---|---|
| | | | | F(10, 247188) | = | 5100.52 |
| Model | 17934.8419 | 10 | 1793.48419 | Prob > F | = | 0.0000 |
| Residual | 86918.1779 | 247,188 | .351627821 | R-squared | = | 0.1710 |
| | | | | Adj R-squared | = | 0.1710 |
| Total | 104853.02 | 247,198 | .424166133 | Root MSE | = | .59298 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0801595 | .0003552 | 225.67 | 0.000 | .0794633 | .0808557 |
| YR0 | .023484 | .0053878 | 4.36 | 0.000 | .0129241 | .0340439 |
| YR1 | .02899 | .0053167 | 5.45 | 0.000 | .0185693 | .0394107 |
| YR2 | .0232415 | .0053556 | 4.34 | 0.000 | .0127447 | .0337383 |
| YR3 | .0255564 | .0053503 | 4.78 | 0.000 | .0150699 | .0360429 |
| YR4 | .0264291 | .005286 | 5.00 | 0.000 | .0160686 | .0367896 |
| YR5 | .0308406 | .0053234 | 5.79 | 0.000 | .0204069 | .0412743 |
| YR6 | .0291043 | .0053449 | 5.45 | 0.000 | .0186284 | .0395802 |
| YR7 | .0271039 | .0052807 | 5.13 | 0.000 | .0167538 | .037454 |
| YR8 | .0242569 | .0053348 | 4.55 | 0.000 | .0138009 | .034713 |
| _cons | 4.20996 | .0056167 | 749.54 | 0.000 | 4.198951 | 4.220968 |

```
. eststo model1
.
. ivregress 2sls LWKLYWGE YR0-YR8 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8)
```

Instrumental variables (2SLS) regression

| | | | |
|---|---|---|---|
| Number of obs | = | 247,199 | |
| Wald chi2(10) | = | 104.35 | |
| Prob > chi2 | = | 0.0000 | |
| R-squared | = | 0.1708 | |
| Root MSE | = | .59307 | |

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0768557 | .0150413 | 5.11 | 0.000 | .0473752 | .1063361 |
| YR0 | .0217599 | .0095191 | 2.29 | 0.022 | .0031028 | .040417 |
| YR1 | .02776 | .0077213 | 3.60 | 0.000 | .0126265 | .0428935 |
| YR2 | .0220058 | .007767 | 2.83 | 0.005 | .0067827 | .0372288 |
| YR3 | .0246441 | .0067731 | 3.64 | 0.000 | .011369 | .0379192 |
| YR4 | .0257169 | .0062014 | 4.15 | 0.000 | .0135624 | .0378715 |
| YR5 | .0300778 | .0063561 | 4.73 | 0.000 | .0176201 | .0425356 |
| YR6 | .0286313 | .0057629 | 4.97 | 0.000 | .0173363 | .0399264 |
| YR7 | .0264814 | .0059936 | 4.42 | 0.000 | .0147342 | .0382286 |
| YR8 | .0239047 | .0055712 | 4.29 | 0.000 | .0129854 | .0348241 |
| _cons | 4.248729 | .1765461 | 24.07 | 0.000 | 3.902705 | 4.594753 |

```
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 QTR1YR0 QTR1YR1 QTR1YR2
               QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9
               QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6
               QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3
               QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9
. eststo model2
.
. reg  LWKLYWGE EDUC  YR0-YR8 AGEQ AGEQSQ
```

| Source | SS | df | MS | Number of obs | = | 247,199 |
|---|---|---|---|---|---|---|
| | | | | F(12, 247186) | = | 4250.99 |
| Model | 17936.8995 | 12 | 1494.74162 | Prob > F | = | 0.0000 |
| Residual | 86916.1203 | 247,186 | .351622342 | R-squared | = | 0.1711 |
| | | | | Adj R-squared | = | 0.1710 |
| Total | 104853.02 | 247,198 | .424166133 | Root MSE | = | .59298 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0801676 | .0003553 | 225.65 | 0.000 | .0794712 | .0808639 |
| YR0 | -.0247372 | .0390484 | -0.63 | 0.526 | -.1012711 | .0517967 |
| YR1 | -.0263221 | .0352192 | -0.75 | 0.455 | -.0953509 | .0427067 |

```
         YR2 |  -.0359758   .0322031    -1.12   0.264     -.099093    .0271414
         YR3 |  -.0344738    .029489    -1.17   0.242    -.0922716    .0233239
         YR4 |  -.0313263    .026628    -1.18   0.239    -.0835164    .0208639
         YR5 |  -.0215758   .0233483    -0.92   0.355     -.067338    .0241863
         YR6 |   -.014863   .0193589    -0.77   0.443    -.0528059    .0230798
         YR7 |  -.0053281   .0145304    -0.37   0.714    -.0338072    .0231511
         YR8 |   .0063699   .0091343     0.70   0.486    -.0115331    .0242729
        AGEQ |   .1445517   .0675997     2.14   0.032      .012058    .2770454
      AGEQSQ |  -.0015423   .0007478    -2.06   0.039     -.003008   -.0000765
       _cons |   .8830288   1.516431     0.58   0.560    -2.089136    3.855193
------------------------------------------------------------------------------

. eststo model3

.
. ivregress 2sls LWKLYWGE YR0-YR8 AGEQ AGEQSQ (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8)
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    247,199
                                                  Wald chi2(12)   =     104.08
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1023
                                                  Root MSE        =     .61707
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .1310424    .033356     3.93   0.000     .0656659    .1964189
         YR0 |  -.1134064   .0709262    -1.60   0.110    -.2524193    .0256065
         YR1 |  -.1081954   .0649955    -1.66   0.096    -.2355842    .0191934
         YR2 |   -.103873    .055718    -1.86   0.062    -.2130781    .0053322
         YR3 |  -.0938903   .0495892    -1.89   0.058    -.1910834    .0033029
         YR4 |   -.080653   .0425868    -1.89   0.058    -.1641216    .0028156
         YR5 |  -.0573874   .0337871    -1.70   0.089     -.123609    .0088341
         YR6 |  -.0427072   .0271859    -1.57   0.116    -.0959905    .0105761
         YR7 |  -.0188154   .0175163    -1.07   0.283    -.0531468     .015516
         YR8 |   .0003555   .0102907     0.03   0.972     -.019814     .020525
        AGEQ |   .1409151   .0703863     2.00   0.045     .0029605    .2788697
      AGEQSQ |  -.0013605   .0007873    -1.73   0.084    -.0029035    .0001826
       _cons |   .1337519   1.652725     0.08   0.935    -3.105529    3.373033
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 AGEQ AGEQSQ QTR1YR0
               QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
               QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
               QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
               QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8

. eststo model4

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8
      Source |       SS           df       MS      Number of obs   =   247,199
-------------+----------------------------------   F(21, 247177)   =   3508.40
       Model |  24077.0055         21  1146.52407   Prob > F        =    0.0000
    Residual |  80776.0143   247,177  .326794217   R-squared       =    0.2296
-------------+----------------------------------   Adj R-squared   =    0.2296
       Total |   104853.02   247,198  .424166133   Root MSE        =    .57166
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0701188   .0003546   197.71   0.000     .0694237    .0708139
        RACE |  -.2979509   .0043445   -68.58   0.000     -.306466   -.2894358
     MARRIED |   .2928024   .0037449    78.19   0.000     .2854625    .3001423
        SMSA |  -.1343181   .0025648   -52.37   0.000    -.1393451   -.1292912
      NEWENG |  -.0327304   .0059551    -5.50   0.000    -.0444023   -.0210586
      MIDATL |  -.0131068   .0041124    -3.19   0.001    -.0211669   -.0050467
     ENOCENT |    .019752   .0040477     4.88   0.000     .0118187    .0276854
     WNOCENT |  -.1414501   .0054026   -26.18   0.000    -.1520391   -.1308612
       SOATL |  -.1037871   .0044282   -23.44   0.000    -.1124663   -.0951078
     ESOCENT |  -.2077824   .0058935   -35.26   0.000    -.2193334   -.1962313
     WSOCENT |  -.1514476   .0050699   -29.87   0.000    -.1613844   -.1415107
          MT |  -.1268479   .0067059   -18.92   0.000    -.1399914   -.1137044
         YR0 |   .0122181    .005195     2.35   0.019     .0020359    .0224002
         YR1 |   .0161059   .0051267     3.14   0.002     .0060578     .026154
         YR2 |   .0139765   .0051637     2.71   0.007     .0038559    .0240972
         YR3 |   .0166631   .0051587     3.23   0.001     .0065523     .026774
         YR4 |   .0173557   .0050966     3.41   0.001     .0073665    .0273448
         YR5 |   .0251024   .0051323     4.89   0.000     .0150431    .0351616
         YR6 |   .0238508    .005153     4.63   0.000      .013751    .0339506
```

```
         YR7 |   .0226915   .0050911     4.46   0.000     .0127132    .0326699
         YR8 |    .019031   .0051432     3.70   0.000     .0089505    .0291116
       _cons |   4.191501   .0072429   578.71   0.000     4.177305    4.205697
------------------------------------------------------------------------------

. eststo model5

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT  (EDUC = QTR1YR0-QTR
Instrumental variables (2SLS) regression          Number of obs   =    247,199
                                                  Wald chi2(21)   =   34596.79
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.2294
                                                  Root MSE        =     .57173

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0668509   .0150912     4.43   0.000     .0372727    .0964291
         YR0 |   .0103977   .0098807     1.05   0.293    -.0089682    .0297636
         YR1 |   .0147392   .0081301     1.81   0.070    -.0011954    .0306738
         YR2 |    .012674   .0079265     1.60   0.110    -.0028617    .0282098
         YR3 |    .015665   .0069177     2.26   0.024     .0021064    .0292235
         YR4 |   .0165313   .0063613     2.60   0.009     .0040635    .0289992
         YR5 |   .0243016   .0063259     3.84   0.000      .011903    .0367001
         YR6 |   .0233091   .0057284     4.07   0.000     .0120817    .0345365
         YR7 |   .0220532    .005883     3.75   0.000     .0105227    .0335837
         YR8 |   .0186236    .005477     3.40   0.001     .0078888    .0293583
        RACE |  -.3055315    .035266    -8.66   0.000    -.3746516   -.2364114
     MARRIED |   .2941322   .0071915    40.90   0.000     .2800372    .3082272
        SMSA |  -.1362415   .0092426   -14.74   0.000    -.1543565   -.1181264
      NEWENG |  -.0340735   .0085978    -3.96   0.000     -.050925   -.0172221
      MIDATL |  -.0145956   .0080099    -1.82   0.068    -.0302948    .0011036
     ENOCENT |   .0173361   .0118655     1.46   0.144    -.0059199    .0405922
     WNOCENT |   -.143347   .0102902   -13.93   0.000    -.1635153   -.1231787
       SOATL |  -.1073946   .0172338    -6.23   0.000    -.1411723    -.073617
     ESOCENT |  -.2131811   .0256118    -8.32   0.000    -.2633794   -.1629828
     WSOCENT |  -.1551598   .0178727    -8.68   0.000    -.1901898   -.1201299
          MT |  -.1273555   .0071044   -17.93   0.000    -.1412798   -.1134311
       _cons |   4.232152   .1878152    22.53   0.000     3.864041    4.600263
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
               MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT QTR1YR0
               QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
               QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
               QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
               QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8
               QTR3YR9
. eststo model6

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8 AGEQ AGEQSQ
      Source |       SS           df       MS      Number of obs   =   247,199
-------------+----------------------------------   F(23, 247175)   =   3203.50
       Model |  24078.2095         23  1046.87868   Prob > F        =    0.0000
    Residual |  80774.8103   247,175  .326791991   R-squared       =    0.2296
-------------+----------------------------------   Adj R-squared   =    0.2296
       Total |   104853.02   247,198  .424166133   Root MSE        =    .57166

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0701242   .0003547   197.69   0.000     .0694289    .0708194
        RACE |  -.2979528   .0043445   -68.58   0.000    -.3064679   -.2894376
     MARRIED |   .2927938   .0037449    78.18   0.000     .2854539    .3001337
        SMSA |  -.1343204   .0025648   -52.37   0.000    -.1393473   -.1292935
      NEWENG |  -.0327575   .0059551    -5.50   0.000    -.0444293   -.0210856
      MIDATL |  -.0131056   .0041123    -3.19   0.001    -.0211657   -.0050456
     ENOCENT |    .019735   .0040477     4.88   0.000     .0118016    .0276683
     WNOCENT |  -.1414505   .0054026   -26.18   0.000    -.1520395   -.1308615
       SOATL |  -.1037686   .0044283   -23.43   0.000     -.112448   -.0950893
     ESOCENT |  -.2077598   .0058935   -35.25   0.000     -.219311   -.1962087
     WSOCENT |  -.1513879   .0050702   -29.86   0.000    -.1613254   -.1414505
          MT |  -.1268288   .0067059   -18.91   0.000    -.1399723   -.1136853
         YR0 |  -.0178908    .037649    -0.48   0.635    -.0916818    .0559002
         YR1 |  -.0207608    .033957    -0.61   0.541    -.0873157    .0457941
         YR2 |   -.027055   .0310488    -0.87   0.384    -.0879098    .0337997
         YR3 |  -.0260209   .0284315    -0.92   0.360    -.0817458     .029704
         YR4 |  -.0244832   .0256729    -0.95   0.340    -.0748014    .0258349
```

```
         YR5 |  -.0134015   .0225105    -0.60   0.552    -.0575216    .0307185
         YR6 |  -.0088009   .0186642    -0.47   0.637    -.0453823    .0277804
         YR7 |  -.0016045   .0140087    -0.11   0.909    -.0290612    .0258521
         YR8 |   .0055357   .0088062     0.63   0.530    -.0117241    .0227955
        AGEQ |   .1162067   .0651707     1.78   0.075    -.0115261    .2439395
      AGEQSQ |  -.0012505    .000721    -1.73   0.083    -.0026636    .0001626
       _cons |   1.534505   1.461947     1.05   0.294    -1.330872    4.399882
------------------------------------------------------------------------------

. eststo model7

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ (EDUC =
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    247,199
                                                  Wald chi2(23)   =   33602.63
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.2065
                                                  Root MSE        =     .58017
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .1007154    .033412     3.01   0.003     .0352291    .1662017
         YR0 |  -.0679552   .0667052    -1.02   0.308     -.198695    .0627846
         YR1 |  -.0669484   .0610922    -1.10   0.273    -.1866869    .0527901
         YR2 |  -.0659501   .0528911    -1.25   0.212    -.1696148    .0377145
         YR3 |  -.0600534   .0470548    -1.28   0.202     -.152279    .0321723
         YR4 |  -.0525377   .0402207    -1.31   0.191    -.1313688    .0262935
         YR5 |  -.0342578   .0322615    -1.06   0.288    -.0974891    .0289736
         YR6 |  -.0247789   .0257554    -0.96   0.336    -.0752585    .0257007
         YR7 |  -.0095263    .016643    -0.57   0.567    -.0421461    .0230935
         YR8 |   .0024244   .0095615     0.25   0.800    -.0163158    .0211646
        RACE |  -.2270549   .0775561    -2.93   0.003     -.379062   -.0750478
     MARRIED |   .2803621   .0140991    19.89   0.000     .2527282    .3079959
        SMSA |  -.1163199   .0198307    -5.87   0.000    -.1551874   -.0774524
      NEWENG |  -.0201886   .0149986    -1.35   0.178    -.0495853     .009208
      MIDATL |   .0008336   .0157854     0.05   0.958    -.0301051    .0317723
     ENOCENT |   .0423374   .0250246     1.69   0.091    -.0067099    .0913846
     WNOCENT |  -.1236592   .0201894    -6.12   0.000    -.1632297   -.0840886
       SOATL |  -.0699707   .0371848    -1.88   0.060    -.1428515    .0029102
     ESOCENT |  -.1571901   .0555524    -2.83   0.005    -.2660707   -.0483095
     WSOCENT |  -.1165472   .0383975    -3.04   0.002    -.1918048   -.0412895
          MT |  -.1220908   .0085495   -14.28   0.000    -.1388476   -.1053341
        AGEQ |   .1170303   .0661453     1.77   0.077    -.0126122    .2466728
      AGEQSQ |  -.0011772    .000736    -1.60   0.110    -.0026198    .0002654
       _cons |    .999542   1.594612     0.63   0.531    -2.125839    4.124923
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
               MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ
               QTR1YR0 QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6
               QTR1YR7 QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3
               QTR2YR4 QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0
               QTR3YR1 QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8
. eststo model8

.
. ********** Table Decoration ********

.
. label variable EDUC   "Years of education"
. label variable RACE   "Race(1 = black)"
. label variable SMSA   "SMSA (1 = center city)"
. label variable MARRIED   "Married (1 = married)"
. label variable AGEQ   "Age"
. label variable AGEQSQ   "Age-squared"
.
. /* esttab using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\01_paper\tables\
> QSQ) order(EDUC RACE SMSA MARRIED AGEQ AGEQSQ) title("TABLE V") nonumbers mtitles("(1) OLS" "(2) TSLS" "(3) OLS" "(4) TSLS"
.
. /* log close */
.
end of do-file
```

## 1.5 Table V

```
. do "Table V"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_V
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
(816,435 real changes made)
```

```
. gen AGEQSQ= AGEQ*AGEQ
. ************************************
. keep if COHORT>3000 & COHORT <3040
(734,125 observations deleted)
. **********  Start Regression ********
. eststo clear
.
. reg  LWKLYWGE EDUC  YR0-YR8
```

| Source | SS | df | MS | Number of obs | = | 329,509 |
|---|---|---|---|---|---|---|
| | | | | F(10, 329498) | = | 4397.45 |
| Model | 17878.1586 | 10 | 1787.81586 | Prob > F | = | 0.0000 |
| Residual | 133959.712 | 329,498 | .406556981 | R-squared | = | 0.1177 |
| | | | | Adj R-squared | = | 0.1177 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = | .63762 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .071081 | .000339 | 209.67 | 0.000 | .0704166 | .0717455 |
| YR0 | .0481636 | .0048468 | 9.94 | 0.000 | .038664 | .0576633 |
| YR1 | .0417762 | .0049669 | 8.41 | 0.000 | .0320412 | .0515112 |
| YR2 | .0333253 | .0048984 | 6.80 | 0.000 | .0237245 | .042926 |
| YR3 | .0305805 | .0049587 | 6.17 | 0.000 | .0208615 | .0402994 |
| YR4 | .0271644 | .0049096 | 5.53 | 0.000 | .0175417 | .036787 |
| YR5 | .0152689 | .0048751 | 3.13 | 0.002 | .0057138 | .0248241 |
| YR6 | .0163829 | .0048786 | 3.36 | 0.001 | .0068209 | .0259448 |
| YR7 | .0114515 | .0048296 | 2.37 | 0.018 | .0019856 | .0209174 |
| YR8 | .0112732 | .0047851 | 2.36 | 0.018 | .0018945 | .0206519 |
| _cons | 4.969185 | .0055557 | 894.42 | 0.000 | 4.958296 | 4.980074 |

```
. eststo model1
.
. ivregress 2sls LWKLYWGE YR0-YR8 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8)
```

Instrumental variables (2SLS) regression

| | | | |
|---|---|---|---|
| Number of obs | = | 329,509 | |
| Wald chi2(10) | = | 41.67 | |
| Prob > chi2 | = | 0.0000 | |
| R-squared | = | 0.1102 | |
| Root MSE | = | .64034 | |

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0891155 | .0161098 | 5.53 | 0.000 | .0575408 | .1206901 |
| YR0 | .0585271 | .0104573 | 5.60 | 0.000 | .0380311 | .0790231 |
| YR1 | .0496458 | .0086184 | 5.76 | 0.000 | .032754 | .0665376 |
| YR2 | .0404967 | .0080759 | 5.01 | 0.000 | .0246682 | .0563253 |
| YR3 | .0367315 | .0074147 | 4.95 | 0.000 | .0221991 | .051264 |
| YR4 | .0327393 | .0070071 | 4.67 | 0.000 | .0190056 | .046473 |
| YR5 | .0196996 | .0062951 | 3.13 | 0.002 | .0073615 | .0320377 |
| YR6 | .0197654 | .0057559 | 3.43 | 0.001 | .0084841 | .0310468 |
| YR7 | .0137096 | .0052528 | 2.61 | 0.009 | .0034144 | .0240048 |
| YR8 | .0119816 | .004847 | 2.47 | 0.013 | .0024816 | .0214816 |
| _cons | 4.7342 | .209935 | 22.55 | 0.000 | 4.322735 | 5.145665 |

```
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 QTR1YR0 QTR1YR1 QTR1YR2
               QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9
               QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6
               QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3
               QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9
. eststo model2
.
. reg  LWKLYWGE EDUC  YR0-YR8 AGEQ AGEQSQ
```

