```
------------------------------------------------------------------------------------------
> ------------------------------
      name:  <unnamed>
       log:  C:\Users\mwronsk\OneDrive - Szkoła Główna Handlowa w Warszawie\Bank Świat
> owy Rumunia\Replication Minimu
> m Wage - Simulation\2.Simulation_Scenario_One.log
  log type:  text
 opened on:  10 May 2024, 15:33:10
r; t=0.00 15:33:10

.
. use Data\Tax_data_11_2021_base_for_the_simulation
r; t=8.30 15:33:18

. *Generate auxiliary variables used in the simulation*
.
. gen age=2021-an
(722 missing values generated)
r; t=0.32 15:33:19

.
. gen age_group=1 if age<30
(3,395,631 missing values generated)
r; t=0.40 15:33:19

. replace age_group=2 if age>29 & age<40
(912,642 real changes made)
r; t=0.48 15:33:20

. replace age_group=3 if age>39 & age<50
(1,209,936 real changes made)
r; t=0.49 15:33:20

. replace age_group=4 if age>49 & age<60
(1,047,537 real changes made)
r; t=0.51 15:33:21

. replace age_group=5 if age>59
(225,516 real changes made)
r; t=0.34 15:33:21

.
. gen construction=cond1
r; t=0.30 15:33:21

.
. gen skilled=1 if caen>5800 & caen<6400
(3,757,538 missing values generated)
r; t=0.43 15:33:22

. replace skilled=1 if caen>6400 & caen<6631
(80,366 real changes made)
r; t=0.41 15:33:22

. replace skilled=1 if caen>5900 & caen<7501
(184,255 real changes made)
r; t=0.45 15:33:23

. replace skilled=1 if caen>8400 & caen<8431
(310,793 real changes made)
r; t=0.49 15:33:23
```

```
. replace skilled=1 if caen>8500 & caen<8561
(296,134 real changes made)
r; t=0.52 15:33:24

. replace skilled=1 if caen>8600 & caen<8900
(308,443 real changes made)
r; t=0.48 15:33:24

. replace skilled=1 if caen>9000 & caen<9330
(52,144 real changes made)
r; t=0.45 15:33:25

. replace skilled=1 if caen==9900
(888 real changes made)
r; t=0.35 15:33:25

.
. replace skilled=0 if skilled==.
(2,524,515 real changes made)
r; t=0.47 15:33:25

.
.
. **SIMULATION 1. Increase in MW by 2022 inflation (13.8%)**
. gen wage=vbrut
r; t=0.35 15:33:26

.
. **Scenario 1.Increase of the basic MW to the MW for the construction sector**
. gen minwage=2300 if construction==0
(282,258 missing values generated)
r; t=0.45 15:33:26

. replace minwage=3000 if construction==1
(282,258 real changes made)
r; t=0.34 15:33:26

. gen new_MW_1=2617 if construction==0
(282,258 missing values generated)
r; t=0.41 15:33:27

. replace new_MW_1=3414 if construction==1
(282,258 real changes made)
r; t=0.34 15:33:27

.
. gen wagelowold=wage<minwage
r; t=0.41 15:33:28

. replace wagelowold=. if wage==. | minwage==.
(0 real changes made)
r; t=0.46 15:33:28

. sum  wagelowold, detail

                        wagelowold
-------------------------------------------------------------
      Percentiles      Smallest
 1%             0             0
 5%             0             0
10%             0             0       Obs           3,942,640
25%             0             0       Sum of Wgt.   3,942,640

50%             0                     Mean                   0
                        Largest       Std. Dev.              0
75%             0             0
90%             0             0       Variance               0
95%             0             0       Skewness               .
99%             0             0       Kurtosis               .
r; t=0.38 15:33:28
```

```
.
. gen wagelownew=wage>=minwage & wage<new_MW_1
r; t=0.45 15:33:29

. replace wagelownew=. if  wage==. | minwage==.
(0 real changes made)
r; t=0.41 15:33:29

. sum  wagelownew, detail

                        wagelownew
-------------------------------------------------------------
      Percentiles      Smallest
 1%            0              0
 5%            0              0
10%            0              0       Obs           3,942,640
25%            0              0       Sum of Wgt.   3,942,640

50%            0                      Mean            .130872
                        Largest       Std. Dev.      .3372603
75%            0              1
90%            1              1       Variance       .1137445
95%            1              1       Skewness        2.18898
99%            1              1       Kurtosis       5.791635
r; t=2.63 15:33:32

.
. gen wagehigh=wage>=minwage
r; t=0.40 15:33:32

. replace wagehigh=. if wage==. | minwage==.
(0 real changes made)
r; t=0.43 15:33:33

.
. gen expwage=new_MW_1 if wagelownew==1
(3,426,659 missing values generated)
r; t=0.42 15:33:33

. replace expwage=wage if  wagelownew!=1
(3,426,659 real changes made)
r; t=0.52 15:33:34

. replace expwage=. if wage==.