| Source | SS | df | MS | Number of obs | = | 329,509 |
|---|---|---|---|---|---|---|
| | | | | F(12, 329496) | = | 3664.88 |
| Model | 17879.6923 | 12 | 1489.97436 | Prob > F | = | 0.0000 |
| Residual | 133958.178 | 329,496 | .406554794 | R-squared | = | 0.1178 |
| | | | | Adj R-squared | = | 0.1177 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = | .63762 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0710737 | .0003391 | 209.62 | 0.000 | .0704091 | .0717382 |
| YR0 | .1033404 | .0363406 | 2.84 | 0.004 | .0321139 | .1745668 |
| YR1 | .0971334 | .0326949 | 2.97 | 0.003 | .0330523 | .1612146 |

```
         YR2 |   .0872853   .0297449     2.93   0.003     .0289863    .1455844
         YR3 |   .0815684   .0271335     3.01   0.003     .0283876    .1347492
         YR4 |   .0735621   .0244142     3.01   0.003      .025711    .1214131
         YR5 |   .0555608   .0213492     2.60   0.009     .0137171    .0974046
         YR6 |   .0489979   .0176847     2.77   0.006     .0143365    .0836594
         YR7 |   .0347328    .013239     2.62   0.009     .0087848    .0606809
         YR8 |   .0237347   .0082492     2.88   0.004     .0075664    .0399029
        AGEQ |  -.0771898   .0620977    -1.24   0.214    -.1988994    .0445199
      AGEQSQ |   .0007874   .0006881     1.14   0.252    -.0005612     .002136
       _cons |   6.805408   1.391314     4.89   0.000     4.078472    9.532343
------------------------------------------------------------------------------

. eststo model3

.
. ivregress 2sls LWKLYWGE YR0-YR8 AGEQ AGEQSQ (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8)
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    329,509
                                                  Wald chi2(12)   =      44.54
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1172
                                                  Root MSE        =     .63781
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0759988   .0289648     2.62   0.009     .0192287    .1327688
         YR0 |   .0971831   .0513085     1.89   0.058    -.0033798    .1977459
         YR1 |   .0916403   .0459669     1.99   0.046     .0015469    .1817337
         YR2 |   .0828607   .0395228     2.10   0.036     .0053974    .1603241
         YR3 |   .0780374   .0341697     2.28   0.022     .0110659    .1450088
         YR4 |   .0709674   .0287925     2.46   0.014     .0145352    .1273995
         YR5 |   .0536472   .0241355     2.22   0.026     .0063426    .1009518
         YR6 |   .0477061   .0192492     2.48   0.013     .0099784    .0854339
         YR7 |    .033963   .0139934     2.43   0.015     .0065364    .0613897
         YR8 |   .0232763   .0086799     2.68   0.007      .006264    .0402885
        AGEQ |  -.0801109   .0644545    -1.24   0.214    -.2064394    .0462176
      AGEQSQ |   .0008309   .0007342     1.13   0.258    -.0006082    .0022699
       _cons |   6.788238   1.395279     4.87   0.000     4.053541    9.522936
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 AGEQ AGEQSQ QTR1YR0
               QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
               QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
               QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
               QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8

. eststo model4

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8
      Source |       SS           df       MS      Number of obs   =   329,509
-------------+----------------------------------   F(21, 329487)   =   3101.11
       Model |  25058.098         21  1193.24276   Prob > F        =    0.0000
    Residual |  126779.773   329,487  .384779286   R-squared       =    0.1650
-------------+----------------------------------   Adj R-squared   =    0.1650
       Total |  151837.871   329,508  .460801773   Root MSE        =    .62031
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0632457   .0003393   186.42   0.000     .0625808    .0639107
        RACE |  -.2574833   .0040414   -63.71   0.000    -.2654043   -.2495623
     MARRIED |   .2478674   .0031666    78.28   0.000      .241661    .2540739
        SMSA |  -.1763007   .0028655   -61.53   0.000    -.1819169   -.1706844
      NEWENG |  -.1133839   .0055121   -20.57   0.000    -.1241874   -.1025804
      MIDATL |  -.0527654   .0041003   -12.87   0.000    -.0608018   -.0447289
     ENOCENT |   .0159711   .0039398     4.05   0.000     .0082492     .023693
     WNOCENT |  -.1077725   .0050041   -21.54   0.000    -.1175803   -.0979647
       SOATL |  -.1393092   .0041035   -33.95   0.000    -.1473519   -.1312664
     ESOCENT |  -.1644494   .0053262   -30.88   0.000    -.1748885   -.1540102
     WSOCENT |  -.1031785   .0046701   -22.09   0.000    -.1123317   -.0940252
          MT |  -.0920934   .0057895   -15.91   0.000    -.1034406   -.0807462
         YR0 |   .0306364   .0047176     6.49   0.000     .0213901    .0398827
         YR1 |   .0265911   .0048339     5.50   0.000     .0171169    .0360653
         YR2 |   .0221746   .0047665     4.65   0.000     .0128324    .0315168
         YR3 |   .0222913   .0048246     4.62   0.000     .0128352    .0317475
         YR4 |   .0194833   .0047767     4.08   0.000     .0101211    .0288455
         YR5 |   .0098179   .0047431     2.07   0.038     .0005216    .0191141
         YR6 |   .0102502   .0047464     2.16   0.031     .0009473     .019553
```

```
         YR7 |   .0076009   .0046986     1.62   0.106    -.0016083    .0168101
         YR8 |   .0084683   .0046553     1.82   0.069    -.0006559    .0175926
       _cons |   4.985792   .0069468   717.71   0.000     4.972176    4.999408
------------------------------------------------------------------------------

. eststo model5

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT  (EDUC = QTR1YR0-QTR
Instrumental variables (2SLS) regression          Number of obs   =    329,509
                                                  Wald chi2(21)   =   30158.55
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1584
                                                  Root MSE        =     .62273

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0805518   .0163846     4.92   0.000     .0484385     .112665
         YR0 |   .0412408   .0110988     3.72   0.000     .0194875    .0629941
         YR1 |    .034757   .0091265     3.81   0.000     .0168693    .0526446
         YR2 |    .029418   .0083609     3.52   0.000     .0130309    .0458051
         YR3 |   .0284025   .0075445     3.76   0.000     .0136155    .0431894
         YR4 |   .0250353   .0071143     3.52   0.000     .0110915    .0389791
         YR5 |   .0140564   .0062265     2.26   0.024     .0018527    .0262602
         YR6 |   .0137087   .0057811     2.37   0.018     .0023778    .0250395
         YR7 |   .0098912   .0051913     1.91   0.057    -.0002836     .020066
         YR8 |   .0092837   .0047368     1.96   0.050    -1.71e-07    .0185676
        RACE |  -.2302179   .0261251    -8.81   0.000    -.2814221   -.1790136
     MARRIED |   .2439689   .0048706    50.09   0.000     .2344227    .2535152
        SMSA |  -.1581466   .0174229    -9.08   0.000    -.1922948   -.1239985
      NEWENG |  -.1033678   .0109775    -9.42   0.000    -.1248833   -.0818523
      MIDATL |  -.0409571    .011911    -3.44   0.001    -.0643023    -.017612
     ENOCENT |   .0343439   .0178348     1.93   0.054    -.0006118    .0692995
     WNOCENT |  -.0950523   .0130463    -7.29   0.000    -.1206226   -.0694819
       SOATL |  -.1203118   .0184479    -6.52   0.000    -.1564689   -.0841546
     ESOCENT |  -.1355007   .0279182    -4.85   0.000    -.1902194   -.0807821
     WSOCENT |  -.0867657   .0162276    -5.35   0.000    -.1185711   -.0549602
          MT |  -.0879569   .0070079   -12.55   0.000    -.1016921   -.0742216
       _cons |   4.743756   .2292055    20.70   0.000     4.294522    5.192991
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
               MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT QTR1YR0
               QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
               QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
               QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
               QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8
               QTR3YR9
. eststo model6

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8 AGEQ AGEQSQ
      Source |       SS           df       MS      Number of obs   =   329,509
-------------+----------------------------------   F(23, 329485)   =  2831.65
       Model |  25059.716         23  1089.55287   Prob > F        =    0.0000
    Residual |  126778.155   329,485  .384776711   R-squared       =    0.1650
-------------+----------------------------------   Adj R-squared   =    0.1650
       Total |  151837.871   329,508  .460801773   Root MSE        =     .6203

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0632378   .0003393   186.37   0.000     .0625728    .0639028
        RACE |  -.2574534   .0040414   -63.70   0.000    -.2653745   -.2495323
     MARRIED |   .2478785   .0031666    78.28   0.000     .2416721    .2540849
        SMSA |  -.1762903   .0028655   -61.52   0.000    -.1819066   -.1706741
      NEWENG |  -.1133571   .0055121   -20.57   0.000    -.1241606   -.1025536
      MIDATL |  -.0527515   .0041003   -12.87   0.000     -.060788   -.0447151
     ENOCENT |   .0159563   .0039398     4.05   0.000     .0082343    .0236782
     WNOCENT |  -.1077988   .0050041   -21.54   0.000    -.1176066   -.0979909
       SOATL |  -.1393424   .0041035   -33.96   0.000    -.1473852   -.1312996
     ESOCENT |  -.1644554   .0053262   -30.88   0.000    -.1748945   -.1540163
     WSOCENT |  -.1032796   .0046703   -22.11   0.000    -.1124333   -.0941258
          MT |  -.0921064   .0057895   -15.91   0.000    -.1034536   -.0807593
         YR0 |   .0888003   .0353575     2.51   0.012     .0195006    .1581001
         YR1 |   .0844662   .0318107     2.66   0.008     .0221182    .1468142
         YR2 |   .0782175   .0289405     2.70   0.007      .021495     .13494
         YR3 |   .0749617   .0263998     2.84   0.005     .0232189    .1267046
         YR4 |   .0671941   .0237537     2.83   0.005     .0206374    .1137507
```

```
         YR5 |   .0510923   .0207714     2.46   0.014      .010381    .0918035
         YR6 |   .0435516    .017206     2.53   0.011     .0098284    .0772748
         YR7 |   .0313043   .0128806     2.43   0.015     .0060588    .0565499
         YR8 |   .0211243   .0080257     2.63   0.008     .0053942    .0368545
        AGEQ |  -.0759683    .060413    -1.26   0.209     -.194376    .0424394
      AGEQSQ |   .0007702   .0006694     1.15   0.250    -.0005418    .0020822
       _cons |    6.80081   1.353582     5.02   0.000     4.147828    9.453792
------------------------------------------------------------------------------

. eststo model7

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ (EDUC =
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    329,509
                                                  Wald chi2(23)   =   30391.57
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1648
                                                  Root MSE        =     .62037
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0599541   .0289846     2.07   0.039     .0031453    .1167629
         YR0 |   .0924767   .0479925     1.93   0.054    -.0015869    .1865402
         YR1 |    .087754     .04306     2.04   0.042     .0033579    .1721501
         YR2 |   .0808835   .0373007     2.17   0.030     .0077754    .1539915
         YR3 |   .0771007   .0324569     2.38   0.018     .0134864     .140715
         YR4 |   .0687469   .0274256     2.51   0.012     .0149937    .1225002
         YR5 |   .0522654   .0232105     2.25   0.024     .0067738    .0977571
         YR6 |    .044298   .0184253     2.40   0.016      .008185     .080411
         YR7 |   .0317476   .0134626     2.36   0.018     .0053613    .0581339
         YR8 |   .0213824   .0083433     2.56   0.010     .0050298    .0377351
        RACE |  -.2626226   .0458024    -5.73   0.000    -.3523936   -.1728515
     MARRIED |   .2486184   .0072576    34.26   0.000     .2343936    .2628431
        SMSA |  -.1797341    .03053    -5.89   0.000    -.2395718   -.1198965
      NEWENG |  -.1152548   .0176329    -6.54   0.000    -.1498146    -.080695
      MIDATL |  -.0549899   .0201772    -2.73   0.006    -.0945365   -.0154433
     ENOCENT |   .0124714   .0310094     0.40   0.688     -.048306    .0732487
     WNOCENT |  -.1102129    .021887    -5.04   0.000    -.1531105   -.0673152
       SOATL |  -.1429481    .032087    -4.46   0.000    -.2058375   -.0800586
     ESOCENT |  -.1699466   .0487579    -3.49   0.000    -.2655104   -.0743829
     WSOCENT |  -.1063996    .027931    -3.81   0.000    -.1611433   -.0516559
          MT |  -.0928902   .0090208   -10.30   0.000    -.1105707   -.0752097
        AGEQ |  -.0741212   .0625824    -1.18   0.236    -.1967804    .0485379
      AGEQSQ |   .0007428    .000712     1.04   0.297    -.0006528    .0021383
       _cons |   6.817025   1.36126     5.01   0.000     4.149005    9.485045
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
               MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ
               QTR1YR0 QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6
               QTR1YR7 QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3
               QTR2YR4 QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0
               QTR3YR1 QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8
. eststo model8

.
. ********** Table Decoration ********

.
. label variable EDUC   "Years of education"

. label variable RACE   "Race(1 = black)"

. label variable SMSA   "SMSA (1 = center city)"

. label variable MARRIED   "Married (1 = married)"

. label variable AGEQ   "Age"

. label variable AGEQSQ   "Age-squared"

.
. /* esttab using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\01_paper\tables\
> QSQ) order(EDUC RACE SMSA MARRIED AGEQ AGEQSQ) title("TABLE V") nonumbers mtitles("(1) OLS" "(2) TSLS" "(3) OLS" "(4) TSLS"
.
. /* log close */
.
end of do-file
```

## 1.6 Table VI

```
. do "Table VI"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_VI
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
.
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
(816,435 real changes made)
```

```
. gen AGEQSQ= AGEQ*AGEQ
. ************************************
. keep if COHORT > 4000
(576,708 observations deleted)
. **********  Start Regression ********
. eststo clear
.
. reg  LWKLYWGE EDUC  YR0-YR8
```

| Source | SS | df | MS | Number of obs | = | 486,926 |
|---|---|---|---|---|---|---|
| | | | | F(10, 486915) | = | 4396.64 |
| Model | 16795.7577 | 10 | 1679.57577 | Prob > F | = | 0.0000 |
| Residual | 186007.985 | 486,915 | .382013257 | R-squared | = | 0.0828 |
| | | | | Adj R-squared | = | 0.0828 |
| Total | 202803.743 | 486,925 | .416498932 | Root MSE | = | .61807 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0573383 | .0002981 | 192.37 | 0.000 | .0567541 | .0579224 |
| YR0 | .2510504 | .0040846 | 61.46 | 0.000 | .2430446 | .2590561 |
| YR1 | .2426493 | .004078 | 59.50 | 0.000 | .2346565 | .2506421 |
| YR2 | .2309454 | .0038924 | 59.33 | 0.000 | .2233165 | .2385743 |
| YR3 | .2186718 | .0038606 | 56.64 | 0.000 | .2111052 | .2262385 |
| YR4 | .1822308 | .0039072 | 46.64 | 0.000 | .1745728 | .1898889 |
| YR5 | .1538481 | .0039026 | 39.42 | 0.000 | .1461991 | .1614972 |
| YR6 | .1206861 | .0037029 | 32.59 | 0.000 | .1134286 | .1279437 |
| YR7 | .0851009 | .0035969 | 23.66 | 0.000 | .0780511 | .0921508 |
| YR8 | .0402911 | .0036434 | 11.06 | 0.000 | .03315 | .0474321 |
| _cons | 4.878781 | .0048444 | 1007.10 | 0.000 | 4.869286 | 4.888276 |

```
. eststo model1
.
. ivregress 2sls LWKLYWGE YR0-YR8 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8)
```

| Instrumental variables (2SLS) regression | | | | Number of obs | = | 486,926 |
|---|---|---|---|---|---|---|
| | | | | Wald chi2(10) | = | 6974.38 |
| | | | | Prob > chi2 | = | 0.0000 |
| | | | | R-squared | = | 0.0827 |
| | | | | Root MSE | = | .61809 |

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0552978 | .0137563 | 4.02 | 0.000 | .0283359 | .0822597 |
| YR0 | .2497603 | .0096072 | 26.00 | 0.000 | .2309305 | .2685901 |
| YR1 | .2415559 | .0084228 | 28.68 | 0.000 | .2250475 | .2580643 |
| YR2 | .2302052 | .0063281 | 36.38 | 0.000 | .2178023 | .242608 |
| YR3 | .2180262 | .0058173 | 37.48 | 0.000 | .2066244 | .229428 |
| YR4 | .1816571 | .0054976 | 33.04 | 0.000 | .170882 | .1924321 |
| YR5 | .1535557 | .0043722 | 35.12 | 0.000 | .1449863 | .1621251 |
| YR6 | .1206802 | .0037033 | 32.59 | 0.000 | .113422 | .1279384 |
| YR7 | .0852128 | .0036752 | 23.19 | 0.000 | .0780095 | .0924161 |
| YR8 | .040319 | .0036484 | 11.05 | 0.000 | .0331682 | .0474698 |
| _cons | 4.906853 | .1892754 | 25.92 | 0.000 | 4.53588 | 5.277826 |

```
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 QTR1YR0 QTR1YR1 QTR1YR2
               QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9
               QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6
               QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3
               QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9
. eststo model2
.
. reg  LWKLYWGE EDUC  YR0-YR8 AGEQ AGEQSQ
```

| Source | SS | df | MS | Number of obs | = | 486,926 |
|---|---|---|---|---|---|---|
| | | | | F(12, 486913) | = | 3668.22 |
| Model | 16814.1046 | 12 | 1401.17538 | Prob > F | = | 0.0000 |
| Residual | 185989.638 | 486,913 | .381977146 | R-squared | = | 0.0829 |
| | | | | Adj R-squared | = | 0.0829 |
| Total | 202803.743 | 486,925 | .416498932 | Root MSE | = | .61804 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0573461 | .0002981 | 192.38 | 0.000 | .0567619 | .0579304 |
| YR0 | .110682 | .0292461 | 3.78 | 0.000 | .0533606 | .1680035 |
| YR1 | .0991362 | .0257848 | 3.84 | 0.000 | .0485988 | .1496737 |

```
         YR2 |   .0890475   .0230196     3.87   0.000     .0439299    .1341651
         YR3 |   .0828728   .0207946     3.99   0.000      .042116    .1236296
         YR4 |   .0574244   .0186061     3.09   0.002      .020957    .0938917
         YR5 |   .0446047   .0162411     2.75   0.006     .0127727    .0764367
         YR6 |   .0327306    .013272     2.47   0.014     .0067179    .0587434
         YR7 |   .0207241   .0100957     2.05   0.040     .0009369    .0405114
         YR8 |   .0059328   .0062818     0.94   0.345    -.0063793     .018245
        AGEQ |   .1799818   .0389345     4.62   0.000     .1036715    .2562922
      AGEQSQ |  -.0023404   .0005592    -4.19   0.000    -.0034364   -.0012444
       _cons |     1.5622   .6709312     2.33   0.020     .2471952    2.877204
------------------------------------------------------------------------------

. eststo model3

.
. ivregress 2sls LWKLYWGE YR0-YR8 AGEQ AGEQSQ (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8)
note: QTR3YR8 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    486,926
                                                  Wald chi2(12)   =    6806.01
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.0532
                                                  Root MSE        =     .62797
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0947986   .0222744     4.26   0.000     .0511415    .1384557
         YR0 |   .0819032    .034292     2.39   0.017     .0146921    .1491143
         YR1 |   .0786832   .0288849     2.72   0.006       .02207    .1352965
         YR2 |   .0726292   .0253455     2.87   0.004     .0229529    .1223055
         YR3 |   .0733603   .0218729     3.35   0.001     .0304902    .1162304
         YR4 |   .0540045   .0190141     2.84   0.005     .0167375    .0912716
         YR5 |   .0418359    .016584     2.52   0.012     .0093319    .0743399
         YR6 |   .0291722   .0136503     2.14   0.033     .0024181    .0559264
         YR7 |    .017611   .0104236     1.69   0.091    -.0028189    .0380409
         YR8 |   .0056629   .0063848     0.89   0.375     -.006851    .0181768
        AGEQ |   .1325373    .048591     2.73   0.006     .0373007    .2277738
      AGEQSQ |  -.001582    .0007254    -2.18   0.029    -.0030038   -.0001602
       _cons |   1.788557   .6948771     2.57   0.010     .4266227    3.150491
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 AGEQ AGEQSQ QTR1YR0
               QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
               QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
               QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
               QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7

. eststo model4

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8
      Source |       SS           df       MS      Number of obs   =   486,926
-------------+----------------------------------   F(21, 486904)   =   3447.63
       Model |  26252.3155         21  1250.11026   Prob > F        =    0.0000
    Residual |  176551.427   486,904  .362600075   R-squared       =    0.1294
-------------+----------------------------------   Adj R-squared   =    0.1294
       Total |  202803.743   486,925  .416498932   Root MSE        =    .60216
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0520464   .0002971   175.19   0.000     .0514641    .0526287
        RACE |  -.2107128   .0032215   -65.41   0.000    -.2170268   -.2043988
     MARRIED |   .2445162   .0022017   111.06   0.000     .2402009    .2488314
        SMSA |  -.1418395   .0022877   -62.00   0.000    -.1463234   -.1373556
      NEWENG |  -.0925392   .0043444   -21.30   0.000    -.1010541   -.0840243
      MIDATL |  -.0143339   .0032692    -4.38   0.000    -.0207415   -.0079263
     ENOCENT |   .0428862   .0031058    13.81   0.000      .036799    .0489734
     WNOCENT |  -.0701283   .0039399   -17.80   0.000    -.0778503   -.0624063
       SOATL |  -.1050696   .0032102   -32.73   0.000    -.1113615   -.0987776
     ESOCENT |  -.1202768   .0041859   -28.73   0.000     -.128481   -.1120727
     WSOCENT |  -.0583213   .0036588   -15.94   0.000    -.0654924   -.0511502
          MT |  -.0674863   .0044884   -15.04   0.000    -.0762833   -.0586892
         YR0 |   .2239961   .0039853    56.21   0.000     .2161849    .2318072
         YR1 |   .2158427   .0039785    54.25   0.000     .2080449    .2236405
         YR2 |   .2031091   .0037979    53.48   0.000     .1956653    .2105529
         YR3 |   .1929448   .0037664    51.23   0.000     .1855627    .2003269
         YR4 |   .1619856   .0038101    42.51   0.000     .1545179    .1694532
         YR5 |   .1365743   .0038049    35.89   0.000     .1291169    .1440317
         YR6 |   .1049269   .0036098    29.07   0.000     .0978518     .112002
```

```
         YR7 |   .0731486   .0035057    20.87   0.000     .0662775    .0800196
         YR8 |   .0350116     .00355     9.86   0.000     .0280537    .0419695
       _cons |   4.853827   .0057009   851.41   0.000     4.842654    4.865001
------------------------------------------------------------------------------

. eststo model5

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT  (EDUC = QTR1YR0-QTR
Instrumental variables (2SLS) regression          Number of obs   =    486,926
                                                  Wald chi2(21)   =   41560.34
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1261
                                                  Root MSE        =     .60329

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0392721   .0144917     2.71   0.007     .0108689    .0676752
         YR0 |   .2159624   .0099482    21.71   0.000     .1964644    .2354605
         YR1 |   .2090259   .0086986    24.03   0.000      .191977    .2260749
         YR2 |   .1982641   .0066839    29.66   0.000     .1851639    .2113644
         YR3 |   .1887218   .0060976    30.95   0.000     .1767708    .2006728
         YR4 |   .1582408   .0057106    27.71   0.000     .1470482    .1694334
         YR5 |    .134654   .0043903    30.67   0.000     .1260491    .1432589
         YR6 |   .1046187   .0036334    28.79   0.000     .0974973    .1117401
         YR7 |    .073587   .0035473    20.74   0.000     .0666344    .0805395
         YR8 |   .0351145   .0035586     9.87   0.000     .0281399    .0420892
        RACE |  -.2266122   .0183196   -12.37   0.000    -.2625179   -.1907065
     MARRIED |   .2442122   .0022326   109.39   0.000     .2398364     .248588
        SMSA |  -.1535466   .0134745   -11.40   0.000    -.1799562    -.127137
      NEWENG |  -.0967104   .0064286   -15.04   0.000    -.1093101   -.0841107
      MIDATL |  -.0204337   .0076545    -2.67   0.008    -.0354363   -.0054311
     ENOCENT |   .0326842   .0119822     2.73   0.006     .0091996    .0561688
     WNOCENT |  -.0755498    .007307   -10.34   0.000    -.0898712   -.0612284
       SOATL |  -.1157321   .0125137    -9.25   0.000    -.1402586   -.0912056
     ESOCENT |  -.1361323   .0184657    -7.37   0.000    -.1723245   -.0999401
     WSOCENT |   -.066576   .0100545    -6.62   0.000    -.0862823   -.0468696
          MT |  -.0678943   .0045205   -15.02   0.000    -.0767544   -.0590343
       _cons |   5.040699   .2120262    23.77   0.000     4.625135    5.456262
------------------------------------------------------------------------------

Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
               MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT QTR1YR0
               QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
               QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
               QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
               QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8
               QTR3YR9
. eststo model6

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8 AGEQ AGEQSQ
      Source |       SS           df       MS      Number of obs   =   486,926
-------------+----------------------------------   F(23, 486902)   =   3149.93
       Model |  26267.5972        23  1142.06944   Prob > F        =     0.0000
    Residual |  176536.145   486,902  .362570179   R-squared       =     0.1295
-------------+----------------------------------   Adj R-squared   =     0.1295
       Total |  202803.743   486,925  .416498932   Root MSE        =     .60214

------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0520558   .0002971   175.21   0.000     .0514735    .0526382
        RACE |  -.2107622   .0032214   -65.43   0.000    -.217076   -.2044484
     MARRIED |   .2444055   .0022017   111.01   0.000     .2400903    .2487207
        SMSA |  -.1418543   .0022876   -62.01   0.000     -.146338   -.1373705
      NEWENG |  -.0926402   .0043443   -21.32   0.000    -.1011548   -.0841256
      MIDATL |  -.0143314   .0032691    -4.38   0.000    -.0207387   -.0079241
     ENOCENT |   .0429411   .0031057    13.83   0.000     .0368541    .0490281
     WNOCENT |   -.070033   .0039397   -17.78   0.000    -.0777548   -.0623113
       SOATL |  -.1050156   .0032101   -32.71   0.000    -.1113074   -.0987239
     ESOCENT |  -.1202851   .0041857   -28.74   0.000    -.1284889   -.1120812
     WSOCENT |   -.058082   .0036589   -15.87   0.000    -.0652533   -.0509108
          MT |  -.0675454   .0044882   -15.05   0.000    -.0763421   -.0587487
         YR0 |   .0875108   .0284969     3.07   0.002     .0316579    .1433638
         YR1 |   .0789526   .0251245     3.14   0.002     .0297093    .1281959
         YR2 |   .0697974   .0224299     3.11   0.002     .0258356    .1137592
         YR3 |   .0668501   .0202619     3.30   0.001     .0271373    .1065629
         YR4 |   .0472473   .0181292     2.61   0.009     .0117145     .08278
```

```
         YR5 |   .0369685   .0158246     2.34   0.019     .0059527    .0679842
         YR6 |   .0253141   .0129317     1.96   0.050    -.0000316    .0506598
         YR7 |    .015208   .0098365     1.55   0.122    -.0040714    .0344873
         YR8 |   .0042516   .0061205     0.69   0.487    -.0077443    .0162475
        AGEQ |   .1517973   .0379337     4.00   0.000     .0774484    .2261462
      AGEQSQ |  -.0019453   .0005448    -3.57   0.000    -.0030131   -.0008774
       _cons |   2.029773     .65369     3.11   0.002     .7485607    3.310985
------------------------------------------------------------------------------

. eststo model7

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ (EDUC =
note: QTR3YR8 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    486,926
                                                  Wald chi2(23)   =   41126.10
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1160
                                                  Root MSE        =     .60678
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0778826   .0238715     3.26   0.001     .0310954    .1246698
         YR0 |   .0694171   .0332305     2.09   0.037     .0042866    .1345477
         YR1 |   .0661267   .0279557     2.37   0.018     .0113345     .120919
         YR2 |   .0598046   .0244168     2.45   0.014     .0119486    .1076607
         YR3 |   .0612154   .0210718     2.91   0.004     .0199154    .1025154
         YR4 |   .0454757   .0183421     2.48   0.013     .0095258    .0814257
         YR5 |   .0353146   .0160196     2.20   0.027     .0039166    .0667125
         YR6 |    .023348   .0131574     1.77   0.076    -.0024401    .0491361
         YR7 |   .0134793   .0100403     1.34   0.179    -.0061993    .0331579
         YR8 |   .0041181   .0061688     0.67   0.504    -.0079725    .0162088
        RACE |  -.1786469   .0298586    -5.98   0.000    -.2371686   -.1201251
     MARRIED |   .2450112   .0022881   107.08   0.000     .2405265    .2494958
        SMSA |  -.1181921   .0219902    -5.37   0.000    -.1612921   -.0750921
      NEWENG |  -.0842086   .0089381    -9.42   0.000     -.101727   -.0666902
      MIDATL |  -.0019903   .0118721    -0.17   0.867    -.0252592    .0212786
     ENOCENT |   .0635788   .0193288     3.29   0.001     .0256951    .1014625
     WNOCENT |  -.0590536   .0108963    -5.42   0.000    -.0804101   -.0376972
       SOATL |  -.0834592   .0201838    -4.13   0.000    -.1230187   -.0438998
     ESOCENT |  -.0882368   .0299185    -2.95   0.003    -.1468759   -.0295976
     WSOCENT |  -.0413564   .0158918    -2.60   0.009    -.0725038   -.0102091
          MT |  -.0667398   .0045836   -14.56   0.000    -.0757236    -.057756
        AGEQ |   .1214843    .047391     2.56   0.010     .0285996    .2143689
      AGEQSQ |  -.0014594   .0007092    -2.06   0.040    -.0028495   -.0000694
       _cons |   2.124584    .664514     3.20   0.001     .8221601    3.427007
------------------------------------------------------------------------------
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
               MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ
               QTR1YR0 QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6
               QTR1YR7 QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3
               QTR2YR4 QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0
               QTR3YR1 QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7
. eststo model8

.
. **********  Table Decoration ********
.
. label variable EDUC   "Years of education"
. label variable RACE   "Race(1 = black)"
. label variable SMSA   "SMSA (1 = center city)"
. label variable MARRIED   "Married (1 = married)"
. label variable AGEQ   "Age"
. label variable AGEQSQ   "Age-squared"
.
. /* esttab using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\01_paper\tables\
> QSQ)  order(EDUC RACE SMSA MARRIED AGEQ AGEQSQ) title("TABLE V") nonumbers mtitles("(1) OLS" "(2) TSLS" "(3) OLS" "(4) TSLS"
.
. /* log close */
.
end of do-file
```

## 1.7 Table VII

```
. do "Table VII"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_V
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v17 SOB
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
. replace AGEQ=AGEQ-1900 if CENSUS==80
```

```
(816,435 real changes made)
. gen AGEQSQ= AGEQ*AGEQ
. ************************************
. keep if COHORT>3000 & COHORT <3040
(734,125 observations deleted)
. ************************************
. tabulate SOB, generate(state)
```

| SOB | Freq. | Percent | Cum. |
|---|---|---|---|
| 1 | 8,536 | 2.59 | 2.59 |
| 2 | 78 | 0.02 | 2.61 |
| 4 | 1,066 | 0.32 | 2.94 |
| 5 | 5,794 | 1.76 | 4.70 |
| 6 | 11,078 | 3.36 | 8.06 |
| 8 | 2,818 | 0.86 | 8.91 |
| 9 | 3,844 | 1.17 | 10.08 |
| 10 | 598 | 0.18 | 10.26 |
| 11 | 1,237 | 0.38 | 10.64 |
| 12 | 3,913 | 1.19 | 11.82 |
| 13 | 8,411 | 2.55 | 14.38 |
| 15 | 246 | 0.07 | 14.45 |
| 16 | 1,599 | 0.49 | 14.94 |
| 17 | 18,375 | 5.58 | 20.51 |
| 18 | 8,918 | 2.71 | 23.22 |
| 19 | 6,699 | 2.03 | 25.25 |
| 20 | 4,807 | 1.46 | 26.71 |
| 21 | 8,933 | 2.71 | 29.42 |
| 22 | 5,975 | 1.81 | 31.24 |
| 23 | 2,424 | 0.74 | 31.97 |
| 24 | 4,139 | 1.26 | 33.23 |
| 25 | 9,955 | 3.02 | 36.25 |
| 26 | 14,077 | 4.27 | 40.52 |
| 27 | 7,170 | 2.18 | 42.70 |
| 28 | 5,864 | 1.78 | 44.48 |
| 29 | 9,274 | 2.81 | 47.29 |
| 30 | 1,407 | 0.43 | 47.72 |
| 31 | 3,488 | 1.06 | 48.78 |
| 32 | 308 | 0.09 | 48.87 |
| 33 | 1,200 | 0.36 | 49.23 |
| 34 | 8,964 | 2.72 | 51.95 |
| 35 | 1,325 | 0.40 | 52.36 |
| 36 | 29,015 | 8.81 | 61.16 |
| 37 | 10,798 | 3.28 | 64.44 |
| 38 | 2,028 | 0.62 | 65.05 |
| 39 | 17,070 | 5.18 | 70.24 |
| 40 | 6,950 | 2.11 | 72.34 |
| 41 | 2,127 | 0.65 | 72.99 |
| 42 | 26,385 | 8.01 | 81.00 |
| 44 | 1,698 | 0.52 | 81.51 |
| 45 | 5,245 | 1.59 | 83.10 |
| 46 | 1,754 | 0.53 | 83.64 |
| 47 | 8,335 | 2.53 | 86.17 |
| 48 | 15,932 | 4.84 | 91.00 |
| 49 | 1,999 | 0.61 | 91.61 |
| 50 | 999 | 0.30 | 91.91 |
| 51 | 7,319 | 2.22 | 94.13 |
| 53 | 3,610 | 1.10 | 95.23 |
| 54 | 6,412 | 1.95 | 97.17 |
| 55 | 8,607 | 2.61 | 99.79 |
| 56 | 706 | 0.21 | 100.00 |
| Total | 329,509 | 100.00 | |

```
.
. foreach j of numlist 1/3 {
  2. foreach i of numlist 1/51 {
  3. gen QTR`j´state`i´=QTR`j´*state`i´
  4. }
  5. }
. ********** Start Regression ********
. eststo clear
.
. reg  LWKLYWGE EDUC  YR0-YR8 state1-state51
note: state12 omitted because of collinearity
      Source |       SS           df       MS      Number of obs   =   329,509
-------------+----------------------------------   F(60, 329448)   =    811.65
```

| | | | | | |
|---|---|---|---|---|---|
| Model | 19554.2425 | 60 | 325.904042 | Prob > F | = 0.0000 |
| Residual | 132283.628 | 329,448 | .401531132 | R-squared | = 0.1288 |
| | | | | Adj R-squared | = 0.1286 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = .63366 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .067339 | .0003464 | 194.38 | 0.000 | .06666 | .068018 |
| YR0 | .043888 | .0048194 | 9.11 | 0.000 | .0344422 | .0533338 |
| YR1 | .0386576 | .0049382 | 7.83 | 0.000 | .028979 | .0483363 |
| YR2 | .0332282 | .0048694 | 6.82 | 0.000 | .0236844 | .0427721 |
| YR3 | .0313359 | .0049293 | 6.36 | 0.000 | .0216747 | .0409972 |
| YR4 | .0277975 | .00488 | 5.70 | 0.000 | .0182327 | .0373622 |
| YR5 | .0162329 | .0048457 | 3.35 | 0.001 | .0067354 | .0257303 |
| YR6 | .016741 | .0048489 | 3.45 | 0.001 | .0072373 | .0262447 |
| YR7 | .0115336 | .0048 | 2.40 | 0.016 | .0021258 | .0209414 |
| YR8 | .0107487 | .0047557 | 2.26 | 0.024 | .0014276 | .0200698 |
| state1 | -.152859 | .0409829 | -3.73 | 0.000 | -.2331843 | -.0725337 |
| state2 | .1060188 | .0823424 | 1.29 | 0.198 | -.05537 | .2674075 |
| state3 | -.0063777 | .0448214 | -0.14 | 0.887 | -.0942263 | .0814709 |
| state4 | -.1071585 | .041253 | -2.60 | 0.009 | -.1880131 | -.0263039 |
| state5 | .0207624 | .0408483 | 0.51 | 0.611 | -.059299 | .1008238 |
| state6 | -.0318616 | .0421281 | -0.76 | 0.449 | -.1144315 | .0507083 |
| state7 | -.0188167 | .0416743 | -0.45 | 0.652 | -.100497 | .0628637 |
| state8 | -.0629219 | .0479982 | -1.31 | 0.190 | -.156997 | .0311532 |
| state9 | .001203 | .0442371 | 0.03 | 0.978 | -.0855003 | .0879064 |
| state10 | -.1512518 | .0416524 | -3.63 | 0.000 | -.2328894 | -.0696142 |
| state11 | -.1721483 | .0409924 | -4.20 | 0.000 | -.2524923 | -.0918044 |
| state12 | 0 | (omitted) | | | | |
| state13 | -.0482537 | .043398 | -1.11 | 0.266 | -.1333126 | .0368052 |
| state14 | .0528531 | .040671 | 1.30 | 0.194 | -.0268608 | .1325671 |
| state15 | .0002568 | .0409551 | 0.01 | 0.995 | -.080014 | .0805277 |
| state16 | -.0537287 | .0411366 | -1.31 | 0.192 | -.1343553 | .0268979 |
| state17 | -.0794224 | .0414225 | -1.92 | 0.055 | -.1606093 | .0017644 |
| state18 | -.041363 | .0409595 | -1.01 | 0.313 | -.1216425 | .0389165 |
| state19 | -.0580409 | .0412267 | -1.41 | 0.159 | -.138844 | .0227622 |
| state20 | -.1648115 | .0424032 | -3.89 | 0.000 | -.2479205 | -.0817026 |
| state21 | -.0349236 | .0415856 | -0.84 | 0.401 | -.1164303 | .0465831 |
| state22 | -.0426784 | .0408978 | -1.04 | 0.297 | -.1228369 | .03748 |
| state23 | .0738131 | .040753 | 1.81 | 0.070 | -.0060616 | .1536878 |
| state24 | -.002692 | .0410886 | -0.07 | 0.948 | -.0832245 | .0778405 |
| state25 | -.1739444 | .0412446 | -4.22 | 0.000 | -.2547827 | -.0931061 |
| state26 | -.0395499 | .0409342 | -0.97 | 0.334 | -.1197798 | .04068 |
| state27 | -.0750345 | .0437912 | -1.71 | 0.087 | -.1608639 | .0107949 |
| state28 | -.0622796 | .0418021 | -1.49 | 0.136 | -.1442105 | .0196513 |
| state29 | .0005417 | .0541843 | 0.01 | 0.992 | -.1056581 | .1067414 |
| state30 | -.1332677 | .0443503 | -3.00 | 0.003 | -.220193 | -.0463424 |
| state31 | .0172122 | .0409522 | 0.42 | 0.674 | -.063053 | .0974773 |
| state32 | -.081987 | .0439927 | -1.86 | 0.062 | -.1682115 | .0042375 |
| state33 | .0084587 | .0405728 | 0.21 | 0.835 | -.0710628 | .0879801 |
| state34 | -.2092753 | .0408625 | -5.12 | 0.000 | -.2893646 | -.129186 |
| state35 | -.0230061 | .0427819 | -0.54 | 0.591 | -.1068574 | .0608452 |
| state36 | .0122541 | .0406917 | 0.30 | 0.763 | -.0675004 | .0920086 |
| state37 | -.0616076 | .0411105 | -1.50 | 0.134 | -.1421829 | .0189678 |
| state38 | -.0114042 | .0426741 | -0.27 | 0.789 | -.0950442 | .0722359 |
| state39 | -.0220691 | .0405897 | -0.54 | 0.587 | -.1016236 | .0574855 |
| state40 | -.1074047 | .0432292 | -2.48 | 0.013 | -.1921327 | -.0226767 |
| state41 | -.2326626 | .0413435 | -5.63 | 0.000 | -.3136947 | -.1516305 |
| state42 | -.0760651 | .0431419 | -1.76 | 0.078 | -.160622 | .0084918 |
| state43 | -.1046279 | .0409975 | -2.55 | 0.011 | -.1849819 | -.024274 |
| state44 | -.0648767 | .0407127 | -1.59 | 0.111 | -.1446723 | .014919 |
| state45 | -.0125517 | .042816 | -0.29 | 0.769 | -.0964699 | .0713664 |
| state46 | -.1910459 | .0451031 | -4.24 | 0.000 | -.2794468 | -.1026451 |
| state47 | -.1208689 | .0410793 | -2.94 | 0.003 | -.2013832 | -.0403546 |
| state48 | .0353455 | .0417556 | 0.85 | 0.397 | -.0464942 | .1171853 |
| state49 | -.0253922 | .0411721 | -0.62 | 0.537 | -.1060883 | .0553038 |
| state50 | -.0251889 | .0409749 | -0.61 | 0.539 | -.1054984 | .0551206 |
| state51 | -.0089115 | .0469153 | -0.19 | 0.849 | -.1008642 | .0830412 |
| _cons | 5.059838 | .0407997 | 124.02 | 0.000 | 4.979872 | 5.139804 |

```
. eststo model1

.
. ivregress 2sls LWKLYWGE YR0-YR8 state1-state51 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8 QTR1state1-QTR
note: state51 omitted because of collinearity
note: QTR1state51 omitted because of collinearity
note: QTR2state51 omitted because of collinearity
```

```
note: QTR3state51 omitted because of collinearity
```

Instrumental variables (2SLS) regression

| | |
|---|---|
| Number of obs | 329,509 |
| Wald chi2(60) | 10840.05 |
| Prob > chi2 | 0.0000 |
| R-squared | 0.1145 |
| Root MSE | .63879 |

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0928181 | .0093013 | 9.98 | 0.000 | .0745878 | .1110483 |
| YR0 | .0592381 | .0074135 | 7.99 | 0.000 | .0447079 | .0737683 |
| YR1 | .0503614 | .0065582 | 7.68 | 0.000 | .0375075 | .0632153 |
| YR2 | .0431921 | .006108 | 7.07 | 0.000 | .0312207 | .0551636 |
| YR3 | .0397669 | .0058439 | 6.80 | 0.000 | .028313 | .0512208 |
| YR4 | .0352265 | .0056166 | 6.27 | 0.000 | .0242182 | .0462348 |
| YR5 | .0220221 | .0053218 | 4.14 | 0.000 | .0115915 | .0324527 |
| YR6 | .0213786 | .0051726 | 4.13 | 0.000 | .0112405 | .0315166 |
| YR7 | .0146137 | .0049675 | 2.94 | 0.003 | .0048776 | .0243499 |
| YR8 | .0117507 | .0048081 | 2.44 | 0.015 | .0023271 | .0211744 |
| state1 | -.0958563 | .0305614 | -3.14 | 0.002 | -.1557556 | -.035957 |
| state2 | .1181339 | .076229 | 1.55 | 0.121 | -.0312721 | .2675399 |
| state3 | .0152513 | .0313422 | 0.49 | 0.627 | -.0461783 | .076681 |
| state4 | -.0539071 | .0301731 | -1.79 | 0.074 | -.1130453 | .0052311 |
| state5 | .0231546 | .0249095 | 0.93 | 0.353 | -.0256671 | .0719762 |
| state6 | -.0159263 | .0270066 | -0.59 | 0.555 | -.0688583 | .0370057 |
| state7 | -.0028717 | .0262818 | -0.11 | 0.913 | -.0543831 | .0486398 |
| state8 | -.0205393 | .0375453 | -0.55 | 0.584 | -.0941268 | .0530482 |
| state9 | .0044506 | .0302017 | 0.15 | 0.883 | -.0547437 | .0636448 |
| state10 | -.1187928 | .0274983 | -4.32 | 0.000 | -.1726884 | -.0648971 |
| state11 | -.1097853 | .0317372 | -3.46 | 0.001 | -.171989 | -.0475816 |
| state12 | .0183211 | .0474189 | 0.39 | 0.699 | -.0746183 | .1112605 |
| state13 | -.037721 | .0288708 | -1.31 | 0.191 | -.0943068 | .0188648 |
| state14 | .0679997 | .0246043 | 2.76 | 0.006 | .0197762 | .1162233 |
| state15 | .0302322 | .0261318 | 1.16 | 0.247 | -.0209851 | .0814495 |
| state16 | -.033117 | .0256346 | -1.29 | 0.196 | -.08336 | .0171259 |
| state17 | -.0670183 | .0257781 | -2.60 | 0.009 | -.1175424 | -.0164942 |
| state18 | .0268708 | .0330553 | 0.81 | 0.416 | -.0379164 | .091658 |
| state19 | -.010302 | .0291064 | -0.35 | 0.723 | -.0673495 | .0467455 |
| state20 | -.1243604 | .0296462 | -4.19 | 0.000 | -.1824659 | -.0662549 |
| state21 | .0035162 | .028156 | 0.12 | 0.901 | -.0516686 | .058701 |
| state22 | -.0308458 | .0249021 | -1.24 | 0.215 | -.0796531 | .0179615 |
| state23 | .0979389 | .025255 | 3.88 | 0.000 | .04844 | .1474378 |
| state24 | .0166365 | .0254824 | 0.65 | 0.514 | -.0333081 | .0665811 |
| state25 | -.1111915 | .0321542 | -3.46 | 0.001 | -.1742126 | -.0481704 |
| state26 | -.00779 | .0262974 | -0.30 | 0.767 | -.059332 | .043752 |
| state27 | -.0604353 | .0295349 | -2.05 | 0.041 | -.1183226 | -.0025479 |
| state28 | -.0472721 | .0264564 | -1.79 | 0.074 | -.0991256 | .0045814 |
| state29 | .0130074 | .043641 | 0.30 | 0.766 | -.0725274 | .0985422 |
| state30 | -.0989476 | .0316872 | -3.12 | 0.002 | -.1610533 | -.0368418 |
| state31 | .0301254 | .0250129 | 1.20 | 0.228 | -.018899 | .0791498 |
| state32 | -.0472265 | .0312249 | -1.51 | 0.130 | -.1084262 | .0139732 |
| state33 | .0145153 | .0243544 | 0.60 | 0.551 | -.0332185 | .0622491 |
| state34 | -.1519486 | .0304656 | -4.99 | 0.000 | -.21166 | -.0922371 |
| state35 | .0023652 | .0285536 | 0.08 | 0.934 | -.0535988 | .0583293 |
| state36 | .0376965 | .0252647 | 1.49 | 0.136 | -.0118215 | .0872144 |
| state37 | -.0377201 | .0258185 | -1.46 | 0.144 | -.0883235 | .0128833 |
| state38 | -.003414 | .0277477 | -0.12 | 0.902 | -.0577985 | .0509705 |
| state39 | .0058225 | .0253271 | 0.23 | 0.818 | -.0438177 | .0554626 |
| state40 | -.0813353 | .0292837 | -2.78 | 0.005 | -.1387303 | -.0239404 |
| state41 | -.1650823 | .0333839 | -4.94 | 0.000 | -.2305136 | -.0996511 |
| state42 | -.057052 | .0287098 | -1.99 | 0.047 | -.1133221 | -.0007818 |
| state43 | -.0433187 | .0315091 | -1.37 | 0.169 | -.1050754 | .018438 |
| state44 | -.032293 | .0260437 | -1.24 | 0.215 | -.0833377 | .0187517 |
| state45 | -.0125317 | .028154 | -0.45 | 0.656 | -.0677126 | .0426491 |
| state46 | -.1518755 | .0332939 | -4.56 | 0.000 | -.2171304 | -.0866206 |
| state47 | -.0578291 | .0320029 | -1.81 | 0.071 | -.1205537 | .0048955 |
| state48 | .042896 | .0262918 | 1.63 | 0.103 | -.0086351 | .094427 |
| state49 | .0290023 | .0302872 | 0.96 | 0.338 | -.0303594 | .0883641 |
| state50 | -.0002172 | .0256859 | -0.01 | 0.993 | -.0505607 | .0501262 |
| state51 | 0 | (omitted) | | | | |
| _cons | 4.697996 | .1311017 | 35.83 | 0.000 | 4.441041 | 4.95495 |

```
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 state1 state2 state3
               state4 state5 state6 state7 state8 state9 state10 state11
               state12 state13 state14 state15 state16 state17 state18
               state19 state20 state21 state22 state23 state24 state25
```

```
                state26 state27 state28 state29 state30 state31 state32
                state33 state34 state35 state36 state37 state38 state39
                state40 state41 state42 state43 state44 state45 state46
                state47 state48 state49 state50 QTR1YR0 QTR1YR1 QTR1YR2
                QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9
                QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6
                QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3
                QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9 QTR1state1
                QTR1state2 QTR1state3 QTR1state4 QTR1state5 QTR1state6
                QTR1state7 QTR1state8 QTR1state9 QTR1state10 QTR1state11
                QTR1state12 QTR1state13 QTR1state14 QTR1state15 QTR1state16
                QTR1state17 QTR1state18 QTR1state19 QTR1state20 QTR1state21
                QTR1state22 QTR1state23 QTR1state24 QTR1state25 QTR1state26
                QTR1state27 QTR1state28 QTR1state29 QTR1state30 QTR1state31
                QTR1state32 QTR1state33 QTR1state34 QTR1state35 QTR1state36
                QTR1state37 QTR1state38 QTR1state39 QTR1state40 QTR1state41
                QTR1state42 QTR1state43 QTR1state44 QTR1state45 QTR1state46
                QTR1state47 QTR1state48 QTR1state49 QTR1state50 QTR2state1
                QTR2state2 QTR2state3 QTR2state4 QTR2state5 QTR2state6
                QTR2state7 QTR2state8 QTR2state9 QTR2state10 QTR2state11
                QTR2state12 QTR2state13 QTR2state14 QTR2state15 QTR2state16
                QTR2state17 QTR2state18 QTR2state19 QTR2state20 QTR2state21
                QTR2state22 QTR2state23 QTR2state24 QTR2state25 QTR2state26
                QTR2state27 QTR2state28 QTR2state29 QTR2state30 QTR2state31
                QTR2state32 QTR2state33 QTR2state34 QTR2state35 QTR2state36
                QTR2state37 QTR2state38 QTR2state39 QTR2state40 QTR2state41
                QTR2state42 QTR2state43 QTR2state44 QTR2state45 QTR2state46
                QTR2state47 QTR2state48 QTR2state49 QTR2state50 QTR3state1
                QTR3state2 QTR3state3 QTR3state4 QTR3state5 QTR3state6
                QTR3state7 QTR3state8 QTR3state9 QTR3state10 QTR3state11
                QTR3state12 QTR3state13 QTR3state14 QTR3state15 QTR3state16
                QTR3state17 QTR3state18 QTR3state19 QTR3state20 QTR3state21
                QTR3state22 QTR3state23 QTR3state24 QTR3state25 QTR3state26
                QTR3state27 QTR3state28 QTR3state29 QTR3state30 QTR3state31
                QTR3state32 QTR3state33 QTR3state34 QTR3state35 QTR3state36
                QTR3state37 QTR3state38 QTR3state39 QTR3state40 QTR3state41
                QTR3state42 QTR3state43 QTR3state44 QTR3state45 QTR3state46
                QTR3state47 QTR3state48 QTR3state49 QTR3state50
. eststo model2

.
. reg  LWKLYWGE EDUC  YR0-YR8 AGEQ AGEQSQ state1-state51
note: state12 omitted because of collinearity
```

| Source | SS | df | MS | Number of obs | = | 329,509 |
|---|---|---|---|---|---|---|
| | | | | F(62, 329446) | = | 785.56 |
| Model | 19556.359 | 62 | 315.425145 | Prob > F | = | 0.0000 |
| Residual | 132281.512 | 329,446 | .401527145 | R-squared | = | 0.1288 |
| | | | | Adj R-squared | = | 0.1286 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = | .63366 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0673279 | .0003465 | 194.32 | 0.000 | .0666488 | .068007 |
| YR0 | .1147458 | .0361219 | 3.18 | 0.001 | .0439478 | .1855437 |
| YR1 | .1076724 | .0324985 | 3.31 | 0.001 | .0439762 | .1713686 |
| YR2 | .0988918 | .0295665 | 3.34 | 0.001 | .0409424 | .1568412 |
| YR3 | .0921438 | .0269706 | 3.42 | 0.001 | .0392821 | .1450055 |
| YR4 | .0821882 | .0242674 | 3.39 | 0.001 | .0346248 | .1297516 |
| YR5 | .0627834 | .0212204 | 2.96 | 0.003 | .021192 | .1043748 |
| YR6 | .0539495 | .0175777 | 3.07 | 0.002 | .0194978 | .0884013 |
| YR7 | .0377994 | .0131587 | 2.87 | 0.004 | .0120087 | .06359 |
| YR8 | .0246715 | .008199 | 3.01 | 0.003 | .0086017 | .0407414 |
| AGEQ | -.0757318 | .0617167 | -1.23 | 0.220 | -.1966948 | .0452312 |
| AGEQSQ | .000752 | .0006839 | 1.10 | 0.271 | -.0005883 | .0020923 |
| state1 | -.1526971 | .0409828 | -3.73 | 0.000 | -.2330222 | -.072372 |
| state2 | .1062657 | .0823422 | 1.29 | 0.197 | -.0551227 | .2676541 |
| state3 | -.0061827 | .0448215 | -0.14 | 0.890 | -.0940315 | .0816661 |
| state4 | -.1070305 | .0412529 | -2.59 | 0.009 | -.1878849 | -.026176 |
| state5 | .0209441 | .0408482 | 0.51 | 0.608 | -.0591172 | .1010055 |
| state6 | -.0316755 | .0421281 | -0.75 | 0.452 | -.1142454 | .0508943 |
| state7 | -.0185545 | .0416743 | -0.45 | 0.656 | -.1002348 | .0631259 |
| state8 | -.0628036 | .0479981 | -1.31 | 0.191 | -.1568786 | .0312713 |
| state9 | .0013035 | .0442369 | 0.03 | 0.976 | -.0853996 | .0880065 |
| state10 | -.151069 | .0416524 | -3.63 | 0.000 | -.2327064 | -.0694316 |
| state11 | -.1719898 | .0409923 | -4.20 | 0.000 | -.2523336 | -.0916459 |
| state12 | 0 | (omitted) | | | | |
| state13 | -.04804 | .0433981 | -1.11 | 0.268 | -.133099 | .0370191 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state14 | .0530148 | .0406709 | 1.30 | 0.192 | -.026699 | .1327286 |
| state15 | .0004678 | .0409551 | 0.01 | 0.991 | -.079803 | .0807386 |
| state16 | -.0535178 | .0411366 | -1.30 | 0.193 | -.1341444 | .0271087 |
| state17 | -.0792791 | .0414224 | -1.91 | 0.056 | -.1604658 | .0019076 |
| state18 | -.0412078 | .0409595 | -1.01 | 0.314 | -.1214872 | .0390716 |
| state19 | -.057999 | .0412265 | -1.41 | 0.159 | -.1388018 | .0228037 |
| state20 | -.1645751 | .0424032 | -3.88 | 0.000 | -.247684 | -.0814661 |
| state21 | -.0346909 | .0415856 | -0.83 | 0.404 | -.1161975 | .0468156 |
| state22 | -.0424353 | .0408978 | -1.04 | 0.299 | -.1225937 | .0377232 |
| state23 | .0740196 | .040753 | 1.82 | 0.069 | -.0058551 | .1538944 |
| state24 | -.0024801 | .0410886 | -0.06 | 0.952 | -.0830125 | .0780524 |
| state25 | -.173727 | .0412446 | -4.21 | 0.000 | -.2545652 | -.0928887 |
| state26 | -.0393941 | .0409341 | -0.96 | 0.336 | -.1196238 | .0408357 |
| state27 | -.0748027 | .0437912 | -1.71 | 0.088 | -.1606322 | .0110267 |
| state28 | -.0620637 | .0418021 | -1.48 | 0.138 | -.1439945 | .0198672 |
| state29 | .0003169 | .0541842 | 0.01 | 0.995 | -.1058827 | .1065164 |
| state30 | -.1330865 | .0443502 | -3.00 | 0.003 | -.2200116 | -.0461614 |
| state31 | .0174492 | .0409522 | 0.43 | 0.670 | -.062816 | .0977144 |
| state32 | -.081901 | .0439926 | -1.86 | 0.063 | -.1681252 | .0043232 |
| state33 | .0086804 | .0405728 | 0.21 | 0.831 | -.0708411 | .0882018 |
| state34 | -.2091233 | .0408624 | -5.12 | 0.000 | -.2892124 | -.1290342 |
| state35 | -.022797 | .0427819 | -0.53 | 0.594 | -.1066482 | .0610543 |
| state36 | .0124337 | .0406917 | 0.31 | 0.760 | -.0673208 | .0921882 |
| state37 | -.061459 | .0411104 | -1.49 | 0.135 | -.1420342 | .0191161 |
| state38 | -.0112008 | .042674 | -0.26 | 0.793 | -.0948407 | .0724391 |
| state39 | -.0218713 | .0405896 | -0.54 | 0.590 | -.1014258 | .0576832 |
| state40 | -.1071654 | .0432293 | -2.48 | 0.013 | -.1918935 | -.0224373 |
| state41 | -.2325942 | .0413434 | -5.63 | 0.000 | -.313626 | -.1515624 |
| state42 | -.0758772 | .0431418 | -1.76 | 0.079 | -.160434 | .0086796 |
| state43 | -.1044088 | .0409975 | -2.55 | 0.011 | -.1847627 | -.0240548 |
| state44 | -.0648226 | .0407125 | -1.59 | 0.111 | -.144618 | .0149727 |
| state45 | -.0123999 | .0428159 | -0.29 | 0.772 | -.0963178 | .0715181 |
| state46 | -.1908739 | .045103 | -4.23 | 0.000 | -.2792745 | -.1024732 |
| state47 | -.1206563 | .0410793 | -2.94 | 0.003 | -.2011706 | -.040142 |
| state48 | .0355527 | .0417556 | 0.85 | 0.395 | -.0462871 | .1173924 |
| state49 | -.0251835 | .041172 | -0.61 | 0.541 | -.1058795 | .0555125 |
| state50 | -.024977 | .0409749 | -0.61 | 0.542 | -.1052865 | .0553325 |
| state51 | -.0088001 | .0469153 | -0.19 | 0.851 | -.1007527 | .0831524 |
| _cons | 6.8952 | 1.383397 | 4.98 | 0.000 | 4.183783 | 9.606618 |

```
. eststo model3
.
. ivregress 2sls LWKLYWGE YR0-YR8 AGEQ AGEQSQ state1-state51 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8 Q
note: state51 omitted because of collinearity
note: QTR1state51 omitted because of collinearity
note: QTR2state51 omitted because of collinearity
note: QTR3state51 omitted because of collinearity
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    329,509
                                                  Wald chi2(62)   =   10870.88
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1168
                                                  Root MSE        =     .63795
```

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0906742 | .010684 | 8.49 | 0.000 | .0697338 | .1116145 |
| YR0 | .0848904 | .0388458 | 2.19 | 0.029 | .0087541 | .1610268 |
| YR1 | .0808742 | .0349392 | 2.31 | 0.021 | .0123946 | .1493539 |
| YR2 | .0765209 | .0314764 | 2.43 | 0.015 | .0148283 | .1382135 |
| YR3 | .0740089 | .0283922 | 2.61 | 0.009 | .0183611 | .1296566 |
| YR4 | .0684357 | .0252288 | 2.71 | 0.007 | .0189881 | .1178833 |
| YR5 | .0523844 | .0218875 | 2.39 | 0.017 | .0094856 | .0952832 |
| YR6 | .0469765 | .0179821 | 2.61 | 0.009 | .0117322 | .0822209 |
| YR7 | .0335391 | .0133906 | 2.50 | 0.012 | .007294 | .0597842 |
| YR8 | .0222281 | .00833 | 2.67 | 0.008 | .0059016 | .0385546 |
| AGEQ | -.0880302 | .0623907 | -1.41 | 0.158 | -.2103137 | .0342532 |
| AGEQSQ | .0009423 | .000694 | 1.36 | 0.175 | -.0004179 | .0023025 |
| state1 | -.0998268 | .0321077 | -3.11 | 0.002 | -.1627567 | -.0368969 |
| state2 | .1179132 | .0761316 | 1.55 | 0.121 | -.031302 | .2671284 |
| state3 | .0142017 | .0314067 | 0.45 | 0.651 | -.0473543 | .0757576 |
| state4 | -.0575806 | .0315084 | -1.83 | 0.068 | -.1193359 | .0041748 |
| state5 | .0237687 | .0249137 | 0.95 | 0.340 | -.0250613 | .0725986 |
| state6 | -.0164517 | .02701 | -0.61 | 0.542 | -.0693903 | .0364869 |
| state7 | -.0033325 | .0262869 | -0.13 | 0.899 | -.0548538 | .0481888 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state8 | -.0233494 | .0381295 | -0.61 | 0.540 | -.0980817 | .051383 |
| state9 | .0049634 | .0301833 | 0.16 | 0.869 | -.0541948 | .0641216 |
| state10 | -.1206876 | .0278931 | -4.33 | 0.000 | -.175357 | -.0660181 |
| state11 | -.1142206 | .0335718 | -3.40 | 0.001 | -.1800201 | -.048421 |
| state12 | .0175611 | .0474026 | 0.37 | 0.711 | -.0753463 | .1104684 |
| state13 | -.037814 | .0288345 | -1.31 | 0.190 | -.0943285 | .0187006 |
| state14 | .067547 | .0246071 | 2.75 | 0.006 | .0193181 | .115776 |
| state15 | .0285541 | .0264578 | 1.08 | 0.280 | -.0233022 | .0804104 |
| state16 | -.034026 | .0257131 | -1.32 | 0.186 | -.0844229 | .0163708 |
| state17 | -.0672592 | .0257551 | -2.61 | 0.009 | -.1177383 | -.0167802 |
| state18 | .0219307 | .0352195 | 0.62 | 0.533 | -.0470983 | .0909597 |
| state19 | -.0135563 | .0301769 | -0.45 | 0.653 | -.072702 | .0455893 |
| state20 | -.1269087 | .0303133 | -4.19 | 0.000 | -.1863216 | -.0674958 |
| state21 | .0011685 | .0287776 | 0.04 | 0.968 | -.0552345 | .0575716 |
| state22 | -.0309807 | .0248766 | -1.25 | 0.213 | -.0797378 | .0177765 |
| state23 | .0967324 | .025415 | 3.81 | 0.000 | .0469199 | .1465448 |
| state24 | .0158551 | .0255397 | 0.62 | 0.535 | -.0342018 | .065912 |
| state25 | -.1156273 | .0339836 | -3.40 | 0.001 | -.1822339 | -.0490207 |
| state26 | -.0096488 | .0266878 | -0.36 | 0.718 | -.0619558 | .0426582 |
| state27 | -.0608243 | .0295187 | -2.06 | 0.039 | -.1186798 | -.0029688 |
| state28 | -.0477019 | .026451 | -1.80 | 0.071 | -.0995448 | .0041411 |
| state29 | .0125358 | .0435931 | 0.29 | 0.774 | -.072905 | .0979766 |
| state30 | -.1010063 | .0320804 | -3.15 | 0.002 | -.1638826 | -.0381299 |
| state31 | .0298905 | .0249933 | 1.20 | 0.232 | -.0190954 | .0788765 |
| state32 | -.0493783 | .0316464 | -1.56 | 0.119 | -.1114041 | .0126475 |
| state33 | .0148464 | .0243303 | 0.61 | 0.542 | -.03284 | .0625328 |
| state34 | -.1559516 | .032039 | -4.87 | 0.000 | -.2187469 | -.0931564 |
| state35 | .0010651 | .0287173 | 0.04 | 0.970 | -.0552197 | .0573499 |
| state36 | .0363611 | .0254606 | 1.43 | 0.153 | -.0135407 | .0862629 |
| state37 | -.0389177 | .0259729 | -1.50 | 0.134 | -.0898237 | .0119882 |
| state38 | -.0032404 | .0277122 | -0.12 | 0.907 | -.0575552 | .0510744 |
| state39 | .0043059 | .0255958 | 0.17 | 0.866 | -.0458609 | .0544728 |
| state40 | -.0826917 | .0294553 | -2.81 | 0.005 | -.1404231 | -.0249603 |
| state41 | -.1699886 | .0355017 | -4.79 | 0.000 | -.2395707 | -.1004065 |
| state42 | -.0578326 | .0287478 | -2.01 | 0.044 | -.1141772 | -.001488 |
| state43 | -.0476279 | .0332782 | -1.43 | 0.152 | -.1128521 | .0175962 |
| state44 | -.0342776 | .0264773 | -1.29 | 0.195 | -.0861721 | .017617 |
| state45 | -.0117218 | .028176 | -0.42 | 0.677 | -.0669458 | .0435021 |
| state46 | -.1543419 | .0338372 | -4.56 | 0.000 | -.2206616 | -.0880223 |
| state47 | -.0622889 | .0338619 | -1.84 | 0.066 | -.1286571 | .0040792 |
| state48 | .0430877 | .0262592 | 1.64 | 0.101 | -.0083795 | .0945548 |
| state49 | .0252723 | .0316757 | 0.80 | 0.425 | -.0368109 | .0873556 |
| state50 | -.001487 | .0258641 | -0.06 | 0.954 | -.0521798 | .0492058 |
| state51 | 0 | (omitted) | | | | |
| _cons | 6.748567 | 1.393785 | 4.84 | 0.000 | 4.016798 | 9.480336 |

```
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 AGEQ AGEQSQ state1 state2
               state3 state4 state5 state6 state7 state8 state9 state10
               state11 state12 state13 state14 state15 state16 state17
               state18 state19 state20 state21 state22 state23 state24
               state25 state26 state27 state28 state29 state30 state31
               state32 state33 state34 state35 state36 state37 state38
               state39 state40 state41 state42 state43 state44 state45
               state46 state47 state48 state49 state50 QTR1YR0 QTR1YR1
               QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8
               QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5
               QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2
               QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8 QTR1state1 QTR1state2
               QTR1state3 QTR1state4 QTR1state5 QTR1state6 QTR1state7
               QTR1state8 QTR1state9 QTR1state10 QTR1state11 QTR1state12
               QTR1state13 QTR1state14 QTR1state15 QTR1state16 QTR1state17
               QTR1state18 QTR1state19 QTR1state20 QTR1state21 QTR1state22
               QTR1state23 QTR1state24 QTR1state25 QTR1state26 QTR1state27
               QTR1state28 QTR1state29 QTR1state30 QTR1state31 QTR1state32
               QTR1state33 QTR1state34 QTR1state35 QTR1state36 QTR1state37
               QTR1state38 QTR1state39 QTR1state40 QTR1state41 QTR1state42
               QTR1state43 QTR1state44 QTR1state45 QTR1state46 QTR1state47
               QTR1state48 QTR1state49 QTR1state50 QTR2state1 QTR2state2
               QTR2state3 QTR2state4 QTR2state5 QTR2state6 QTR2state7
               QTR2state8 QTR2state9 QTR2state10 QTR2state11 QTR2state12
               QTR2state13 QTR2state14 QTR2state15 QTR2state16 QTR2state17
               QTR2state18 QTR2state19 QTR2state20 QTR2state21 QTR2state22
               QTR2state23 QTR2state24 QTR2state25 QTR2state26 QTR2state27
               QTR2state28 QTR2state29 QTR2state30 QTR2state31 QTR2state32
               QTR2state33 QTR2state34 QTR2state35 QTR2state36 QTR2state37
               QTR2state38 QTR2state39 QTR2state40 QTR2state41 QTR2state42
```

```
QTR2state43 QTR2state44 QTR2state45 QTR2state46 QTR2state47
QTR2state48 QTR2state49 QTR2state50 QTR3state1 QTR3state2
QTR3state3 QTR3state4 QTR3state5 QTR3state6 QTR3state7
QTR3state8 QTR3state9 QTR3state10 QTR3state11 QTR3state12
QTR3state13 QTR3state14 QTR3state15 QTR3state16 QTR3state17
QTR3state18 QTR3state19 QTR3state20 QTR3state21 QTR3state22
QTR3state23 QTR3state24 QTR3state25 QTR3state26 QTR3state27
QTR3state28 QTR3state29 QTR3state30 QTR3state31 QTR3state32
QTR3state33 QTR3state34 QTR3state35 QTR3state36 QTR3state37
QTR3state38 QTR3state39 QTR3state40 QTR3state41 QTR3state42
QTR3state43 QTR3state44 QTR3state45 QTR3state46 QTR3state47
QTR3state48 QTR3state49 QTR3state50
. eststo model4
.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8  state1-state51
note: state12 omitted because of collinearity
```

| Source | SS | df | MS | Number of obs | = | 329,509 |
|---|---|---|---|---|---|---|
| | | | | F(71, 329437) | = | 932.11 |
| Model | 25399.8826 | 71 | 357.744825 | Prob > F | = | 0.0000 |
| Residual | 126437.988 | 329,437 | .383800205 | R-squared | = | 0.1673 |
| | | | | Adj R-squared | = | 0.1671 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = | .61952 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0627932 | .0003438 | 182.65 | 0.000 | .0621194 | .063467 |
| RACE | -.2547345 | .0043466 | -58.61 | 0.000 | -.2632537 | -.2462154 |
| MARRIED | .2487018 | .0031647 | 78.59 | 0.000 | .2424991 | .2549045 |
| SMSA | -.1705098 | .0028944 | -58.91 | 0.000 | -.1761828 | -.1648367 |
| NEWENG | -.0787457 | .0078496 | -10.03 | 0.000 | -.0941307 | -.0633608 |
| MIDATL | -.061441 | .0056236 | -10.93 | 0.000 | -.0724631 | -.0504189 |
| ENOCENT | .0163634 | .004989 | 3.28 | 0.001 | .0065851 | .0261416 |
| WNOCENT | -.1200356 | .0060916 | -19.71 | 0.000 | -.1319749 | -.1080964 |
| SOATL | -.1271108 | .0053329 | -23.84 | 0.000 | -.1375631 | -.1166585 |
| ESOCENT | -.1771172 | .0068723 | -25.77 | 0.000 | -.1905868 | -.1636476 |
| WSOCENT | -.1131221 | .0058801 | -19.24 | 0.000 | -.1246469 | -.1015974 |
| MT | -.0935682 | .0063357 | -14.77 | 0.000 | -.105986 | -.0811503 |
| YR0 | .0305127 | .0047131 | 6.47 | 0.000 | .0212751 | .0397503 |
| YR1 | .0266163 | .004829 | 5.51 | 0.000 | .0171517 | .036081 |
| YR2 | .0222086 | .0047617 | 4.66 | 0.000 | .0128759 | .0315413 |
| YR3 | .0224496 | .0048198 | 4.66 | 0.000 | .0130029 | .0318963 |
| YR4 | .0198046 | .0047717 | 4.15 | 0.000 | .0104523 | .0291569 |
| YR5 | .0100342 | .0047379 | 2.12 | 0.034 | .000748 | .0193204 |
| YR6 | .0105791 | .004741 | 2.23 | 0.026 | .001287 | .0198712 |
| YR7 | .0079489 | .0046929 | 1.69 | 0.090 | -.0012491 | .0171468 |
| YR8 | .0083054 | .0046496 | 1.79 | 0.074 | -.0008078 | .0174185 |
| state1 | .0118526 | .0403218 | 0.29 | 0.769 | -.0671769 | .090882 |
| state2 | .1439685 | .0805064 | 1.79 | 0.074 | -.0138216 | .3017587 |
| state3 | .0372952 | .0439358 | 0.85 | 0.396 | -.0488177 | .1234081 |
| state4 | -.006873 | .0404698 | -0.17 | 0.865 | -.0861927 | .0724467 |
| state5 | .0046958 | .0399397 | 0.12 | 0.906 | -.0735848 | .0829763 |
| state6 | .0082964 | .0413415 | 0.20 | 0.841 | -.0727317 | .0893245 |
| state7 | .0094435 | .0411205 | 0.23 | 0.818 | -.0711515 | .0900386 |
| state8 | .0603802 | .0470945 | 1.28 | 0.200 | -.0319238 | .1526841 |
| state9 | .1352665 | .0434285 | 3.11 | 0.002 | .0501478 | .2203851 |
| state10 | -.0247078 | .0409126 | -0.60 | 0.546 | -.1048954 | .0554797 |
| state11 | -.0294623 | .0402858 | -0.73 | 0.465 | -.1084213 | .0494967 |
| state12 | 0 | (omitted) | | | | |
| state13 | .008686 | .0425318 | 0.20 | 0.838 | -.0746752 | .0920471 |
| state14 | .0348682 | .0399001 | 0.87 | 0.382 | -.0433349 | .1130713 |
| state15 | -.0223477 | .0401942 | -0.56 | 0.578 | -.1011271 | .0564317 |
| state16 | .0129904 | .040381 | 0.32 | 0.748 | -.0661552 | .092136 |
| state17 | -.000323 | .0406341 | -0.01 | 0.994 | -.0799647 | .0793187 |
| state18 | .0371448 | .0402564 | 0.92 | 0.356 | -.0417567 | .1160463 |
| state19 | .0820562 | .0405543 | 2.02 | 0.043 | .002571 | .1615414 |
| state20 | -.1122753 | .0418548 | -2.68 | 0.007 | -.1943094 | -.0302411 |
| state21 | .0693589 | .0408583 | 1.70 | 0.090 | -.0107222 | .1494401 |
| state22 | -.013551 | .0403743 | -0.34 | 0.737 | -.0926836 | .0655815 |
| state23 | .0404548 | .0400026 | 1.01 | 0.312 | -.0379491 | .1188586 |
| state24 | .0528331 | .0403696 | 1.31 | 0.191 | -.0262901 | .1319562 |
| state25 | .0314841 | .0405717 | 0.78 | 0.438 | -.0480352 | .1110033 |
| state26 | .029921 | .0401987 | 0.74 | 0.457 | -.0488672 | .1087092 |
| state27 | -.0134603 | .0429181 | -0.31 | 0.754 | -.0975785 | .070658 |
| state28 | .0052995 | .0409857 | 0.13 | 0.897 | -.0750313 | .0856304 |
| state29 | .0458123 | .0530539 | 0.86 | 0.388 | -.0581719 | .1497965 |
| state30 | -.0731329 | .0437215 | -1.67 | 0.094 | -.1588257 | .01256 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state31 | .0449918 | .040242 | 1.12 | 0.264 | -.0338815 | .123865 |
| state32 | -.027102 | .0431475 | -0.63 | 0.530 | -.1116699 | .0574659 |
| state33 | .0327101 | .0398611 | 0.82 | 0.412 | -.0454165 | .1108366 |
| state34 | -.0621613 | .0401646 | -1.55 | 0.122 | -.1408827 | .0165602 |
| state35 | .0189158 | .04192 | 0.45 | 0.652 | -.0632462 | .1010779 |
| state36 | -.0116614 | .0399359 | -0.29 | 0.770 | -.0899346 | .0666118 |
| state37 | .0039933 | .0403239 | 0.10 | 0.921 | -.0750404 | .0830269 |
| state38 | -.017087 | .0417248 | -0.41 | 0.682 | -.0988664 | .0646924 |
| state39 | .003429 | .0398802 | 0.09 | 0.931 | -.0747351 | .081593 |
| state40 | -.0867321 | .0426458 | -2.03 | 0.042 | -.1703166 | -.0031475 |
| state41 | -.0526161 | .0406428 | -1.29 | 0.195 | -.1322748 | .0270426 |
| state42 | -.0085444 | .0422808 | -0.20 | 0.840 | -.0914136 | .0743248 |
| state43 | .0195928 | .0403334 | 0.49 | 0.627 | -.0594596 | .0986452 |
| state44 | .0123353 | .0400287 | 0.31 | 0.758 | -.0661197 | .0907904 |
| state45 | .0182035 | .0420806 | 0.43 | 0.665 | -.0642732 | .1006801 |
| state46 | -.1260006 | .044408 | -2.84 | 0.005 | -.2130391 | -.0389621 |
| state47 | .0172415 | .0403588 | 0.43 | 0.669 | -.0618606 | .0963436 |
| state48 | .0256137 | .0408254 | 0.63 | 0.530 | -.0544029 | .1056302 |
| state49 | .0314563 | .0403964 | 0.78 | 0.436 | -.0477194 | .110632 |
| state50 | -.050574 | .0402089 | -1.26 | 0.208 | -.1293822 | .0282342 |
| state51 | .0452561 | .0459935 | 0.98 | 0.325 | -.0448899 | .1354021 |
| _cons | 4.980246 | .0399938 | 124.53 | 0.000 | 4.901859 | 5.058633 |

```
. eststo model5

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT  state1-state51 (EDU
> QTR3state51)
note: state51 omitted because of collinearity
note: QTR1state51 omitted because of collinearity
note: QTR2state51 omitted because of collinearity
note: QTR3state51 omitted because of collinearity
Instrumental variables (2SLS) regression          Number of obs   =    329,509
                                                  Wald chi2(71)   =   32556.98
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1584
                                                  Root MSE        =     .62274
```

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0831469 | .0094922 | 8.76 | 0.000 | .0645424 | .1017513 |
| YR0 | .0431736 | .0075673 | 5.71 | 0.000 | .028342 | .0580052 |
| YR1 | .0363014 | .0066285 | 5.48 | 0.000 | .0233099 | .049293 |
| YR2 | .0305082 | .006154 | 4.96 | 0.000 | .0184466 | .0425699 |
| YR3 | .0293916 | .0058258 | 5.05 | 0.000 | .0179732 | .0408101 |
| YR4 | .0259801 | .0055937 | 4.64 | 0.000 | .0150166 | .0369435 |
| YR5 | .0147418 | .0052436 | 2.81 | 0.005 | .0044645 | .0250191 |
| YR6 | .0144674 | .0050985 | 2.84 | 0.005 | .0044745 | .0244603 |
| YR7 | .0105111 | .0048661 | 2.16 | 0.031 | .0009737 | .0200485 |
| YR8 | .0092299 | .0046936 | 1.97 | 0.049 | .0000306 | .0184292 |
| RACE | -.2332554 | .0109225 | -21.36 | 0.000 | -.254663 | -.2118478 |
| MARRIED | .2435452 | .0039869 | 61.09 | 0.000 | .2357311 | .2513594 |
| SMSA | -.151148 | .0094812 | -15.94 | 0.000 | -.1697307 | -.1325652 |
| NEWENG | -.0673008 | .0095242 | -7.07 | 0.000 | -.0859678 | -.0486338 |
| MIDATL | -.0422312 | .0105881 | -3.99 | 0.000 | -.0629835 | -.0214789 |
| ENOCENT | .0384872 | .0114658 | 3.36 | 0.001 | .0160146 | .0609598 |
| WNOCENT | -.1041709 | .0096002 | -10.85 | 0.000 | -.1229869 | -.085355 |
| SOATL | -.1204181 | .006202 | -19.42 | 0.000 | -.1325739 | -.1082624 |
| ESOCENT | -.1642099 | .0091601 | -17.93 | 0.000 | -.1821634 | -.1462564 |
| WSOCENT | -.1033825 | .0074525 | -13.87 | 0.000 | -.1179892 | -.0887758 |
| MT | -.0888868 | .006732 | -13.20 | 0.000 | -.1020813 | -.0756924 |
| state1 | -.0062392 | .0279234 | -0.22 | 0.823 | -.060968 | .0484897 |
| state2 | .1032231 | .074402 | 1.39 | 0.165 | -.042602 | .2490483 |
| state3 | .0044012 | .0307657 | 0.14 | 0.886 | -.0558986 | .0647009 |
| state4 | -.0246261 | .028206 | -0.87 | 0.383 | -.0799089 | .0306566 |
| state5 | -.0385226 | .0244177 | -1.58 | 0.115 | -.0863804 | .0093352 |
| state6 | -.0287814 | .0264882 | -1.09 | 0.277 | -.0806972 | .0231345 |
| state7 | -.0312594 | .0262823 | -1.19 | 0.234 | -.0827718 | .0202531 |
| state8 | .0373139 | .0364087 | 1.02 | 0.305 | -.0340458 | .1086735 |
| state9 | .0819202 | .029953 | 2.73 | 0.006 | .0232134 | .1406271 |
| state10 | -.0550186 | .0267781 | -2.05 | 0.040 | -.1075027 | -.0025346 |
| state11 | -.0384577 | .0300492 | -1.28 | 0.201 | -.0973531 | .0204378 |
| state12 | -.0332492 | .0465699 | -0.71 | 0.475 | -.1245246 | .0580262 |
| state13 | -.0365018 | .0281472 | -1.30 | 0.195 | -.0916693 | .0186657 |
| state14 | -.0152081 | .0242775 | -0.63 | 0.531 | -.0627911 | .0323749 |
| state15 | -.0620267 | .0247988 | -2.50 | 0.012 | -.1106315 | -.0134219 |
| state16 | -.0302464 | .0249429 | -1.21 | 0.225 | -.0791335 | .0186407 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state17 | -.0492091 | .0253793 | -1.94 | 0.053 | -.0989517 | .0005335 |
| state18 | .0297317 | .0304128 | 0.98 | 0.328 | -.0298764 | .0893397 |
| state19 | .0593111 | .0273561 | 2.17 | 0.030 | .0056941 | .1129281 |
| state20 | -.1372651 | .0289328 | -4.74 | 0.000 | -.1939722 | -.0805579 |
| state21 | .0457346 | .0276727 | 1.65 | 0.098 | -.0085029 | .099972 |
| state22 | -.0577089 | .0250034 | -2.31 | 0.021 | -.1067147 | -.0087031 |
| state23 | -.0033081 | .0243574 | -0.14 | 0.892 | -.0510477 | .0444316 |
| state24 | .0100049 | .0249356 | 0.40 | 0.688 | -.038868 | .0588778 |
| state25 | .0119873 | .0279941 | 0.43 | 0.668 | -.0428801 | .0668547 |
| state26 | -.004346 | .0251562 | -0.17 | 0.863 | -.0536513 | .0449593 |
| state27 | -.0550342 | .0287777 | -1.91 | 0.056 | -.1114375 | .0013691 |
| state28 | -.0402039 | .0258863 | -1.55 | 0.120 | -.0909402 | .0105324 |
| state29 | .0033528 | .042552 | 0.08 | 0.937 | -.0800476 | .0867532 |
| state30 | -.10372 | .0309209 | -3.35 | 0.001 | -.1643238 | -.0431162 |
| state31 | -.0044952 | .0248506 | -0.18 | 0.856 | -.0532016 | .0442111 |
| state32 | -.0516635 | .0305846 | -1.69 | 0.091 | -.1116081 | .0082812 |
| state33 | -.0215479 | .0245053 | -0.88 | 0.379 | -.0695773 | .0264816 |
| state34 | -.0755808 | .0287701 | -2.63 | 0.009 | -.1319691 | -.0191925 |
| state35 | -.0161321 | .0277905 | -0.58 | 0.562 | -.0706005 | .0383363 |
| state36 | -.0544113 | .0242652 | -2.24 | 0.025 | -.1019701 | -.0068524 |
| state37 | -.0314401 | .0252927 | -1.24 | 0.214 | -.0810128 | .0181327 |
| state38 | -.0581703 | .0273228 | -2.13 | 0.033 | -.1117219 | -.0046187 |
| state39 | -.0352604 | .0243653 | -1.45 | 0.148 | -.0830154 | .0124946 |
| state40 | -.1190113 | .0291913 | -4.08 | 0.000 | -.1762252 | -.0617974 |
| state41 | -.061389 | .0305891 | -2.01 | 0.045 | -.1213425 | -.0014354 |
| state42 | -.0519807 | .027945 | -1.86 | 0.063 | -.1067518 | .0027904 |
| state43 | .0074723 | .0293071 | 0.25 | 0.799 | -.0499686 | .0649133 |
| state44 | -.0165017 | .0255606 | -0.65 | 0.519 | -.0665995 | .0335962 |
| state45 | -.0304016 | .0273291 | -1.11 | 0.266 | -.0839657 | .0231625 |
| state46 | -.153595 | .0322175 | -4.77 | 0.000 | -.21674 | -.0904499 |
| state47 | .0084247 | .0301945 | 0.28 | 0.780 | -.0507554 | .0676049 |
| state48 | -.0148528 | .0259425 | -0.57 | 0.567 | -.0656993 | .0359936 |
| state49 | .0175718 | .0289766 | 0.61 | 0.544 | -.0392213 | .0743648 |
| state50 | -.0942477 | .0246961 | -3.82 | 0.000 | -.1426512 | -.0458442 |
| state51 | 0 | (omitted) | | | | |
| _cons | 4.736359 | .1369855 | 34.58 | 0.000 | 4.467872 | 5.004846 |

Instrumented: EDUC
Instruments: YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT state1 state2
state3 state4 state5 state6 state7 state8 state9 state10
state11 state12 state13 state14 state15 state16 state17
state18 state19 state20 state21 state22 state23 state24
state25 state26 state27 state28 state29 state30 state31
state32 state33 state34 state35 state36 state37 state38
state39 state40 state41 state42 state43 state44 state45
state46 state47 state48 state49 state50 QTR1YR0 QTR1YR1
QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8
QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5
QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2
QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9
QTR1state1 QTR1state2 QTR1state3 QTR1state4 QTR1state5
QTR1state6 QTR1state7 QTR1state8 QTR1state9 QTR1state10
QTR1state11 QTR1state12 QTR1state13 QTR1state14 QTR1state15
QTR1state16 QTR1state17 QTR1state18 QTR1state19 QTR1state20
QTR1state21 QTR1state22 QTR1state23 QTR1state24 QTR1state25
QTR1state26 QTR1state27 QTR1state28 QTR1state29 QTR1state30
QTR1state31 QTR1state32 QTR1state33 QTR1state34 QTR1state35
QTR1state36 QTR1state37 QTR1state38 QTR1state39 QTR1state40
QTR1state41 QTR1state42 QTR1state43 QTR1state44 QTR1state45
QTR1state46 QTR1state47 QTR1state48 QTR1state49 QTR1state50
QTR2state1 QTR2state2 QTR2state3 QTR2state4 QTR2state5
QTR2state6 QTR2state7 QTR2state8 QTR2state9 QTR2state10
QTR2state11 QTR2state12 QTR2state13 QTR2state14 QTR2state15
QTR2state16 QTR2state17 QTR2state18 QTR2state19 QTR2state20
QTR2state21 QTR2state22 QTR2state23 QTR2state24 QTR2state25
QTR2state26 QTR2state27 QTR2state28 QTR2state29 QTR2state30
QTR2state31 QTR2state32 QTR2state33 QTR2state34 QTR2state35
QTR2state36 QTR2state37 QTR2state38 QTR2state39 QTR2state40
QTR2state41 QTR2state42 QTR2state43 QTR2state44 QTR2state45
QTR2state46 QTR2state47 QTR2state48 QTR2state49 QTR2state50
QTR3state1 QTR3state2 QTR3state3 QTR3state4 QTR3state5
QTR3state6 QTR3state7 QTR3state8 QTR3state9 QTR3state10
QTR3state11 QTR3state12 QTR3state13 QTR3state14 QTR3state15
QTR3state16 QTR3state17 QTR3state18 QTR3state19 QTR3state20
QTR3state21 QTR3state22 QTR3state23 QTR3state24 QTR3state25
QTR3state26 QTR3state27 QTR3state28 QTR3state29 QTR3state30

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              QTR3state31 QTR3state32 QTR3state33 QTR3state34 QTR3state35
              QTR3state36 QTR3state37 QTR3state38 QTR3state39 QTR3state40
              QTR3state41 QTR3state42 QTR3state43 QTR3state44 QTR3state45
              QTR3state46 QTR3state47 QTR3state48 QTR3state49 QTR3state50
. eststo model6

.
. reg  LWKLYWGE EDUC  RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8 AGEQ AGEQSQ state1-state
note: state12 omitted because of collinearity
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| | | | | Number of obs | = 329,509 |
| | | | | F(73, 329435) | = 906.64 |
| Model | 25401.5598 | 73 | 347.966573 | Prob > F | = 0.0000 |
| Residual | 126436.311 | 329,435 | .383797444 | R-squared | = 0.1673 |
| | | | | Adj R-squared | = 0.1671 |
| Total | 151837.871 | 329,508 | .460801773 | Root MSE | = .61951 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0627847 | .0003438 | 182.60 | 0.000 | .0621108 | .0634586 |
| RACE | -.2546832 | .0043467 | -58.59 | 0.000 | -.2632025 | -.2461638 |
| MARRIED | .2487145 | .0031647 | 78.59 | 0.000 | .2425118 | .2549172 |
| SMSA | -.1704966 | .0028944 | -58.90 | 0.000 | -.1761697 | -.1648236 |
| NEWENG | -.0787691 | .0078496 | -10.03 | 0.000 | -.0941541 | -.0633842 |
| MIDATL | -.0614532 | .0056236 | -10.93 | 0.000 | -.0724753 | -.0504312 |
| ENOCENT | .0163326 | .004989 | 3.27 | 0.001 | .0065544 | .0261109 |
| WNOCENT | -.1200789 | .0060916 | -19.71 | 0.000 | -.1320182 | -.1081397 |
| SOATL | -.127151 | .0053329 | -23.84 | 0.000 | -.1376034 | -.1166986 |
| ESOCENT | -.1771233 | .0068723 | -25.77 | 0.000 | -.1905929 | -.1636538 |
| WSOCENT | -.1131778 | .0058801 | -19.25 | 0.000 | -.1247027 | -.1016529 |
| MT | -.0935744 | .0063357 | -14.77 | 0.000 | -.1059923 | -.0811566 |
| YR0 | .0895666 | .0353171 | 2.54 | 0.011 | .020346 | .1587872 |
| YR1 | .0854327 | .0317746 | 2.69 | 0.007 | .0231553 | .1477101 |
| YR2 | .0792059 | .0289076 | 2.74 | 0.006 | .0225478 | .135864 |
| YR3 | .0760503 | .0263697 | 2.88 | 0.004 | .0243665 | .1277341 |
| YR4 | .0683837 | .0237265 | 2.88 | 0.004 | .0218805 | .114887 |
| YR5 | .0520783 | .0207473 | 2.51 | 0.012 | .0114141 | .0927425 |
| YR6 | .0445143 | .0171859 | 2.59 | 0.010 | .0108305 | .0781981 |
| YR7 | .0321116 | .0128654 | 2.50 | 0.013 | .0068958 | .0573275 |
| YR8 | .0212105 | .0080162 | 2.65 | 0.008 | .0054989 | .036922 |
| AGEQ | -.0777505 | .0603399 | -1.29 | 0.198 | -.196015 | .040514 |
| AGEQSQ | .0007889 | .0006686 | 1.18 | 0.238 | -.0005216 | .0020993 |
| state1 | .0119772 | .0403217 | 0.30 | 0.766 | -.0670522 | .0910065 |
| state2 | .144153 | .0805063 | 1.79 | 0.073 | -.013637 | .3019429 |
| state3 | .037437 | .043936 | 0.85 | 0.394 | -.0486763 | .1235502 |
| state4 | -.0067527 | .0404698 | -0.17 | 0.867 | -.0860723 | .0725669 |
| state5 | .0048358 | .0399397 | 0.12 | 0.904 | -.0734448 | .0831164 |
| state6 | .0084446 | .0413415 | 0.20 | 0.838 | -.0725836 | .0894727 |
| state7 | .0096782 | .0411206 | 0.24 | 0.814 | -.070917 | .0902733 |
| state8 | .0604817 | .0470945 | 1.28 | 0.199 | -.0318222 | .1527856 |
| state9 | .1353576 | .0434284 | 3.12 | 0.002 | .0502392 | .2204761 |
| state10 | -.0245425 | .0409126 | -0.60 | 0.549 | -.10473 | .055645 |
| state11 | -.0293248 | .0402858 | -0.73 | 0.467 | -.1082837 | .0496342 |
| state12 | 0 | (omitted) | | | | |
| state13 | .0088438 | .0425319 | 0.21 | 0.835 | -.0745176 | .0922052 |
| state14 | .0350164 | .0399001 | 0.88 | 0.380 | -.0431866 | .1132194 |
| state15 | -.0221574 | .0401942 | -0.55 | 0.581 | -.1009368 | .0566221 |
| state16 | .0131801 | .0403811 | 0.33 | 0.744 | -.0659657 | .0923258 |
| state17 | -.0001912 | .0406341 | -0.00 | 0.996 | -.0798328 | .0794505 |
| state18 | .03727 | .0402565 | 0.93 | 0.355 | -.0416315 | .1161715 |
| state19 | .0821048 | .0405541 | 2.02 | 0.043 | .0026198 | .1615897 |
| state20 | -.1120684 | .0418548 | -2.68 | 0.007 | -.1941026 | -.0300342 |
| state21 | .0695782 | .0408583 | 1.70 | 0.089 | -.010503 | .1496593 |
| state22 | -.0133355 | .0403744 | -0.33 | 0.741 | -.0924681 | .0657972 |
| state23 | .0406372 | .0400026 | 1.02 | 0.310 | -.0377668 | .1190413 |
| state24 | .0530311 | .0403696 | 1.31 | 0.189 | -.0260922 | .1321544 |
| state25 | .0316476 | .0405717 | 0.78 | 0.435 | -.0478717 | .1111669 |
| state26 | .0300677 | .0401987 | 0.75 | 0.454 | -.0487205 | .1088559 |
| state27 | -.0132762 | .0429182 | -0.31 | 0.757 | -.0973946 | .0708421 |
| state28 | .0054892 | .0409858 | 0.13 | 0.893 | -.0748418 | .0858202 |
| state29 | .0455993 | .0530539 | 0.86 | 0.390 | -.0583848 | .1495834 |
| state30 | -.0729743 | .0437214 | -1.67 | 0.095 | -.158667 | .0127185 |
| state31 | .0451916 | .0402421 | 1.12 | 0.261 | -.0336818 | .1240649 |
| state32 | -.0270377 | .0431474 | -0.63 | 0.531 | -.1116054 | .05753 |
| state33 | .0328969 | .0398611 | 0.83 | 0.409 | -.0452298 | .1110236 |
| state34 | -.0620243 | .0401645 | -1.54 | 0.123 | -.1407456 | .0166971 |
| state35 | .0190994 | .0419201 | 0.46 | 0.649 | -.0630628 | .1012615 |
| state36 | -.0115043 | .039936 | -0.29 | 0.773 | -.0897776 | .0667691 |

```
     state37 |   .0041363   .0403239     0.10   0.918    -.0748973    .0831699
     state38 |  -.0169258   .0417248    -0.41   0.685    -.0987052    .0648535
     state39 |   .0035947   .0398802     0.09   0.928    -.0745694    .0817588
     state40 |  -.0865249   .0426459    -2.03   0.042    -.1701096   -.0029402
     state41 |  -.0525597   .0406427    -1.29   0.196    -.1322182    .0270988
     state42 |  -.0083804   .0422808    -0.20   0.843    -.0912496    .0744889
     state43 |   .0197722   .0403335     0.49   0.624    -.0592802    .0988246
     state44 |   .0124013   .0400286     0.31   0.757    -.0660535    .0908562
     state45 |   .0183224   .0420805     0.44   0.663    -.0641542    .1007989
     state46 |  -.1258486    .044408    -2.83   0.005    -.2128869   -.0388102
     state47 |   .0174292   .0403588     0.43   0.666     -.061673    .0965313
     state48 |    .025774   .0408254     0.63   0.528    -.0542426    .1057907
     state49 |   .0316488   .0403964     0.78   0.433    -.0475269    .1108246
     state50 |  -.0503854   .0402089    -1.25   0.210    -.1291937     .028423
     state51 |   .0453317   .0459935     0.99   0.324    -.0448143    .1354776
       _cons |   6.836734   1.352537     5.05   0.000     4.185802    9.487667
------------------------------------------------------------------------------

. eststo model7

.
. ivregress 2sls LWKLYWGE YR0-YR8 RACE MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ state1-s
> QTR1state1-QTR3state51)
note: state51 omitted because of collinearity
note: QTR1state51 omitted because of collinearity
note: QTR2state51 omitted because of collinearity
note: QTR3state51 omitted because of collinearity
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =    329,509
                                                  Wald chi2(73)   =   32626.66
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1602
                                                  Root MSE        =     .62209
------------------------------------------------------------------------------
    LWKLYWGE |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        EDUC |   .0810581   .0108672     7.46   0.000     .0597588    .1023574
         YR0 |   .0685551   .0375991     1.82   0.068    -.0051378     .142248
         YR1 |   .0665389   .0338257     1.97   0.049     .0002417    .1328361
         YR2 |   .0635622    .030481     2.09   0.037     .0038205    .1233038
         YR3 |   .0633823   .0275294     2.30   0.021     .0094258    .1173389
         YR4 |   .0589535   .0244759     2.41   0.016     .0109817    .1069253
         YR5 |   .0449101    .021265     2.11   0.035     .0032314    .0865888
         YR6 |   .0398959   .0174745     2.28   0.022     .0056466    .0741452
         YR7 |   .0293179   .0130253     2.25   0.024     .0037887     .054847
         YR8 |   .0196351   .0081039     2.42   0.015     .0037517    .0355185
        RACE |  -.2354344   .0122457   -19.23   0.000    -.2594356   -.2114332
     MARRIED |   .2440837   .0042042    58.06   0.000     .2358436    .2523238
        SMSA |  -.1531188   .0107305   -14.27   0.000    -.1741502   -.1320874
      NEWENG |  -.0685019   .0099687    -6.87   0.000    -.0880402   -.0489635
      MIDATL |  -.0442147   .0116996    -3.78   0.000    -.0671455   -.0212839
     ENOCENT |   .0361931   .0128241     2.82   0.005     .0110584    .0613278
     WNOCENT |  -.1058281   .0104484   -10.13   0.000    -.1263066   -.0853496
       SOATL |  -.1211417   .0064371   -18.82   0.000    -.1337582   -.1085252
     ESOCENT |   -.165544   .0097466   -16.98   0.000    -.1846469    -.146441
     WSOCENT |  -.1044249   .0078697   -13.27   0.000    -.1198493   -.0890005
          MT |  -.0893784   .0068335   -13.08   0.000    -.1027719    -.075985
        AGEQ |   -.087637   .0608758    -1.44   0.150    -.2069513    .0316773
      AGEQSQ |   .0009383   .0006772     1.39   0.166    -.0003891    .0022656
      state1 |  -.0089513   .0287848    -0.31   0.756    -.0653685    .0474659
      state2 |   .1028052   .0743334     1.38   0.167    -.0428857    .2484961
      state3 |    .003153   .0308963     0.10   0.919    -.0574026    .0637087
      state4 |  -.0273773   .0290802    -0.94   0.346    -.0843734    .0296188
      state5 |  -.0386709   .0243983    -1.58   0.113    -.0864906    .0091488
      state6 |  -.0295535   .0265459    -1.11   0.266    -.0815825    .0224755
      state7 |  -.0315794   .0262815    -1.20   0.230    -.0830902    .0199315
      state8 |   .0350612   .0368267     0.95   0.341    -.0371177    .1072402
      state9 |   .0828044    .029993     2.76   0.006     .0240192    .1415896
     state10 |  -.0564485   .0270345    -2.09   0.037    -.1094351   -.0034619
     state11 |  -.0421012    .031473    -1.34   0.181    -.1037871    .0195847
     state12 |  -.0344524   .0466356    -0.74   0.460    -.1258565    .0569517
     state13 |  -.0364697   .0281183    -1.30   0.195    -.0915805     .018641
     state14 |  -.0146298   .0242843    -0.60   0.547    -.0622261    .0329666
     state15 |  -.0624932   .0248152    -2.52   0.012    -.1111302   -.0138563
     state16 |  -.0303668   .0249221    -1.22   0.223    -.0792132    .0184796
     state17 |  -.0487733   .0253705    -1.92   0.055    -.0984986    .0009521
     state18 |   .0259035   .0319406     0.81   0.417     -.036699     .088506
```

| | | | | | | |
|---|---|---|---|---|---|---|
| state19 | .0570322 | .0279641 | 2.04 | 0.041 | .0022237 | .1118408 |
| state20 | -.1392261 | .0293778 | -4.74 | 0.000 | -.1968055 | -.0816467 |
| state21 | .0436716 | .0282152 | 1.55 | 0.122 | -.0116292 | .0989724 |
| state22 | -.0576947 | .0249793 | -2.31 | 0.021 | -.1066532 | -.0087363 |
| state23 | -.0033755 | .0243351 | -0.14 | 0.890 | -.0510715 | .0443204 |
| state24 | .0098642 | .0249176 | 0.40 | 0.692 | -.0389734 | .0587018 |
| state25 | .0094329 | .0287582 | 0.33 | 0.743 | -.0469322 | .065798 |
| state26 | -.005397 | .0252934 | -0.21 | 0.831 | -.0549711 | .0441772 |
| state27 | -.0553259 | .0287632 | -1.92 | 0.054 | -.1117008 | .0010489 |
| state28 | -.0400876 | .0258599 | -1.55 | 0.121 | -.090772 | .0105969 |
| state29 | .0028968 | .0425173 | 0.07 | 0.946 | -.0804355 | .0862291 |
| state30 | -.1051338 | .0311255 | -3.38 | 0.001 | -.1661386 | -.044129 |
| state31 | -.0039536 | .0248505 | -0.16 | 0.874 | -.0526596 | .0447525 |
| state32 | -.0537623 | .031032 | -1.73 | 0.083 | -.1145839 | .0070592 |
| state33 | -.020527 | .0245936 | -0.83 | 0.404 | -.0687296 | .0276757 |
| state34 | -.0787614 | .0299198 | -2.63 | 0.008 | -.1374032 | -.0201196 |
| state35 | -.0170877 | .027887 | -0.61 | 0.540 | -.0717452 | .0375698 |
| state36 | -.054601 | .0242485 | -2.25 | 0.024 | -.1021273 | -.0070747 |
| state37 | -.0323687 | .0253972 | -1.27 | 0.202 | -.0821463 | .0174089 |
| state38 | -.0585104 | .0273164 | -2.14 | 0.032 | -.1120495 | -.0049712 |
| state39 | -.0358485 | .0243998 | -1.47 | 0.142 | -.0836712 | .0119743 |
| state40 | -.120239 | .0293524 | -4.10 | 0.000 | -.1777687 | -.0627092 |
| state41 | -.0650911 | .0320214 | -2.03 | 0.042 | -.1278519 | -.0023303 |
| state42 | -.0520919 | .02792 | -1.87 | 0.062 | -.1068141 | .0026302 |
| state43 | .0041732 | .0305202 | 0.14 | 0.891 | -.0556453 | .0639918 |
| state44 | -.0181557 | .0258977 | -0.70 | 0.483 | -.0689142 | .0326028 |
| state45 | -.0299961 | .0273142 | -1.10 | 0.272 | -.083531 | .0235389 |
| state46 | -.1553158 | .0325137 | -4.78 | 0.000 | -.2190414 | -.0915902 |
| state47 | .0047951 | .0316188 | 0.15 | 0.879 | -.0571766 | .0667668 |
| state48 | -.0152736 | .025945 | -0.59 | 0.556 | -.0661249 | .0355776 |
| state49 | .0144667 | .0300757 | 0.48 | 0.631 | -.0444806 | .073414 |
| state50 | -.0943172 | .0246738 | -3.82 | 0.000 | -.1426769 | -.0459574 |
| state51 | 0 | (omitted) | | | | |
| _cons | 6.777588 | 1.359162 | 4.99 | 0.000 | 4.113679 | 9.441497 |

Instrumented: EDUC
Instruments: YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 RACE MARRIED SMSA NEWENG
MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ
state1 state2 state3 state4 state5 state6 state7 state8
state9 state10 state11 state12 state13 state14 state15
state16 state17 state18 state19 state20 state21 state22
state23 state24 state25 state26 state27 state28 state29
state30 state31 state32 state33 state34 state35 state36
state37 state38 state39 state40 state41 state42 state43
state44 state45 state46 state47 state48 state49 state50
QTR1YR0 QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6
QTR1YR7 QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3
QTR2YR4 QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0
QTR3YR1 QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8
QTR1state1 QTR1state2 QTR1state3 QTR1state4 QTR1state5
QTR1state6 QTR1state7 QTR1state8 QTR1state9 QTR1state10
QTR1state11 QTR1state12 QTR1state13 QTR1state14 QTR1state15
QTR1state16 QTR1state17 QTR1state18 QTR1state19 QTR1state20
QTR1state21 QTR1state22 QTR1state23 QTR1state24 QTR1state25
QTR1state26 QTR1state27 QTR1state28 QTR1state29 QTR1state30
QTR1state31 QTR1state32 QTR1state33 QTR1state34 QTR1state35
QTR1state36 QTR1state37 QTR1state38 QTR1state39 QTR1state40
QTR1state41 QTR1state42 QTR1state43 QTR1state44 QTR1state45
QTR1state46 QTR1state47 QTR1state48 QTR1state49 QTR1state50
QTR2state1 QTR2state2 QTR2state3 QTR2state4 QTR2state5
QTR2state6 QTR2state7 QTR2state8 QTR2state9 QTR2state10
QTR2state11 QTR2state12 QTR2state13 QTR2state14 QTR2state15
QTR2state16 QTR2state17 QTR2state18 QTR2state19 QTR2state20
QTR2state21 QTR2state22 QTR2state23 QTR2state24 QTR2state25
QTR2state26 QTR2state27 QTR2state28 QTR2state29 QTR2state30
QTR2state31 QTR2state32 QTR2state33 QTR2state34 QTR2state35
QTR2state36 QTR2state37 QTR2state38 QTR2state39 QTR2state40
QTR2state41 QTR2state42 QTR2state43 QTR2state44 QTR2state45
QTR2state46 QTR2state47 QTR2state48 QTR2state49 QTR2state50
QTR3state1 QTR3state2 QTR3state3 QTR3state4 QTR3state5
QTR3state6 QTR3state7 QTR3state8 QTR3state9 QTR3state10
QTR3state11 QTR3state12 QTR3state13 QTR3state14 QTR3state15
QTR3state16 QTR3state17 QTR3state18 QTR3state19 QTR3state20
QTR3state21 QTR3state22 QTR3state23 QTR3state24 QTR3state25
QTR3state26 QTR3state27 QTR3state28 QTR3state29 QTR3state30
QTR3state31 QTR3state32 QTR3state33 QTR3state34 QTR3state35
QTR3state36 QTR3state37 QTR3state38 QTR3state39 QTR3state40

```
              QTR3state41 QTR3state42 QTR3state43 QTR3state44 QTR3state45
              QTR3state46 QTR3state47 QTR3state48 QTR3state49 QTR3state50
. eststo model8
.
. **********  Table Decoration ********
.
. label variable EDUC   "Years of education"
. label variable RACE   "Race(1 = black)"
. label variable SMSA   "SMSA (1 = center city)"
. label variable MARRIED   "Married (1 = married)"
. label variable AGEQ   "Age"
. label variable AGEQSQ   "Age-squared"
.
. /* esttab using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\01_paper\tableV
> order(EDUC RACE SMSA MARRIED AGEQ AGEQSQ) title("TABLE VII") nonumbers mtitles("(1) OLS" "(2) TSLS" "(3) OLS" "(4) TSLS" "(5)
.
. /* log close */
.
end of do-file
```

## 1.8 Table VIII

```
.
. do "Table VIII"
. clear
. /* log using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\02_logfile\Table_V
.
. use "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\raw_data.dta"
. rename v1 AGE
. rename v2 AGEQ
. rename v4 EDUC
. rename v5 ENOCENT
. rename v6 ESOCENT
. rename v9 LWKLYWGE
. rename v10 MARRIED
. rename v11 MIDATL
. rename v12 MT
. rename v13 NEWENG
. rename v16 CENSUS
. rename v17 SOB
. rename v18 QOB
. rename v19 RACE
. rename v20 SMSA
. rename v21 SOATL
. rename v24 WNOCENT
. rename v25 WSOCENT
. rename v27 YOB
.
. **********  YOB dummies **********
. replace YOB=YOB-1900 if YOB >=1900
(247,199 real changes made)
.
. foreach i of numlist 0/9 {
  2. gen YR`i´=0
  3. replace YR`i´=1 if YOB==20+`i´ | YOB==30+`i´ | YOB==40+`i´
  4. }
(95,545 real changes made)
(93,948 real changes made)
(101,493 real changes made)
(101,445 real changes made)
(101,851 real changes made)
(102,153 real changes made)
(111,229 real changes made)
(120,407 real changes made)
(117,529 real changes made)
(118,034 real changes made)
. **********  QOB dummies ***********
. foreach i of numlist 1/4 {
  2. gen QTR`i´=0
  3. replace QTR`i´=1 if QOB==`i´
  4. }
(262,019 real changes made)
(255,733 real changes made)
(280,749 real changes made)
(265,133 real changes made)
. **********  QOB*YOB dummies ********
. foreach j of numlist 1/3 {
  2. foreach i of numlist 0/9 {
  3. gen QTR`j´YR`i´=QTR`j´*YR`i´
  4. }
  5. }
. **********  Select Particular Men Born ********
. gen COHORT=2029
. replace COHORT=3039 if YOB<=39 & YOB >=30
(329,509 real changes made)
. replace COHORT=4049 if YOB<=49 & YOB >=40
(486,926 real changes made)
```

```
. replace AGEQ=AGEQ-1900 if CENSUS==80
(816,435 real changes made)
. gen AGEQSQ= AGEQ*AGEQ
. ************************************
. keep if COHORT>3000 & COHORT <3040 & RACE==1
(1,036,721 observations deleted)
. ************************************
. tabulate SOB, generate(state)
```

| SOB | Freq. | Percent | Cum. |
|---|---|---|---|
| 1 | 2,418 | 8.98 | 8.98 |
| 2 | 8 | 0.03 | 9.01 |
| 4 | 25 | 0.09 | 9.11 |
| 5 | 1,045 | 3.88 | 12.99 |
| 6 | 222 | 0.82 | 13.81 |
| 8 | 12 | 0.04 | 13.86 |
| 9 | 86 | 0.32 | 14.18 |
| 10 | 65 | 0.24 | 14.42 |
| 11 | 325 | 1.21 | 15.63 |
| 12 | 872 | 3.24 | 18.87 |
| 13 | 2,363 | 8.78 | 27.65 |
| 16 | 6 | 0.02 | 27.67 |
| 17 | 598 | 2.22 | 29.89 |
| 18 | 224 | 0.83 | 30.72 |
| 19 | 40 | 0.15 | 30.87 |
| 20 | 117 | 0.43 | 31.31 |
| 21 | 376 | 1.40 | 32.71 |
| 22 | 1,761 | 6.54 | 39.25 |
| 23 | 5 | 0.02 | 39.27 |
| 24 | 620 | 2.30 | 41.57 |
| 25 | 93 | 0.35 | 41.92 |
| 26 | 374 | 1.39 | 43.31 |
| 27 | 21 | 0.08 | 43.38 |
| 28 | 2,485 | 9.23 | 52.62 |
| 29 | 456 | 1.69 | 54.31 |
| 30 | 5 | 0.02 | 54.33 |
| 31 | 36 | 0.13 | 54.46 |
| 32 | 2 | 0.01 | 54.47 |
| 33 | 4 | 0.01 | 54.49 |
| 34 | 428 | 1.59 | 56.08 |
| 35 | 7 | 0.03 | 56.10 |
| 36 | 912 | 3.39 | 59.49 |
| 37 | 2,387 | 8.87 | 68.36 |
| 38 | 7 | 0.03 | 68.39 |
| 39 | 667 | 2.48 | 70.87 |
| 40 | 368 | 1.37 | 72.23 |
| 41 | 6 | 0.02 | 72.26 |
| 42 | 911 | 3.38 | 75.64 |
| 44 | 28 | 0.10 | 75.74 |
| 45 | 1,960 | 7.28 | 83.03 |
| 46 | 5 | 0.02 | 83.05 |
| 47 | 983 | 3.65 | 86.70 |
| 48 | 1,696 | 6.30 | 93.00 |
| 49 | 5 | 0.02 | 93.02 |
| 50 | 4 | 0.01 | 93.03 |
| 51 | 1,519 | 5.64 | 98.68 |
| 53 | 38 | 0.14 | 98.82 |
| 54 | 266 | 0.99 | 99.81 |
| 55 | 49 | 0.18 | 99.99 |
| 56 | 3 | 0.01 | 100.00 |
| Total | 26,913 | 100.00 | |

```
.
. foreach j of numlist 1/3 {
  2. foreach i of numlist 1/50 {
  3. gen QTR`j´state`i´=QTR`j´*state`i´
  4. }
  5. }
. ********** Start Regression ********
. eststo clear
.
. reg  LWKLYWGE EDUC  YR0-YR8 state1-state50
note: state50 omitted because of collinearity
      Source |       SS           df       MS      Number of obs   =    26,913
-------------+----------------------------------   F(59, 26853)    =     52.84
```

| | | | | | |
|---|---|---|---|---|---|
| Model | 1692.59641 | 59 | 28.6880748 | Prob > F | = 0.0000 |
| Residual | 14579.9933 | 26,853 | .542955844 | R-squared | = 0.1040 |
| | | | | Adj R-squared | = 0.1020 |
| Total | 16272.5897 | 26,912 | .604659248 | Root MSE | = .73686 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0671712 | .0013424 | 50.04 | 0.000 | .06454 | .0698025 |
| YR0 | .0165525 | .0198565 | 0.83 | 0.405 | -.0223672 | .0554722 |
| YR1 | .0277306 | .0206417 | 1.34 | 0.179 | -.0127282 | .0681894 |
| YR2 | .042755 | .0194714 | 2.20 | 0.028 | .0045901 | .08092 |
| YR3 | .0317721 | .0197488 | 1.61 | 0.108 | -.0069367 | .0704808 |
| YR4 | .0470725 | .0195048 | 2.41 | 0.016 | .0088422 | .0853029 |
| YR5 | -.0112328 | .0190954 | -0.59 | 0.556 | -.0486607 | .0261952 |
| YR6 | .0262213 | .0193994 | 1.35 | 0.176 | -.0118026 | .0642451 |
| YR7 | -.0167387 | .0193093 | -0.87 | 0.386 | -.054586 | .0211085 |
| YR8 | -.0021854 | .0190922 | -0.11 | 0.909 | -.039607 | .0352363 |
| state1 | -.4017756 | .4257601 | -0.94 | 0.345 | -1.236288 | .4327365 |
| state2 | -.2377713 | .4989442 | -0.48 | 0.634 | -1.215728 | .7401853 |
| state3 | -.2295004 | .4502741 | -0.51 | 0.610 | -1.112061 | .6530604 |
| state4 | -.3249727 | .4261055 | -0.76 | 0.446 | -1.160162 | .5102164 |
| state5 | -.3771752 | .4283495 | -0.88 | 0.379 | -1.216763 | .4624123 |
| state6 | -.6392151 | .4757211 | -1.34 | 0.179 | -1.571653 | .2932232 |
| state7 | -.3916008 | .4328419 | -0.90 | 0.366 | -1.239994 | .456792 |
| state8 | -.466764 | .4351954 | -1.07 | 0.283 | -1.31977 | .3862418 |
| state9 | -.2399371 | .4274441 | -0.56 | 0.575 | -1.07775 | .5978757 |
| state10 | -.4257412 | .4262217 | -1.00 | 0.318 | -1.261158 | .4096757 |
| state11 | -.4294161 | .4257754 | -1.01 | 0.313 | -1.263958 | .405126 |
| state12 | -.3206786 | .5211369 | -0.62 | 0.538 | -1.342134 | .7007771 |
| state13 | -.2475854 | .4265503 | -0.58 | 0.562 | -1.083646 | .5884755 |
| state14 | -.3215452 | .428323 | -0.75 | 0.453 | -1.161081 | .5179903 |
| state15 | -.3841023 | .4411425 | -0.87 | 0.384 | -1.248765 | .4805602 |
| state16 | -.29197 | .4309036 | -0.68 | 0.498 | -1.136564 | .5526235 |
| state17 | -.3430779 | .4271875 | -0.80 | 0.422 | -1.180388 | .4942318 |
| state18 | -.3590783 | .4258575 | -0.84 | 0.399 | -1.193781 | .4756247 |
| state19 | -.6249879 | .5381488 | -1.16 | 0.246 | -1.679788 | .4298118 |
| state20 | -.4116546 | .4265193 | -0.97 | 0.334 | -1.247655 | .4243455 |
| state21 | -.2376632 | .4322927 | -0.55 | 0.582 | -1.084979 | .6096531 |
| state22 | -.1912966 | .4271877 | -0.45 | 0.654 | -1.028607 | .6460136 |
| state23 | -.3295736 | .4548695 | -0.72 | 0.469 | -1.221142 | .5619945 |
| state24 | -.3610444 | .4257647 | -0.85 | 0.396 | -1.195565 | .4734766 |
| state25 | -.3465261 | .4268869 | -0.81 | 0.417 | -1.183247 | .4901946 |
| state26 | -.0206788 | .538178 | -0.04 | 0.969 | -1.075536 | 1.034178 |
| state27 | -.6157618 | .4428702 | -1.39 | 0.164 | -1.483811 | .252287 |
| state28 | -.1826565 | .6727844 | -0.27 | 0.786 | -1.501349 | 1.136036 |
| state29 | .0315124 | .56286 | 0.06 | 0.955 | -1.071723 | 1.134747 |
| state30 | -.3819126 | .426979 | -0.89 | 0.371 | -1.218814 | .4549886 |
| state31 | -.2463047 | .5085287 | -0.48 | 0.628 | -1.243048 | .7504382 |
| state32 | -.3457928 | .4261794 | -0.81 | 0.417 | -1.181127 | .4895412 |
| state33 | -.4896499 | .425764 | -1.15 | 0.250 | -1.32417 | .3448698 |
| state34 | -.2430058 | .5085747 | -0.48 | 0.633 | -1.239839 | .7538273 |
| state35 | -.265378 | .426442 | -0.62 | 0.534 | -1.101227 | .5704706 |
| state36 | -.4131196 | .4272147 | -0.97 | 0.334 | -1.250483 | .4242435 |
| state37 | -.3860073 | .5210919 | -0.74 | 0.459 | -1.407375 | .63536 |
| state38 | -.3273122 | .4261828 | -0.77 | 0.442 | -1.162653 | .5080284 |
| state39 | -.2790084 | .4477257 | -0.62 | 0.533 | -1.156574 | .5985574 |
| state40 | -.4867285 | .42583 | -1.14 | 0.253 | -1.321378 | .3479205 |
| state41 | -.2153589 | .5381768 | -0.40 | 0.689 | -1.270214 | .8394959 |
| state42 | -.3600819 | .4261401 | -0.84 | 0.398 | -1.195339 | .475175 |
| state43 | -.4200597 | .4258636 | -0.99 | 0.324 | -1.254775 | .4146552 |
| state44 | -.31643 | .5382195 | -0.59 | 0.557 | -1.371368 | .7385084 |
| state45 | -.5627624 | .5628285 | -1.00 | 0.317 | -1.665936 | .540411 |
| state46 | -.4061848 | .4259226 | -0.95 | 0.340 | -1.241015 | .4286457 |
| state47 | -.5178686 | .4419431 | -1.17 | 0.241 | -1.3841 | .348363 |
| state48 | -.3508256 | .4278777 | -0.82 | 0.412 | -1.189488 | .4878371 |
| state49 | -.2630474 | .438331 | -0.60 | 0.548 | -1.122199 | .5961042 |
| state50 | 0 | (omitted) | | | | |
| _cons | 5.153805 | .4261462 | 12.09 | 0.000 | 4.318536 | 5.989073 |

```
. eststo model1

.
. ivregress 2sls LWKLYWGE YR0-YR8 state1-state50 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8 QTR1state1-QTR
note: state50 omitted because of collinearity
note: QTR1state28 omitted because of collinearity
note: QTR1state29 omitted because of collinearity
note: QTR1state37 omitted because of collinearity
```

```
note: QTR1state45 omitted because of collinearity
note: QTR1state49 omitted because of collinearity
note: QTR1state50 omitted because of collinearity
note: QTR2state12 omitted because of collinearity
note: QTR2state26 omitted because of collinearity
note: QTR2state28 omitted because of collinearity
note: QTR2state29 omitted because of collinearity
note: QTR2state44 omitted because of collinearity
note: QTR2state49 omitted because of collinearity
note: QTR2state50 omitted because of collinearity
note: QTR3state28 omitted because of collinearity
note: QTR3state41 omitted because of collinearity
note: QTR3state45 omitted because of collinearity
note: QTR3state50 omitted because of collinearity
Instrumental variables (2SLS) regression          Number of obs   =     26,913
                                                  Wald chi2(59)   =     626.75
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1038
                                                  Root MSE        =     .73614
```

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0634791 | .0184661 | 3.44 | 0.001 | .0272863 | .0996719 |
| YR0 | .0124872 | .0283677 | 0.44 | 0.660 | -.0431125 | .0680868 |
| YR1 | .0247665 | .0253746 | 0.98 | 0.329 | -.0249668 | .0744997 |
| YR2 | .0401184 | .0234812 | 1.71 | 0.088 | -.0059039 | .0861408 |
| YR3 | .0294706 | .0228267 | 1.29 | 0.197 | -.0152689 | .0742101 |
| YR4 | .0452356 | .0215327 | 2.10 | 0.036 | .0030322 | .0874389 |
| YR5 | -.0126427 | .0203318 | -0.62 | 0.534 | -.0524923 | .027207 |
| YR6 | .0250337 | .0202656 | 1.24 | 0.217 | -.0146862 | .0647536 |
| YR7 | -.0173167 | .0195047 | -0.89 | 0.375 | -.0555452 | .0209119 |
| YR8 | -.0023213 | .0190856 | -0.12 | 0.903 | -.0397284 | .0350858 |
| state1 | -.4128204 | .4288983 | -0.96 | 0.336 | -1.253446 | .4278049 |
| state2 | -.2493261 | .5017791 | -0.50 | 0.619 | -1.232795 | .734143 |
| state3 | -.2337149 | .4503262 | -0.52 | 0.604 | -1.116338 | .6489083 |
| state4 | -.3356299 | .4289967 | -0.78 | 0.434 | -1.176448 | .5051882 |
| state5 | -.3801381 | .4281872 | -0.89 | 0.375 | -1.21937 | .4590934 |
| state6 | -.6425275 | .4755446 | -1.35 | 0.177 | -1.574578 | .2895229 |
| state7 | -.3958784 | .4329462 | -0.91 | 0.361 | -1.244437 | .4526805 |
| state8 | -.4766544 | .4375614 | -1.09 | 0.276 | -1.334259 | .3809502 |
| state9 | -.2448513 | .4277305 | -0.57 | 0.567 | -1.083188 | .5934851 |
| state10 | -.4345737 | .4280796 | -1.02 | 0.310 | -1.273594 | .4044469 |
| state11 | -.4428243 | .4305866 | -1.03 | 0.304 | -1.286758 | .4011099 |
| state12 | -.3283446 | .5220315 | -0.63 | 0.529 | -1.351507 | .6948183 |
| state13 | -.2530548 | .427007 | -0.59 | 0.553 | -1.089973 | .5838636 |
| state14 | -.3264415 | .428602 | -0.76 | 0.446 | -1.166486 | .513603 |
| state15 | -.3872009 | .4409835 | -0.88 | 0.380 | -1.251513 | .477111 |
| state16 | -.2972035 | .4312744 | -0.69 | 0.491 | -1.142486 | .5480788 |
| state17 | -.3520348 | .4291034 | -0.82 | 0.412 | -1.193062 | .4889925 |
| state18 | -.370116 | .4289903 | -0.86 | 0.388 | -1.210922 | .4706895 |
| state19 | -.6282488 | .5378703 | -1.17 | 0.243 | -1.682455 | .4259575 |
| state20 | -.4210948 | .4286976 | -0.98 | 0.326 | -1.261327 | .4191371 |
| state21 | -.2429018 | .4326612 | -0.56 | 0.575 | -1.090902 | .6050985 |
| state22 | -.1963319 | .4275098 | -0.46 | 0.646 | -1.034236 | .6415719 |
| state23 | -.3326723 | .454689 | -0.73 | 0.464 | -1.223846 | .5585017 |
| state24 | -.3749434 | .4309631 | -0.87 | 0.384 | -1.219616 | .4697287 |
| state25 | -.3530574 | .4277135 | -0.83 | 0.409 | -1.19136 | .4852456 |
| state26 | -.0257599 | .5382506 | -0.05 | 0.962 | -1.080712 | 1.029192 |
| state27 | -.6219254 | .4435055 | -1.40 | 0.161 | -1.49118 | .2473294 |
| state28 | -.1770432 | .6727117 | -0.26 | 0.792 | -1.495534 | 1.141447 |
| state29 | .0363635 | .5628318 | 0.06 | 0.948 | -1.066767 | 1.139494 |
| state30 | -.3886319 | .4278776 | -0.91 | 0.364 | -1.227257 | .4499928 |
| state31 | -.251496 | .5086926 | -0.49 | 0.621 | -1.248515 | .7455233 |
| state32 | -.3508186 | .4265015 | -0.82 | 0.411 | -1.186746 | .4851089 |
| state33 | -.5011895 | .4292263 | -1.17 | 0.243 | -1.342458 | .3400785 |
| state34 | -.2446734 | .5081471 | -0.48 | 0.630 | -1.240624 | .7512766 |
| state35 | -.2712768 | .4270412 | -0.64 | 0.525 | -1.108262 | .5657087 |
| state36 | -.4182242 | .4275572 | -0.98 | 0.328 | -1.256221 | .4197725 |
| state37 | -.3901304 | .5209901 | -0.75 | 0.454 | -1.411252 | .6309914 |
| state38 | -.3323959 | .4265219 | -0.78 | 0.436 | -1.168364 | .5035717 |
| state39 | -.2865784 | .4488804 | -0.64 | 0.523 | -1.166368 | .593211 |
| state40 | -.500292 | .4307614 | -1.16 | 0.245 | -1.344569 | .3439848 |
| state41 | -.2217976 | .5386108 | -0.41 | 0.680 | -1.277455 | .8338601 |
| state42 | -.3690252 | .4280557 | -0.86 | 0.389 | -1.207999 | .4699486 |
| state43 | -.4270739 | .4268848 | -1.00 | 0.317 | -1.263753 | .4096049 |
| state44 | -.3244722 | .5391893 | -0.60 | 0.547 | -1.381264 | .7323195 |
| state45 | -.5689766 | .5631337 | -1.01 | 0.312 | -1.672698 | .5347453 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state46 | -.4179863 | .4295603 | -0.97 | 0.331 | -1.259909 | .4239364 |
| state47 | -.5181145 | .441514 | -1.17 | 0.241 | -1.383466 | .3472371 |
| state48 | -.3567146 | .4284689 | -0.83 | 0.405 | -1.196498 | .4830689 |
| state49 | -.2698716 | .4392248 | -0.61 | 0.539 | -1.130736 | .5909933 |
| state50 | 0 | (omitted) | | | | |
| _cons | 5.206925 | .5014559 | 10.38 | 0.000 | 4.224089 | 6.18976 |

```
Instrumented:  EDUC
Instruments:   YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 state1 state2 state3
               state4 state5 state6 state7 state8 state9 state10 state11
               state12 state13 state14 state15 state16 state17 state18
               state19 state20 state21 state22 state23 state24 state25
               state26 state27 state28 state29 state30 state31 state32
               state33 state34 state35 state36 state37 state38 state39
               state40 state41 state42 state43 state44 state45 state46
               state47 state48 state49 QTR1YR0 QTR1YR1 QTR1YR2 QTR1YR3
               QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9 QTR2YR0
               QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6 QTR2YR7
               QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3 QTR3YR4
               QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9 QTR1state1 QTR1state2
               QTR1state3 QTR1state4 QTR1state5 QTR1state6 QTR1state7
               QTR1state8 QTR1state9 QTR1state10 QTR1state11 QTR1state12
               QTR1state13 QTR1state14 QTR1state15 QTR1state16 QTR1state17
               QTR1state18 QTR1state19 QTR1state20 QTR1state21 QTR1state22
               QTR1state23 QTR1state24 QTR1state25 QTR1state26 QTR1state27
               QTR1state30 QTR1state31 QTR1state32 QTR1state33 QTR1state34
               QTR1state35 QTR1state36 QTR1state38 QTR1state39 QTR1state40
               QTR1state41 QTR1state42 QTR1state43 QTR1state44 QTR1state46
               QTR1state47 QTR1state48 QTR2state1 QTR2state2 QTR2state3
               QTR2state4 QTR2state5 QTR2state6 QTR2state7 QTR2state8
               QTR2state9 QTR2state10 QTR2state11 QTR2state13 QTR2state14
               QTR2state15 QTR2state16 QTR2state17 QTR2state18 QTR2state19
               QTR2state20 QTR2state21 QTR2state22 QTR2state23 QTR2state24
               QTR2state25 QTR2state27 QTR2state30 QTR2state31 QTR2state32
               QTR2state33 QTR2state34 QTR2state35 QTR2state36 QTR2state37
               QTR2state38 QTR2state39 QTR2state40 QTR2state41 QTR2state42
               QTR2state43 QTR2state45 QTR2state46 QTR2state47 QTR2state48
               QTR3state1 QTR3state2 QTR3state3 QTR3state4 QTR3state5
               QTR3state6 QTR3state7 QTR3state8 QTR3state9 QTR3state10
               QTR3state11 QTR3state12 QTR3state13 QTR3state14 QTR3state15
               QTR3state16 QTR3state17 QTR3state18 QTR3state19 QTR3state20
               QTR3state21 QTR3state22 QTR3state23 QTR3state24 QTR3state25
               QTR3state26 QTR3state27 QTR3state29 QTR3state30 QTR3state31
               QTR3state32 QTR3state33 QTR3state34 QTR3state35 QTR3state36
               QTR3state37 QTR3state38 QTR3state39 QTR3state40 QTR3state42
               QTR3state43 QTR3state44 QTR3state46 QTR3state47 QTR3state48
               QTR3state49
. eststo model2
.
. reg  LWKLYWGE EDUC YR0-YR8 AGEQ AGEQSQ state1-state50
note: state50 omitted because of collinearity
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 1693.60039 | 61 | 27.7639409 | Number of obs | = 26,913 |
| Residual | 14578.9893 | 26,851 | .542958895 | F(61, 26851) | = 51.13 |
| | | | | Prob > F | = 0.0000 |
| | | | | R-squared | = 0.1041 |
| | | | | Adj R-squared | = 0.1020 |
| Total | 16272.5897 | 26,912 | .604659248 | Root MSE | = .73686 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0671376 | .0013429 | 49.99 | 0.000 | .0645054 | .0697698 |
| YR0 | .1025203 | .1473334 | 0.70 | 0.487 | -.1862609 | .3913014 |
| YR1 | .1310293 | .1315667 | 1.00 | 0.319 | -.1268484 | .3889069 |
| YR2 | .1563565 | .1191114 | 1.31 | 0.189 | -.077108 | .389821 |
| YR3 | .149161 | .1082373 | 1.38 | 0.168 | -.0629898 | .3613118 |
| YR4 | .1616163 | .0975046 | 1.66 | 0.097 | -.0294978 | .3527303 |
| YR5 | .093644 | .0850346 | 1.10 | 0.271 | -.0730283 | .2603163 |
| YR6 | .115137 | .0707145 | 1.63 | 0.103 | -.0234671 | .2537411 |
| YR7 | .0490787 | .0529829 | 0.93 | 0.354 | -.0547706 | .152928 |
| YR8 | .0337596 | .032778 | 1.03 | 0.303 | -.0304869 | .0980061 |
| AGEQ | -.3098555 | .2538355 | -1.22 | 0.222 | -.8073864 | .1876754 |
| AGEQSQ | .0033271 | .0028194 | 1.18 | 0.238 | -.002199 | .0088532 |
| state1 | -.3980529 | .4257756 | -0.93 | 0.350 | -1.232595 | .4364896 |
| state2 | -.2344015 | .4989846 | -0.47 | 0.639 | -1.212438 | .7436345 |
| state3 | -.2273057 | .450292 | -0.50 | 0.614 | -1.109902 | .6552902 |
| state4 | -.3214654 | .4261205 | -0.75 | 0.451 | -1.156684 | .5137531 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state5 | -.3736022 | .4283635 | -0.87 | 0.383 | -1.213217 | .4660127 |
| state6 | -.6361923 | .4757293 | -1.34 | 0.181 | -1.568647 | .2962621 |
| state7 | -.3870675 | .4328628 | -0.89 | 0.371 | -1.235501 | .4613663 |
| state8 | -.4638712 | .4352084 | -1.07 | 0.286 | -1.316902 | .38916 |
| state9 | -.2361937 | .4274589 | -0.55 | 0.581 | -1.074036 | .6016482 |
| state10 | -.4219744 | .4262375 | -0.99 | 0.322 | -1.257422 | .4134734 |
| state11 | -.4257865 | .425791 | -1.00 | 0.317 | -1.260359 | .4087862 |
| state12 | -.3213743 | .5211485 | -0.62 | 0.537 | -1.342853 | .700104 |
| state13 | -.2443425 | .4265633 | -0.57 | 0.567 | -1.080429 | .5917439 |
| state14 | -.3173996 | .4283438 | -0.74 | 0.459 | -1.156976 | .5221767 |
| state15 | -.3811697 | .4411555 | -0.86 | 0.388 | -1.245858 | .4835183 |
| state16 | -.2881706 | .4309206 | -0.67 | 0.504 | -1.132797 | .5564563 |
| state17 | -.3388926 | .4272074 | -0.79 | 0.428 | -1.176242 | .4984563 |
| state18 | -.3555126 | .4258717 | -0.83 | 0.404 | -1.190243 | .4792182 |
| state19 | -.6200226 | .5381717 | -1.15 | 0.249 | -1.674867 | .4348222 |
| state20 | -.4079817 | .4265366 | -0.96 | 0.339 | -1.244016 | .4280524 |
| state21 | -.2336627 | .4323085 | -0.54 | 0.589 | -1.08101 | .6136845 |
| state22 | -.1873272 | .4272053 | -0.44 | 0.661 | -1.024672 | .6500175 |
| state23 | -.3247761 | .4548989 | -0.71 | 0.475 | -1.216402 | .5668497 |
| state24 | -.3574806 | .4257797 | -0.84 | 0.401 | -1.192031 | .4770699 |
| state25 | -.3427546 | .4269057 | -0.80 | 0.422 | -1.179512 | .494003 |
| state26 | -.0158626 | .5381958 | -0.03 | 0.976 | -1.070754 | 1.039029 |
| state27 | -.6127812 | .4428824 | -1.38 | 0.166 | -1.480854 | .2552915 |
| state28 | -.1737512 | .6728546 | -0.26 | 0.796 | -1.492581 | 1.145079 |
| state29 | .0328341 | .5628682 | 0.06 | 0.953 | -1.070417 | 1.136085 |
| state30 | -.3783334 | .4269965 | -0.89 | 0.376 | -1.215269 | .4586021 |
| state31 | -.2393246 | .5085657 | -0.47 | 0.638 | -1.23614 | .7574907 |
| state32 | -.3423812 | .4261932 | -0.80 | 0.422 | -1.177742 | .4929798 |
| state33 | -.4860898 | .4257784 | -1.14 | 0.254 | -1.320638 | .3484583 |
| state34 | -.2425348 | .508578 | -0.48 | 0.633 | -1.239374 | .7543048 |
| state35 | -.261912 | .4264568 | -0.61 | 0.539 | -1.09779 | .5739657 |
| state36 | -.4093888 | .4272306 | -0.96 | 0.338 | -1.246783 | .4280056 |
| state37 | -.3809929 | .5211084 | -0.73 | 0.465 | -1.402393 | .6404068 |
| state38 | -.3236637 | .426198 | -0.76 | 0.448 | -1.159034 | .5117066 |
| state39 | -.274063 | .4477476 | -0.61 | 0.540 | -1.151672 | .6035457 |
| state40 | -.4829989 | .4258447 | -1.13 | 0.257 | -1.317677 | .3516791 |
| state41 | -.2147974 | .5381932 | -0.40 | 0.690 | -1.269684 | .8400894 |
| state42 | -.3562224 | .426157 | -0.84 | 0.403 | -1.191513 | .4790676 |
| state43 | -.4164101 | .42588 | -0.98 | 0.328 | -1.251157 | .4183369 |
| state44 | -.3136464 | .5382253 | -0.58 | 0.560 | -1.368596 | .7413033 |
| state45 | -.5650543 | .5628327 | -1.00 | 0.315 | -1.668236 | .5381272 |
| state46 | -.4024188 | .4259393 | -0.94 | 0.345 | -1.237282 | .4324445 |
| state47 | -.5108508 | .4419842 | -1.16 | 0.248 | -1.377163 | .3554614 |
| state48 | -.3468328 | .4278944 | -0.81 | 0.418 | -1.185528 | .4918627 |
| state49 | -.2594186 | .4383557 | -0.59 | 0.554 | -1.118619 | .5997816 |
| state50 | 0 | (omitted) | | | | |
| _cons | 12.24718 | 5.690485 | 2.15 | 0.031 | 1.093533 | 23.40083 |

```
. eststo model3

.
. ivregress 2sls LWKLYWGE YR0-YR8 AGEQ AGEQSQ state1-state50 (EDUC = QTR1YR0-QTR1YR9 QTR2YR0-QTR2YR9 QTR3YR0-QTR3YR9 YR0-YR8 Q
note: state50 omitted because of collinearity
note: QTR1state28 omitted because of collinearity
note: QTR1state29 omitted because of collinearity
note: QTR1state37 omitted because of collinearity
note: QTR1state45 omitted because of collinearity
note: QTR1state49 omitted because of collinearity
note: QTR1state50 omitted because of collinearity
note: QTR2state12 omitted because of collinearity
note: QTR2state26 omitted because of collinearity
note: QTR2state28 omitted because of collinearity
note: QTR2state29 omitted because of collinearity
note: QTR2state44 omitted because of collinearity
note: QTR2state49 omitted because of collinearity
note: QTR2state50 omitted because of collinearity
note: QTR3state28 omitted because of collinearity
note: QTR3state41 omitted because of collinearity
note: QTR3state45 omitted because of collinearity
note: QTR3state50 omitted because of collinearity
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
note: QTR3state49 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =     26,913
                                                  Wald chi2(61)   =     628.02
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1021
```

Root MSE = .73684

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0566985 | .0199186 | 2.85 | 0.004 | .0176588 | .0957382 |
| YR0 | .1199328 | .151012 | 0.79 | 0.427 | -.1760452 | .4159108 |
| YR1 | .1494307 | .1361473 | 1.10 | 0.272 | -.1174132 | .4162745 |
| YR2 | .1733328 | .1234154 | 1.40 | 0.160 | -.068557 | .4152225 |
| YR3 | .1644052 | .1120583 | 1.47 | 0.142 | -.055225 | .3840354 |
| YR4 | .1752848 | .1009152 | 1.74 | 0.082 | -.0225053 | .373075 |
| YR5 | .1052733 | .0878678 | 1.20 | 0.231 | -.0669443 | .277491 |
| YR6 | .1239604 | .0726806 | 1.71 | 0.088 | -.018491 | .2664118 |
| YR7 | .05582 | .0545139 | 1.02 | 0.306 | -.0510254 | .1626653 |
| YR8 | .037664 | .0336094 | 1.12 | 0.262 | -.0282093 | .1035373 |
| AGEQ | -.3256157 | .2555919 | -1.27 | 0.203 | -.8265666 | .1753352 |
| AGEQSQ | .0034661 | .0028316 | 1.22 | 0.221 | -.0020838 | .0090161 |
| state1 | -.4285394 | .4297007 | -1.00 | 0.319 | -1.270737 | .4136585 |
| state2 | -.2658281 | .502544 | -0.53 | 0.597 | -1.250796 | .7191401 |
| state3 | -.2384514 | .4507785 | -0.53 | 0.597 | -1.121961 | .6450582 |
| state4 | -.3508647 | .429768 | -0.82 | 0.414 | -1.193195 | .4914651 |
| state5 | -.3812932 | .4286011 | -0.89 | 0.374 | -1.221336 | .4587496 |
| state6 | -.6450433 | .4760137 | -1.36 | 0.175 | -1.578013 | .2879264 |
| state7 | -.398308 | .4333788 | -0.92 | 0.358 | -1.247715 | .4510988 |
| state8 | -.4911503 | .4382832 | -1.12 | 0.262 | -1.35017 | .367869 |
| state9 | -.2493808 | .428183 | -0.58 | 0.560 | -1.088604 | .5898424 |
| state10 | -.446205 | .4287139 | -1.04 | 0.298 | -1.286469 | .3940587 |
| state11 | -.4629443 | .4316148 | -1.07 | 0.283 | -1.308894 | .3830051 |
| state12 | -.342623 | .5227009 | -0.66 | 0.512 | -1.367098 | .681852 |
| state13 | -.2591386 | .4274798 | -0.61 | 0.544 | -1.096984 | .5787065 |
| state14 | -.3303843 | .4290439 | -0.77 | 0.441 | -1.171295 | .5105264 |
| state15 | -.3892544 | .441411 | -0.88 | 0.378 | -1.254404 | .4758953 |
| state16 | -.3021938 | .4317341 | -0.70 | 0.484 | -1.148377 | .5439896 |
| state17 | -.3633715 | .4297292 | -0.85 | 0.398 | -1.205625 | .4788823 |
| state18 | -.3860128 | .4297994 | -0.90 | 0.369 | -1.228404 | .4563786 |
| state19 | -.6282413 | .5383834 | -1.17 | 0.243 | -1.683453 | .4269707 |
| state20 | -.4338829 | .4293649 | -1.01 | 0.312 | -1.275423 | .4076568 |
| state21 | -.2477418 | .4331259 | -0.57 | 0.567 | -1.096653 | .6011694 |
| state22 | -.2007831 | .4279601 | -0.47 | 0.639 | -1.03957 | .6380033 |
| state23 | -.3324789 | .4551219 | -0.73 | 0.465 | -1.224501 | .5595437 |
| state24 | -.3960398 | .4320489 | -0.92 | 0.359 | -1.24284 | .4507605 |
| state25 | -.3604014 | .4282131 | -0.84 | 0.400 | -1.199684 | .4788808 |
| state26 | -.0293756 | .5387945 | -0.05 | 0.957 | -1.085393 | 1.026642 |
| state27 | -.6295478 | .4440182 | -1.42 | 0.156 | -1.499808 | .2407118 |
| state28 | -.1580095 | .673502 | -0.23 | 0.815 | -1.478049 | 1.16203 |
| state29 | .0462921 | .5634346 | 0.08 | 0.935 | -1.058019 | 1.150604 |
| state30 | -.3965415 | .4283887 | -0.93 | 0.355 | -1.236168 | .443085 |
| state31 | -.2527855 | .509196 | -0.50 | 0.620 | -1.250791 | .7452203 |
| state32 | -.3559043 | .4269576 | -0.83 | 0.405 | -1.192726 | .4809172 |
| state33 | -.518001 | .4300782 | -1.20 | 0.228 | -1.360939 | .3249368 |
| state34 | -.246994 | .508634 | -0.49 | 0.627 | -1.243898 | .7499104 |
| state35 | -.2778713 | .4275252 | -0.65 | 0.516 | -1.115805 | .5600628 |
| state36 | -.4230784 | .4280123 | -0.99 | 0.323 | -1.261967 | .4158102 |
| state37 | -.392331 | .5215399 | -0.75 | 0.452 | -1.414531 | .6298685 |
| state38 | -.337316 | .4269772 | -0.79 | 0.430 | -1.174176 | .499544 |
| state39 | -.2945852 | .4494358 | -0.66 | 0.512 | -1.175463 | .5862927 |
| state40 | -.5206248 | .4318147 | -1.21 | 0.228 | -1.366966 | .3257164 |
| state41 | -.2323306 | .5392115 | -0.43 | 0.667 | -1.289166 | .8245046 |
| state42 | -.3807353 | .428692 | -0.89 | 0.374 | -1.220956 | .4594857 |
| state43 | -.4354824 | .4274125 | -1.02 | 0.308 | -1.273196 | .4022307 |
| state44 | -.3361765 | .5399159 | -0.62 | 0.534 | -1.394392 | .7220391 |
| state45 | -.5828291 | .5638325 | -1.03 | 0.301 | -1.687921 | .5222624 |
| state46 | -.4350097 | .4304221 | -1.01 | 0.312 | -1.278622 | .408602 |
| state47 | -.5103629 | .4419723 | -1.15 | 0.248 | -1.376613 | .3558869 |
| state48 | -.3627252 | .4289502 | -0.85 | 0.398 | -1.203452 | .4780017 |
| state49 | -.2777632 | .4397319 | -0.63 | 0.528 | -1.139622 | .5840954 |
| state50 | 0 | (omitted) | | | | |
| _cons | 12.80735 | 5.789359 | 2.21 | 0.027 | 1.460412 | 24.15428 |

Instrumented: EDUC
Instruments: YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 AGEQ AGEQSQ state1 state2 state3 state4 state5 state6 state7 state8 state9 state10 state11 state12 state13 state14 state15 state16 state17 state18 state19 state20 state21 state22 state23 state24 state25 state26 state27 state28 state29 state30 state31 state32 state33 state34 state35 state36 state37 state38 state39 state40 state41 state42 state43 state44 state45 state46 state47 state48 state49 QTR1YR0 QTR1YR1 QTR1YR2

```
QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9
QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6
QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3
QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8 QTR1state1 QTR1state2
QTR1state3 QTR1state4 QTR1state5 QTR1state6 QTR1state7
QTR1state8 QTR1state9 QTR1state10 QTR1state11 QTR1state12
QTR1state13 QTR1state14 QTR1state15 QTR1state16 QTR1state17
QTR1state18 QTR1state19 QTR1state20 QTR1state21 QTR1state22
QTR1state23 QTR1state24 QTR1state25 QTR1state26 QTR1state27
QTR1state30 QTR1state31 QTR1state32 QTR1state33 QTR1state34
QTR1state35 QTR1state36 QTR1state38 QTR1state39 QTR1state40
QTR1state41 QTR1state42 QTR1state43 QTR1state44 QTR1state46
QTR1state47 QTR1state48 QTR2state1 QTR2state2 QTR2state3
QTR2state4 QTR2state5 QTR2state6 QTR2state7 QTR2state8
QTR2state9 QTR2state10 QTR2state11 QTR2state13 QTR2state14
QTR2state15 QTR2state16 QTR2state17 QTR2state18 QTR2state19
QTR2state20 QTR2state21 QTR2state22 QTR2state23 QTR2state24
QTR2state25 QTR2state27 QTR2state30 QTR2state31 QTR2state32
QTR2state33 QTR2state34 QTR2state35 QTR2state36 QTR2state37
QTR2state38 QTR2state39 QTR2state40 QTR2state41 QTR2state42
QTR2state43 QTR2state45 QTR2state46 QTR2state47 QTR2state48
QTR3state1 QTR3state2 QTR3state3 QTR3state4 QTR3state5
QTR3state6 QTR3state7 QTR3state8 QTR3state9 QTR3state10
QTR3state11 QTR3state12 QTR3state13 QTR3state14 QTR3state15
QTR3state16 QTR3state17 QTR3state18 QTR3state19 QTR3state20
QTR3state21 QTR3state22 QTR3state23 QTR3state24 QTR3state25
QTR3state26 QTR3state27 QTR3state29 QTR3state30 QTR3state31
QTR3state32 QTR3state33 QTR3state34 QTR3state35 QTR3state36
QTR3state37 QTR3state38 QTR3state39 QTR3state40 QTR3state42
QTR3state43 QTR3state44 QTR3state46 QTR3state47 QTR3state48
. eststo model4

.
. reg  LWKLYWGE EDUC MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8  state1-state50
note: state50 omitted because of collinearity
```

| Source | SS | df | MS | Number of obs | = | 26,913 |
|---|---|---|---|---|---|---|
| | | | | F(69, 26843) | = | 68.64 |
| Model | 2440.63357 | 69 | 35.371501 | Prob > F | = | 0.0000 |
| Residual | 13831.9561 | 26,843 | .515290993 | R-squared | = | 0.1500 |
| | | | | Adj R-squared | = | 0.1478 |
| Total | 16272.5897 | 26,912 | .604659248 | Root MSE | = | .71784 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0575879 | .0013462 | 42.78 | 0.000 | .0549494 | .0602265 |
| MARRIED | .2215606 | .0100371 | 22.07 | 0.000 | .2018874 | .2412339 |
| SMSA | -.188513 | .014205 | -13.27 | 0.000 | -.2163555 | -.1606706 |
| NEWENG | -.0914194 | .0400377 | -2.28 | 0.022 | -.1698954 | -.0129434 |
| MIDATL | -.0847978 | .0219145 | -3.87 | 0.000 | -.1277513 | -.0418442 |
| ENOCENT | .0804805 | .0196001 | 4.11 | 0.000 | .0420633 | .1188978 |
| WNOCENT | -.0889527 | .030535 | -2.91 | 0.004 | -.1488029 | -.0291026 |
| SOATL | -.2123914 | .0209811 | -10.12 | 0.000 | -.2535154 | -.1712674 |
| ESOCENT | -.3087484 | .0240506 | -12.84 | 0.000 | -.3558889 | -.261608 |
| WSOCENT | -.1916138 | .0214712 | -8.92 | 0.000 | -.2336984 | -.1495292 |
| MT | -.0669271 | .0404594 | -1.65 | 0.098 | -.1462297 | .0123755 |
| YR0 | .0072737 | .0193483 | 0.38 | 0.707 | -.03065 | .0451974 |
| YR1 | .0237533 | .0201133 | 1.18 | 0.238 | -.0156699 | .0631765 |
| YR2 | .0238459 | .0189778 | 1.26 | 0.209 | -.0133516 | .0610433 |
| YR3 | .0217786 | .0192432 | 1.13 | 0.258 | -.015939 | .0594962 |
| YR4 | .0351954 | .0190056 | 1.85 | 0.064 | -.0020566 | .0724474 |
| YR5 | -.0185394 | .0186076 | -1.00 | 0.319 | -.0550112 | .0179323 |
| YR6 | .0213676 | .0189035 | 1.13 | 0.258 | -.0156844 | .0584195 |
| YR7 | -.0174294 | .0188152 | -0.93 | 0.354 | -.0543081 | .0194494 |
| YR8 | -.001769 | .0186045 | -0.10 | 0.924 | -.0382348 | .0346968 |
| state1 | -.3889516 | .4150451 | -0.94 | 0.349 | -1.202462 | .4245586 |
| state2 | -.3110963 | .4861364 | -0.64 | 0.522 | -1.263949 | .6417565 |
| state3 | -.282107 | .4386906 | -0.64 | 0.520 | -1.141964 | .5777497 |
| state4 | -.3780921 | .4153493 | -0.91 | 0.363 | -1.192198 | .4360142 |
| state5 | -.4696719 | .4175616 | -1.12 | 0.261 | -1.288114 | .3487706 |
| state6 | -.6660707 | .4636338 | -1.44 | 0.151 | -1.574817 | .2426758 |
| state7 | -.4092047 | .4226096 | -0.97 | 0.333 | -1.237542 | .4191323 |
| state8 | -.3617275 | .4242388 | -0.85 | 0.394 | -1.193258 | .4698028 |
| state9 | -.15335 | .4167028 | -0.37 | 0.713 | -.9701092 | .6634093 |
| state10 | -.3747271 | .4154827 | -0.90 | 0.367 | -1.189095 | .4396406 |
| state11 | -.4075705 | .4150355 | -0.98 | 0.326 | -1.221062 | .4059209 |
| state12 | -.3132433 | .5077699 | -0.62 | 0.537 | -1.308499 | .6820123 |
| state13 | -.4004124 | .4158594 | -0.96 | 0.336 | -1.215519 | .4146937 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state14 | -.4739532 | .4176151 | -1.13 | 0.256 | -1.292501 | .3445942 |
| state15 | -.3642296 | .4301227 | -0.85 | 0.397 | -1.207293 | .4788335 |
| state16 | -.3225912 | .4201385 | -0.77 | 0.443 | -1.146085 | .5009023 |
| state17 | -.3047875 | .4165085 | -0.73 | 0.464 | -1.121166 | .511591 |
| state18 | -.3572391 | .4151912 | -0.86 | 0.390 | -1.171036 | .4565574 |
| state19 | -.6212714 | .5246447 | -1.18 | 0.236 | -1.649602 | .4070597 |
| state20 | -.325452 | .4157961 | -0.78 | 0.434 | -1.140434 | .4895302 |
| state21 | -.2432006 | .4218905 | -0.58 | 0.564 | -1.070128 | .5837269 |
| state22 | -.346178 | .4164875 | -0.83 | 0.406 | -1.162515 | .4701593 |
| state23 | -.3281256 | .4434702 | -0.74 | 0.459 | -1.19735 | .5410991 |
| state24 | -.3797503 | .4150708 | -0.91 | 0.360 | -1.193311 | .4338103 |
| state25 | -.3865665 | .4163521 | -0.93 | 0.353 | -1.202639 | .4295055 |
| state26 | -.0502568 | .5243649 | -0.10 | 0.924 | -1.078039 | .9775258 |
| state27 | -.6526191 | .4317157 | -1.51 | 0.131 | -1.498804 | .1935663 |
| state28 | -.3721761 | .6555973 | -0.57 | 0.570 | -1.657181 | .9128289 |
| state29 | -.1001711 | .548598 | -0.18 | 0.855 | -1.175452 | .9751097 |
| state30 | -.4028809 | .4163348 | -0.97 | 0.333 | -1.218919 | .4131572 |
| state31 | -.2531483 | .4954842 | -0.51 | 0.609 | -1.224323 | .7180266 |
| state32 | -.357821 | .4155403 | -0.86 | 0.389 | -1.172302 | .4566597 |
| state33 | -.4232894 | .4150514 | -1.02 | 0.308 | -1.236812 | .3902331 |
| state34 | -.3697945 | .4956692 | -0.75 | 0.456 | -1.341332 | .6017431 |
| state35 | -.4091964 | .4157498 | -0.98 | 0.325 | -1.224088 | .405695 |
| state36 | -.4209857 | .4164155 | -1.01 | 0.312 | -1.237182 | .3952106 |
| state37 | -.5399841 | .5078871 | -1.06 | 0.288 | -1.535469 | .4555011 |
| state38 | -.3457257 | .4155264 | -0.83 | 0.405 | -1.160179 | .4687278 |
| state39 | -.3284707 | .4370836 | -0.75 | 0.452 | -1.185177 | .528236 |
| state40 | -.4460442 | .4151174 | -1.07 | 0.283 | -1.259696 | .3676077 |
| state41 | -.2254486 | .5244863 | -0.43 | 0.667 | -1.253469 | .802572 |
| state42 | -.3363844 | .4154581 | -0.81 | 0.418 | -1.150704 | .4779351 |
| state43 | -.4027725 | .4152008 | -0.97 | 0.332 | -1.216588 | .4110428 |
| state44 | -.2006026 | .524506 | -0.38 | 0.702 | -1.228662 | .8274567 |
| state45 | -.6291755 | .5486274 | -1.15 | 0.251 | -1.704514 | .4461629 |
| state46 | -.3417026 | .4152045 | -0.82 | 0.411 | -1.155525 | .47212 |
| state47 | -.4755618 | .4307253 | -1.10 | 0.270 | -1.319806 | .3686823 |
| state48 | -.397552 | .4170647 | -0.95 | 0.340 | -1.215021 | .4199166 |
| state49 | -.3689256 | .4272551 | -0.86 | 0.388 | -1.206368 | .4685168 |
| state50 | 0 | (omitted) | | | | |
| _cons | 5.239367 | .4155948 | 12.61 | 0.000 | 4.42478 | 6.053955 |

```
. eststo model5
.
. ivregress 2sls LWKLYWGE YR0-YR8 MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT  state1-state50 (EDUC = Q
> tate50)
note: state50 omitted because of collinearity
note: QTR1state28 omitted because of collinearity
note: QTR1state29 omitted because of collinearity
note: QTR1state37 omitted because of collinearity
note: QTR1state45 omitted because of collinearity
note: QTR1state49 omitted because of collinearity
note: QTR1state50 omitted because of collinearity
note: QTR2state12 omitted because of collinearity
note: QTR2state26 omitted because of collinearity
note: QTR2state28 omitted because of collinearity
note: QTR2state29 omitted because of collinearity
note: QTR2state44 omitted because of collinearity
note: QTR2state49 omitted because of collinearity
note: QTR2state50 omitted because of collinearity
note: QTR3state28 omitted because of collinearity
note: QTR3state41 omitted because of collinearity
note: QTR3state45 omitted because of collinearity
note: QTR3state50 omitted because of collinearity
Instrumental variables (2SLS) regression          Number of obs   =     26,913
                                                  Wald chi2(69)   =    2912.18
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1477
                                                  Root MSE        =     .71787
```

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0461095 | .0186767 | 2.47 | 0.014 | .0095037 | .0827152 |
| YR0 | -.0049558 | .0277182 | -0.18 | 0.858 | -.0592826 | .0493709 |
| YR1 | .0149464 | .0246752 | 0.61 | 0.545 | -.033416 | .0633089 |
| YR2 | .0153188 | .0234882 | 0.65 | 0.514 | -.0307172 | .0613548 |
| YR3 | .0146079 | .0224891 | 0.65 | 0.516 | -.0294699 | .0586857 |
| YR4 | .0291705 | .0213741 | 1.36 | 0.172 | -.0127219 | .071063 |
| YR5 | -.0229882 | .01996 | -1.15 | 0.249 | -.062109 | .0161327 |

| | | | | | | |
|---|---|---|---|---|---|---|
| YR6 | .0173868 | .0199779 | 0.87 | 0.384 | -.0217691 | .0565427 |
| YR7 | -.0191343 | .0190185 | -1.01 | 0.314 | -.0564098 | .0181412 |
| YR8 | -.0022082 | .0186191 | -0.12 | 0.906 | -.0387009 | .0342845 |
| MARRIED | .2272091 | .0135935 | 16.71 | 0.000 | .2005663 | .253852 |
| SMSA | -.2053092 | .0307378 | -6.68 | 0.000 | -.2655542 | -.1450642 |
| NEWENG | -.1065496 | .0469692 | -2.27 | 0.023 | -.1986075 | -.0144917 |
| MIDATL | -.1020977 | .0356165 | -2.87 | 0.004 | -.1719048 | -.0322905 |
| ENOCENT | .0652634 | .031529 | 2.07 | 0.038 | .0034676 | .1270591 |
| WNOCENT | -.1018416 | .0370135 | -2.75 | 0.006 | -.1743867 | -.0292964 |
| SOATL | -.2347051 | .041852 | -5.61 | 0.000 | -.3167335 | -.1526766 |
| ESOCENT | -.3322815 | .0451339 | -7.36 | 0.000 | -.4207422 | -.2438207 |
| WSOCENT | -.2105833 | .0375339 | -5.61 | 0.000 | -.2841483 | -.1370183 |
| MT | -.0745893 | .0423292 | -1.76 | 0.078 | -.157553 | .0083743 |
| state1 | -.4134344 | .4169634 | -0.99 | 0.321 | -1.230668 | .4037988 |
| state2 | -.3524549 | .4907723 | -0.72 | 0.473 | -1.314351 | .6094412 |
| state3 | -.2979117 | .4394618 | -0.68 | 0.498 | -1.159241 | .5634177 |
| state4 | -.405692 | .4177782 | -0.97 | 0.332 | -1.224522 | .4131382 |
| state5 | -.4866905 | .4184949 | -1.16 | 0.245 | -1.306926 | .3335444 |
| state6 | -.6775596 | .4640318 | -1.46 | 0.144 | -1.587045 | .231926 |
| state7 | -.4177603 | .4228589 | -0.99 | 0.323 | -1.246548 | .4110278 |
| state8 | -.3769975 | .4249833 | -0.89 | 0.375 | -1.209949 | .4559545 |
| state9 | -.1571939 | .4167704 | -0.38 | 0.706 | -.9740488 | .6596611 |
| state10 | -.3912307 | .4163659 | -0.94 | 0.347 | -1.207293 | .4248314 |
| state11 | -.4381732 | .4180172 | -1.05 | 0.295 | -1.257472 | .3811255 |
| state12 | -.3271718 | .5082983 | -0.64 | 0.520 | -1.323418 | .6690746 |
| state13 | -.4131577 | .4163943 | -0.99 | 0.321 | -1.229276 | .4029601 |
| state14 | -.4843385 | .417976 | -1.16 | 0.247 | -1.303556 | .3348794 |
| state15 | -.3669232 | .4301665 | -0.85 | 0.394 | -1.210034 | .4761878 |
| state16 | -.3367111 | .420784 | -0.80 | 0.424 | -1.161433 | .4880104 |
| state17 | -.3221233 | .4174785 | -0.77 | 0.440 | -1.140366 | .4961195 |
| state18 | -.3853632 | .4177132 | -0.92 | 0.356 | -1.204066 | .4333395 |
| state19 | -.6280909 | .5247878 | -1.20 | 0.231 | -1.656656 | .4004743 |
| state20 | -.3420337 | .4166868 | -0.82 | 0.412 | -1.158725 | .4746575 |
| state21 | -.2541875 | .4222883 | -0.60 | 0.547 | -1.081857 | .5734824 |
| state22 | -.3576037 | .416921 | -0.86 | 0.391 | -1.174754 | .4595464 |
| state23 | -.3354108 | .44365 | -0.76 | 0.450 | -1.204949 | .5341273 |
| state24 | -.4132318 | .418633 | -0.99 | 0.324 | -1.233737 | .4072737 |
| state25 | -.4029856 | .4172248 | -0.97 | 0.334 | -1.220731 | .41476 |
| state26 | -.05981 | .5246204 | -0.11 | 0.909 | -1.088047 | .968427 |
| state27 | -.6706386 | .4327266 | -1.55 | 0.121 | -1.518767 | .1774901 |
| state28 | -.359027 | .6559774 | -0.55 | 0.584 | -1.644719 | .9266651 |
| state29 | -.0850627 | .5491732 | -0.15 | 0.877 | -1.161422 | .991297 |
| state30 | -.4168381 | .4169714 | -1.00 | 0.317 | -1.234087 | .4004108 |
| state31 | -.2695691 | .4962252 | -0.54 | 0.587 | -1.242153 | .7030143 |
| state32 | -.3664306 | .415796 | -0.88 | 0.378 | -1.181376 | .4485145 |
| state33 | -.4456667 | .4166579 | -1.07 | 0.285 | -1.262301 | .3709677 |
| state34 | -.3742833 | .4957477 | -0.75 | 0.450 | -1.345931 | .5973643 |
| state35 | -.4227557 | .4163526 | -1.02 | 0.310 | -1.238792 | .3932804 |
| state36 | -.4340935 | .4169794 | -1.04 | 0.298 | -1.251358 | .3831712 |
| state37 | -.5612635 | .5090853 | -1.10 | 0.270 | -1.559052 | .4365252 |
| state38 | -.3545719 | .4157952 | -0.85 | 0.394 | -1.169516 | .4603718 |
| state39 | -.3475392 | .4381996 | -0.79 | 0.428 | -1.206395 | .5113163 |
| state40 | -.4758119 | .4179397 | -1.14 | 0.255 | -1.294959 | .3433349 |
| state41 | -.2414892 | .5251582 | -0.46 | 0.646 | -1.27078 | .787802 |
| state42 | -.3545129 | .4165193 | -0.85 | 0.395 | -1.170876 | .4618499 |
| state43 | -.4195464 | .416113 | -1.01 | 0.313 | -1.235113 | .3960202 |
| state44 | -.2154277 | .5250839 | -0.41 | 0.682 | -1.244573 | .8137178 |
| state45 | -.6423698 | .5490726 | -1.17 | 0.242 | -1.718532 | .4337928 |
| state46 | -.3652192 | .4169756 | -0.88 | 0.381 | -1.182476 | .452038 |
| state47 | -.4703873 | .4308288 | -1.09 | 0.275 | -1.314796 | .3740216 |
| state48 | -.4081485 | .41744 | -0.98 | 0.328 | -1.226316 | .4100189 |
| state49 | -.3860189 | .4281761 | -0.90 | 0.367 | -1.225229 | .4531909 |
| state50 | 0 | (omitted) | | | | |
| _cons | 5.410733 | .5000798 | 10.82 | 0.000 | 4.430595 | 6.390872 |

Instrumented: EDUC
Instruments: YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT state1 state2 state3 state4 state5 state6 state7 state8 state9 state10 state11 state12 state13 state14 state15 state16 state17 state18 state19 state20 state21 state22 state23 state24 state25 state26 state27 state28 state29 state30 state31 state32 state33 state34 state35 state36 state37 state38 state39 state40 state41 state42 state43 state44 state45 state46 state47 state48 state49 QTR1YR0 QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7 QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4 QTR2YR5 QTR2YR6

```
QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1 QTR3YR2 QTR3YR3
QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR7 QTR3YR8 QTR3YR9 QTR1state1
QTR1state2 QTR1state3 QTR1state4 QTR1state5 QTR1state6
QTR1state7 QTR1state8 QTR1state9 QTR1state10 QTR1state11
QTR1state12 QTR1state13 QTR1state14 QTR1state15 QTR1state16
QTR1state17 QTR1state18 QTR1state19 QTR1state20 QTR1state21
QTR1state22 QTR1state23 QTR1state24 QTR1state25 QTR1state26
QTR1state27 QTR1state30 QTR1state31 QTR1state32 QTR1state33
QTR1state34 QTR1state35 QTR1state36 QTR1state38 QTR1state39
QTR1state40 QTR1state41 QTR1state42 QTR1state43 QTR1state44
QTR1state46 QTR1state47 QTR1state48 QTR2state1 QTR2state2
QTR2state3 QTR2state4 QTR2state5 QTR2state6 QTR2state7
QTR2state8 QTR2state9 QTR2state10 QTR2state11 QTR2state13
QTR2state14 QTR2state15 QTR2state16 QTR2state17 QTR2state18
QTR2state19 QTR2state20 QTR2state21 QTR2state22 QTR2state23
QTR2state24 QTR2state25 QTR2state27 QTR2state30 QTR2state31
QTR2state32 QTR2state33 QTR2state34 QTR2state35 QTR2state36
QTR2state37 QTR2state38 QTR2state39 QTR2state40 QTR2state41
QTR2state42 QTR2state43 QTR2state45 QTR2state46 QTR2state47
QTR2state48 QTR3state1 QTR3state2 QTR3state3 QTR3state4
QTR3state5 QTR3state6 QTR3state7 QTR3state8 QTR3state9
QTR3state10 QTR3state11 QTR3state12 QTR3state13 QTR3state14
QTR3state15 QTR3state16 QTR3state17 QTR3state18 QTR3state19
QTR3state20 QTR3state21 QTR3state22 QTR3state23 QTR3state24
QTR3state25 QTR3state26 QTR3state27 QTR3state29 QTR3state30
QTR3state31 QTR3state32 QTR3state33 QTR3state34 QTR3state35
QTR3state36 QTR3state37 QTR3state38 QTR3state39 QTR3state40
QTR3state42 QTR3state43 QTR3state44 QTR3state46 QTR3state47
QTR3state48 QTR3state49
. eststo model6

.
. reg  LWKLYWGE EDUC MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT YR0-YR8 AGEQ AGEQSQ state1-state50
note: state50 omitted because of collinearity
```

| Source | SS | df | MS | Number of obs | = | 26,913 |
|---|---|---|---|---|---|---|
| | | | | F(71, 26841) | = | 66.73 |
| Model | 2441.46685 | 71 | 34.3868571 | Prob > F | = | 0.0000 |
| Residual | 13831.1228 | 26,841 | .515298344 | R-squared | = | 0.1500 |
| | | | | Adj R-squared | = | 0.1478 |
| Total | 16272.5897 | 26,912 | .604659248 | Root MSE | = | .71784 |

| LWKLYWGE | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0575626 | .0013466 | 42.75 | 0.000 | .0549232 | .060202 |
| MARRIED | .2216178 | .0100373 | 22.08 | 0.000 | .2019442 | .2412914 |
| SMSA | -.1884381 | .0142052 | -13.27 | 0.000 | -.216281 | -.1605952 |
| NEWENG | -.0915124 | .0400381 | -2.29 | 0.022 | -.1699891 | -.0130357 |
| MIDATL | -.0849027 | .0219149 | -3.87 | 0.000 | -.127857 | -.0419483 |
| ENOCENT | .0803558 | .0196005 | 4.10 | 0.000 | .0419377 | .1187738 |
| WNOCENT | -.0890545 | .0305357 | -2.92 | 0.004 | -.1489061 | -.0292029 |
| SOATL | -.2124567 | .0209823 | -10.13 | 0.000 | -.253583 | -.1713304 |
| ESOCENT | -.3088246 | .0240509 | -12.84 | 0.000 | -.3559657 | -.2616835 |
| WSOCENT | -.1914707 | .0214725 | -8.92 | 0.000 | -.2335579 | -.1493834 |
| MT | -.0664481 | .0404618 | -1.64 | 0.101 | -.1457554 | .0128592 |
| YR0 | .0640149 | .1435599 | 0.45 | 0.656 | -.21737 | .3453997 |
| YR1 | .1003188 | .1282002 | 0.78 | 0.434 | -.1509602 | .3515978 |
| YR2 | .1133448 | .1160647 | 0.98 | 0.329 | -.114148 | .3408377 |
| YR3 | .1179507 | .1054689 | 1.12 | 0.263 | -.0887738 | .3246753 |
| YR4 | .1315268 | .09501 | 1.38 | 0.166 | -.0546978 | .3177515 |
| YR5 | .0714063 | .0828575 | 0.86 | 0.389 | -.0909987 | .2338114 |
| YR6 | .0987429 | .0689043 | 1.43 | 0.152 | -.0363131 | .2337988 |
| YR7 | .0405223 | .0516268 | 0.78 | 0.433 | -.0606689 | .1417135 |
| YR8 | .0301835 | .0319412 | 0.94 | 0.345 | -.0324229 | .0927899 |
| AGEQ | -.2977883 | .2473113 | -1.20 | 0.229 | -.7825313 | .1869548 |
| AGEQSQ | .0032293 | .0027469 | 1.18 | 0.240 | -.0021547 | .0086134 |
| state1 | -.3857318 | .4150636 | -0.93 | 0.353 | -1.199278 | .4278146 |
| state2 | -.3089579 | .4861787 | -0.64 | 0.525 | -1.261894 | .6439778 |
| state3 | -.2807234 | .4387103 | -0.64 | 0.522 | -1.140619 | .5791717 |
| state4 | -.3751606 | .4153665 | -0.90 | 0.366 | -1.189301 | .4389794 |
| state5 | -.4666317 | .4175782 | -1.12 | 0.264 | -1.285107 | .3518434 |
| state6 | -.6636987 | .4636432 | -1.43 | 0.152 | -1.572464 | .2450662 |
| state7 | -.4052924 | .4226335 | -0.96 | 0.338 | -1.233676 | .4230914 |
| state8 | -.359322 | .4242537 | -0.85 | 0.397 | -1.190881 | .4722374 |
| state9 | -.1500848 | .4167196 | -0.36 | 0.719 | -.9668771 | .6667075 |
| state10 | -.371472 | .4155005 | -0.89 | 0.371 | -1.185875 | .4429308 |
| state11 | -.4044519 | .4150534 | -0.97 | 0.330 | -1.217978 | .4090745 |
| state12 | -.3142945 | .5077833 | -0.62 | 0.536 | -1.309576 | .6809873 |

| | | | | | | |
|---|---|---|---|---|---|---|
| state13 | -.3975848 | .4158753 | -0.96 | 0.339 | -1.212722 | .4175526 |
| state14 | -.4704018 | .4176392 | -1.13 | 0.260 | -1.288996 | .3481928 |
| state15 | -.3617938 | .4301378 | -0.84 | 0.400 | -1.204887 | .4812988 |
| state16 | -.3193901 | .4201576 | -0.76 | 0.447 | -1.142921 | .5041409 |
| state17 | -.3012003 | .4165319 | -0.72 | 0.470 | -1.117625 | .515224 |
| state18 | -.3542973 | .4152071 | -0.85 | 0.393 | -1.168125 | .4595303 |
| state19 | -.617097 | .5246709 | -1.18 | 0.240 | -1.64548 | .4112855 |
| state20 | -.3223423 | .4158153 | -0.78 | 0.438 | -1.137362 | .4926775 |
| state21 | -.2396898 | .4219093 | -0.57 | 0.570 | -1.066654 | .5872745 |
| state22 | -.342726 | .4165083 | -0.82 | 0.411 | -1.159104 | .473652 |
| state23 | -.3242137 | .4435017 | -0.73 | 0.465 | -1.1935 | .5450729 |
| state24 | -.3766898 | .4150889 | -0.91 | 0.364 | -1.190286 | .4369061 |
| state25 | -.3833913 | .4163733 | -0.92 | 0.357 | -1.199505 | .4327222 |
| state26 | -.0461766 | .5243849 | -0.09 | 0.930 | -1.073998 | .9816452 |
| state27 | -.6501056 | .4317302 | -1.51 | 0.132 | -1.496319 | .1961083 |
| state28 | -.3628359 | .6556689 | -0.55 | 0.580 | -1.647981 | .9223096 |
| state29 | -.0983695 | .5486084 | -0.18 | 0.858 | -1.173671 | .9769317 |
| state30 | -.3998373 | .4163551 | -0.96 | 0.337 | -1.215915 | .4162404 |
| state31 | -.2472485 | .4955235 | -0.50 | 0.618 | -1.2185 | .7240034 |
| state32 | -.3548473 | .4155567 | -0.85 | 0.393 | -1.16936 | .4596657 |
| state33 | -.4202191 | .415068 | -1.01 | 0.311 | -1.233774 | .3933358 |
| state34 | -.3693758 | .495675 | -0.75 | 0.456 | -1.340925 | .6021731 |
| state35 | -.4061957 | .4157677 | -0.98 | 0.329 | -1.221122 | .4087307 |
| state36 | -.4179084 | .4164333 | -1.00 | 0.316 | -1.234139 | .3983226 |
| state37 | -.5350737 | .507906 | -1.05 | 0.292 | -1.530596 | .4604486 |
| state38 | -.3425538 | .4155443 | -0.82 | 0.410 | -1.157042 | .4719347 |
| state39 | -.3241516 | .4371086 | -0.74 | 0.458 | -1.180907 | .5326042 |
| state40 | -.4427965 | .4151345 | -1.07 | 0.286 | -1.256482 | .3708888 |
| state41 | -.2253862 | .5245049 | -0.43 | 0.667 | -1.253443 | .8026708 |
| state42 | -.3330576 | .4154781 | -0.80 | 0.423 | -1.147417 | .4813013 |
| state43 | -.3998306 | .4152186 | -0.96 | 0.336 | -1.213681 | .4140195 |
| state44 | -.1981682 | .5245134 | -0.38 | 0.706 | -1.226242 | .8299056 |
| state45 | -.6310592 | .5486333 | -1.15 | 0.250 | -1.706409 | .4442908 |
| state46 | -.3384862 | .4152233 | -0.82 | 0.415 | -1.152346 | .4753733 |
| state47 | -.4695123 | .4307687 | -1.09 | 0.276 | -1.313841 | .3748169 |
| state48 | -.394085 | .417084 | -0.94 | 0.345 | -1.211592 | .4234215 |
| state49 | -.3660174 | .4272826 | -0.86 | 0.392 | -1.203514 | .4714788 |
| state50 | 0 | (omitted) | | | | |
| _cons | 12.00428 | 5.544168 | 2.17 | 0.030 | 1.137417 | 22.87114 |

```
. eststo model7
.
. ivregress 2sls LWKLYWGE YR0-YR8 MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ state1-state5
> tate1-QTR3state50)
note: state50 omitted because of collinearity
note: QTR1state28 omitted because of collinearity
note: QTR1state29 omitted because of collinearity
note: QTR1state37 omitted because of collinearity
note: QTR1state45 omitted because of collinearity
note: QTR1state49 omitted because of collinearity
note: QTR1state50 omitted because of collinearity
note: QTR2state12 omitted because of collinearity
note: QTR2state26 omitted because of collinearity
note: QTR2state28 omitted because of collinearity
note: QTR2state29 omitted because of collinearity
note: QTR2state44 omitted because of collinearity
note: QTR2state49 omitted because of collinearity
note: QTR2state50 omitted because of collinearity
note: QTR3state28 omitted because of collinearity
note: QTR3state41 omitted because of collinearity
note: QTR3state45 omitted because of collinearity
note: QTR3state50 omitted because of collinearity
note: QTR3YR7 dropped due to collinearity
note: QTR3YR9 dropped due to collinearity
note: QTR3state49 dropped due to collinearity
Instrumental variables (2SLS) regression          Number of obs   =     26,913
                                                  Wald chi2(71)   =    2902.48
                                                  Prob > chi2     =     0.0000
                                                  R-squared       =     0.1442
                                                  Root MSE        =     .71934
```

| LWKLYWGE | Coef. | Std. Err. | z | P>\|z\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| EDUC | .0392871 | .0199203 | 1.97 | 0.049 | .000244 | .0783303 |
| YR0 | .0897649 | .1465588 | 0.61 | 0.540 | -.1974852 | .3770149 |
| YR1 | .128278 | .1320164 | 0.97 | 0.331 | -.1304693 | .3870254 |

| | | | | | | |
|---|---|---|---|---|---|---|
| YR2 | .1381325 | .1193895 | 1.16 | 0.247 | -.0958666 | .3721317 |
| YR3 | .1407476 | .1085574 | 1.30 | 0.195 | -.0720209 | .3535162 |
| YR4 | .1516488 | .0976903 | 1.55 | 0.121 | -.0398206 | .3431182 |
| YR5 | .0889579 | .0851957 | 1.04 | 0.296 | -.0780226 | .2559383 |
| YR6 | .1116465 | .0704592 | 1.58 | 0.113 | -.0264509 | .249744 |
| YR7 | .0510542 | .0529869 | 0.96 | 0.335 | -.0527982 | .1549066 |
| YR8 | .0362759 | .0326862 | 1.11 | 0.267 | -.0277879 | .1003396 |
| MARRIED | .2306119 | .0140299 | 16.44 | 0.000 | .2031139 | .2581099 |
| SMSA | -.2151576 | .0323568 | -6.65 | 0.000 | -.2785759 | -.1517394 |
| NEWENG | -.1155958 | .0479132 | -2.41 | 0.016 | -.209504 | -.0216876 |
| MIDATL | -.1124278 | .0371252 | -3.03 | 0.002 | -.1851918 | -.0396637 |
| ENOCENT | .0561253 | .0328654 | 1.71 | 0.088 | -.0082898 | .1205403 |
| WNOCENT | -.1095352 | .0378469 | -2.89 | 0.004 | -.1837138 | -.0353565 |
| SOATL | -.2479178 | .0439234 | -5.64 | 0.000 | -.334006 | -.1618296 |
| ESOCENT | -.3462975 | .0473451 | -7.31 | 0.000 | -.4390922 | -.2535028 |
| WSOCENT | -.2215789 | .03918 | -5.66 | 0.000 | -.2983704 | -.1447875 |
| MT | -.078519 | .0426181 | -1.84 | 0.065 | -.1620489 | .005011 |
| AGEQ | -.3233654 | .2493797 | -1.30 | 0.195 | -.8121407 | .1654099 |
| AGEQSQ | .0034571 | .0027637 | 1.25 | 0.211 | -.0019597 | .0088739 |
| state1 | -.4234978 | .4179506 | -1.01 | 0.311 | -1.242666 | .3956704 |
| state2 | -.372843 | .4921197 | -0.76 | 0.449 | -1.33738 | .5916939 |
| state3 | -.3046748 | .4403947 | -0.69 | 0.489 | -1.167832 | .5584829 |
| state4 | -.4179297 | .4188219 | -1.00 | 0.318 | -1.238806 | .4029463 |
| state5 | -.4925911 | .4193989 | -1.17 | 0.240 | -1.314598 | .3294156 |
| state6 | -.6812073 | .4649986 | -1.46 | 0.143 | -1.592588 | .2301732 |
| state7 | -.4175222 | .4237223 | -0.99 | 0.324 | -1.248003 | .4129581 |
| state8 | -.3825589 | .4258874 | -0.90 | 0.369 | -1.217283 | .4521651 |
| state9 | -.1550873 | .4176227 | -0.37 | 0.710 | -.9736128 | .6634382 |
| state10 | -.39657 | .4172593 | -0.95 | 0.342 | -1.214383 | .4212432 |
| state11 | -.4519778 | .4191166 | -1.08 | 0.281 | -1.273431 | .3694756 |
| state12 | -.3358082 | .5093782 | -0.66 | 0.510 | -1.334171 | .6625546 |
| state13 | -.4167691 | .4172631 | -1.00 | 0.318 | -1.23459 | .4010516 |
| state14 | -.4855251 | .4188318 | -1.16 | 0.246 | -1.30642 | .3353701 |
| state15 | -.3650011 | .4310475 | -0.85 | 0.397 | -1.209839 | .4798366 |
| state16 | -.3406308 | .4216656 | -0.81 | 0.419 | -1.16708 | .4858187 |
| state17 | -.3274136 | .4183715 | -0.78 | 0.434 | -1.147407 | .4925794 |
| state18 | -.3979638 | .4187727 | -0.95 | 0.342 | -1.218743 | .4228156 |
| state19 | -.6263275 | .5258592 | -1.19 | 0.234 | -1.656993 | .4043376 |
| state20 | -.3474991 | .4175783 | -0.83 | 0.405 | -1.165938 | .4709392 |
| state21 | -.2559801 | .4231587 | -0.60 | 0.545 | -1.085356 | .5733958 |
| state22 | -.3596302 | .4177801 | -0.86 | 0.389 | -1.178464 | .4592038 |
| state23 | -.3341247 | .4445558 | -0.75 | 0.452 | -1.205438 | .5371888 |
| state24 | -.4287864 | .4197938 | -1.02 | 0.307 | -1.251567 | .3939942 |
| state25 | -.4082151 | .4181127 | -0.98 | 0.329 | -1.227701 | .4112706 |
| state26 | -.0600358 | .5256928 | -0.11 | 0.909 | -1.090375 | .9703033 |
| state27 | -.6777239 | .4336705 | -1.56 | 0.118 | -1.527702 | .1722546 |
| state28 | -.3420042 | .6574246 | -0.52 | 0.603 | -1.630533 | .9465243 |
| state29 | -.0746515 | .5503554 | -0.14 | 0.892 | -1.153328 | 1.004025 |
| state30 | -.4207764 | .4178429 | -1.01 | 0.314 | -1.239733 | .3981807 |
| state31 | -.2714464 | .497252 | -0.55 | 0.585 | -1.246042 | .7031496 |
| state32 | -.3674339 | .4166469 | -0.88 | 0.378 | -1.184047 | .449179 |
| state33 | -.454713 | .4176203 | -1.09 | 0.276 | -1.273234 | .3638078 |
| state34 | -.376066 | .4967603 | -0.76 | 0.449 | -1.349698 | .5975663 |
| state35 | -.4265973 | .4172237 | -1.02 | 0.307 | -1.244341 | .3911461 |
| state36 | -.4376002 | .4178494 | -1.05 | 0.295 | -1.25657 | .3813696 |
| state37 | -.5683746 | .5102503 | -1.11 | 0.265 | -1.568447 | .4316976 |
| state38 | -.355464 | .4166461 | -0.85 | 0.394 | -1.172075 | .4611473 |
| state39 | -.3530722 | .4391464 | -0.80 | 0.421 | -1.213783 | .507639 |
| state40 | -.4890396 | .4190275 | -1.17 | 0.243 | -1.310318 | .3322392 |
| state41 | -.2498405 | .5262693 | -0.47 | 0.635 | -1.281309 | .7816284 |
| state42 | -.3606498 | .4174231 | -0.86 | 0.388 | -1.178784 | .4574845 |
| state43 | -.4253502 | .4170076 | -1.02 | 0.308 | -1.24267 | .3919697 |
| state44 | -.2214779 | .5262165 | -0.42 | 0.674 | -1.252843 | .8098874 |
| state45 | -.6523559 | .5502632 | -1.19 | 0.236 | -1.730852 | .4261401 |
| state46 | -.3747007 | .4179475 | -0.90 | 0.370 | -1.193863 | .4444614 |
| state47 | -.4593918 | .4318059 | -1.06 | 0.287 | -1.305716 | .3869321 |
| state48 | -.4097297 | .4182986 | -0.98 | 0.327 | -1.22958 | .4101204 |
| state49 | -.3916962 | .4290819 | -0.91 | 0.361 | -1.232681 | .4492889 |
| state50 | 0 | (omitted) | | | | |
| _cons | 12.93901 | 5.647901 | 2.29 | 0.022 | 1.869328 | 24.00869 |

Instrumented: EDUC
Instruments: YR0 YR1 YR2 YR3 YR4 YR5 YR6 YR7 YR8 MARRIED SMSA NEWENG MIDATL ENOCENT WNOCENT SOATL ESOCENT WSOCENT MT AGEQ AGEQSQ state1 state2 state3 state4 state5 state6 state7 state8 state9 state10 state11 state12 state13 state14 state15 state16 state17 state18 state19 state20 state21 state22

```
                state23 state24 state25 state26 state27 state28 state29
                state30 state31 state32 state33 state34 state35 state36
                state37 state38 state39 state40 state41 state42 state43
                state44 state45 state46 state47 state48 state49 QTR1YR0
                QTR1YR1 QTR1YR2 QTR1YR3 QTR1YR4 QTR1YR5 QTR1YR6 QTR1YR7
                QTR1YR8 QTR1YR9 QTR2YR0 QTR2YR1 QTR2YR2 QTR2YR3 QTR2YR4
                QTR2YR5 QTR2YR6 QTR2YR7 QTR2YR8 QTR2YR9 QTR3YR0 QTR3YR1
                QTR3YR2 QTR3YR3 QTR3YR4 QTR3YR5 QTR3YR6 QTR3YR8 QTR1state1
                QTR1state2 QTR1state3 QTR1state4 QTR1state5 QTR1state6
                QTR1state7 QTR1state8 QTR1state9 QTR1state10 QTR1state11
                QTR1state12 QTR1state13 QTR1state14 QTR1state15 QTR1state16
                QTR1state17 QTR1state18 QTR1state19 QTR1state20 QTR1state21
                QTR1state22 QTR1state23 QTR1state24 QTR1state25 QTR1state26
                QTR1state27 QTR1state30 QTR1state31 QTR1state32 QTR1state33
                QTR1state34 QTR1state35 QTR1state36 QTR1state38 QTR1state39
                QTR1state40 QTR1state41 QTR1state42 QTR1state43 QTR1state44
                QTR1state46 QTR1state47 QTR1state48 QTR2state1 QTR2state2
                QTR2state3 QTR2state4 QTR2state5 QTR2state6 QTR2state7
                QTR2state8 QTR2state9 QTR2state10 QTR2state11 QTR2state13
                QTR2state14 QTR2state15 QTR2state16 QTR2state17 QTR2state18
                QTR2state19 QTR2state20 QTR2state21 QTR2state22 QTR2state23
                QTR2state24 QTR2state25 QTR2state27 QTR2state30 QTR2state31
                QTR2state32 QTR2state33 QTR2state34 QTR2state35 QTR2state36
                QTR2state37 QTR2state38 QTR2state39 QTR2state40 QTR2state41
                QTR2state42 QTR2state43 QTR2state45 QTR2state46 QTR2state47
                QTR2state48 QTR3state1 QTR3state2 QTR3state3 QTR3state4
                QTR3state5 QTR3state6 QTR3state7 QTR3state8 QTR3state9
                QTR3state10 QTR3state11 QTR3state12 QTR3state13 QTR3state14
                QTR3state15 QTR3state16 QTR3state17 QTR3state18 QTR3state19
                QTR3state20 QTR3state21 QTR3state22 QTR3state23 QTR3state24
                QTR3state25 QTR3state26 QTR3state27 QTR3state29 QTR3state30
                QTR3state31 QTR3state32 QTR3state33 QTR3state34 QTR3state35
                QTR3state36 QTR3state37 QTR3state38 QTR3state39 QTR3state40
                QTR3state42 QTR3state43 QTR3state44 QTR3state46 QTR3state47
                QTR3state48
. eststo model8
.
. **********  Table Decoration ********
.
. label variable EDUC   "Years of education"
. label variable RACE   "Race(1 = black)"
. label variable SMSA   "SMSA (1 = center city)"
. label variable MARRIED   "Married (1 = married)"
. label variable AGEQ   "Age"
. label variable AGEQSQ   "Age-squared"
.
. /* esttab using "C:\Users\Win\OneDrive - Chulalongkorn University\Chula\junior2\Microecono\reproduce_project\01_paper\tables\
> order(EDUC RACE SMSA MARRIED AGEQ AGEQSQ) title("TABLE VIII") nonumbers mtitles("(1) OLS" "(2) TSLS" "(3) OLS" "(4) TSLS" "(
.
. /* log close */
.
end of do-file
.
```