(0 real changes made)
r; t=0.33 15:33:34

. sum  expwage, detail

                          expwage
-------------------------------------------------------------
      Percentiles      Smallest
 1%         2617           2617
 5%         2617           2617
10%         2617           2617       Obs           3,942,640
25%         3315           2617       Sum of Wgt.   3,942,640

50%         4762                      Mean           6310.67
                        Largest       Std. Dev.      6567.555
75%         7281        1411767
90%        10896        1560913       Variance       4.31e+07
95%        14804        1898160       Skewness       40.70315
99%        28185        1908709       Kurtosis        6947.14
r; t=7.39 15:33:41
```

```
.
. gen wagechange=expwage-wage
r; t=0.41 15:33:42

.
. lab var wagelowold "Wage<minimum wage"
r; t=0.01 15:33:42

. lab var wagelownew "% new minwage>wage>=minwage"
r; t=0.00 15:33:42

. lab var wage "Wage, EUR"
r; t=0.00 15:33:42

. lab var expwage "Expected wage, all emp., EUR"
r; t=0.00 15:33:42

. lab var wagechange "Expected increase in wage, EUR"
r; t=0.00 15:33:42

.
. //Elasticities at short- and long- run
. local sigma=5
r; t=0.00 15:33:42

. g sigma=-0.`sigma'
r; t=0.10 15:33:42

. g sigma_us=sigma-0.2
r; t=0.37 15:33:42

. g sigmalr=sigma-0.3
r; t=0.37 15:33:43

. g sigma_uslr=sigma_us-0.3
r; t=0.36 15:33:43

.
. g sigma_sr=sigma*skilled+sigma_us*(1-skilled)
r; t=0.46 15:33:44

. g sigma_lr=sigmalr*skilled+sigma_uslr*(1-skilled)
r; t=0.48 15:33:44

.
.
.
. *Microsimulations*************************************************
. ******************************************************************
. // Assuming that only whose who have minimum wage will loose
. //By age, skills, occupation, type of firm and employment compute expected change in
>  wage
. //Compute change in wages (New minimum wage respect to group average wage)
.
. keep if wage>minwage
(0 observations deleted)
r; t=0.42 15:33:44

. egen Mwage=mean(wage) if wagelownew==1 , by(gender skilled age_group)
(3426659 missing values generated)
r; t=17.62 15:34:02
```

```
. egen Mexpwage=mean(expwage) if wagelownew==1 , by(gender skilled age_group)
(3426659 missing values generated)
r; t=19.68 15:34:22

.
. gen deltawage=(Mexpwage-Mwage)/Mexpwage
(3,426,659 missing values generated)
r; t=0.47 15:34:22

. replace deltawage=0 if wagelownew==0
(3,426,659 real changes made)
r; t=0.51 15:34:23

.
.
. *Expected Change in Employment (elsticity * wage change)
. gen deltaemp_sr=deltawage*sigma_sr
r; t=0.41 15:34:23

. gen deltaemp_lr=deltawage*sigma_lr
r; t=0.40 15:34:24

.
. local n=200
r; t=0.00 15:34:24

. forval i=1/`n' {
  2. qui{
  3. set seed `i'
  4. gen rann=uniform() if deltaemp_sr!=.
  5.
.    foreach r in sr lr {
  6.    gen loosejob_`r'=(rann<-deltaemp_`r') if deltaemp_sr!=.
  7.    gen wage_`r'`i'=expwag
  8.    replace wage_`r'`i'=0 if loosejob_`r'==1
  9.    replace wage_`r'`i'=. if wage==.
 10.
.    g employed_`r'`i'=1
 11.    replace employed_`r'`i'=0 if wage_`r'`i'==0
 12.    g unemployed_`r'`i'=1 if wage_`r'`i'==0
 13.    replace unemployed_`r'`i'=0  if wage_`r'`i'>0
 14.
.    }
 15.
. drop rann loosejob_sr loosejob_lr
 16. }
 17. }
r; t=1424.61 15:58:08

.
.
. foreach r in sr lr {
  2. egen Mwage_`r'=rowmean(wage_`r'*)
  3. egen SDwage_`r'=rowsd(wage_`r'*)
  4. egen MEDwage_`r'=rowmedian(wage_`r'*)
  5. egen Munemployed_`r'=rowmean(unemployed_`r'*)
  6. egen Memployed_`r'=rowmean(employed_`r'*)
  7.
.
. }
r; t=2741.22 16:43:49
```

```
.
.
. save Data_ready\11_2021_only_sample_full_time_scenario_1.dta, replace
(note: file Data_ready\11_2021_only_sample_full_time_scenario_1.dta not found)
file Data_ready\11_2021_only_sample_full_time_scenario_1.dta saved
r; t=160.02 16:46:29

. ****************************************************************************
. *Labeling*****************************************************************
. lab var wage "Actual wage. EUR"
r; t=0.00 16:46:29

. lab var expwage  "Expected wage assuming no loose of employment. EUR"
r; t=0.00 16:46:29

. lab var Mwage_sr  "Simulated wage. Short-run. EUR"
r; t=0.00 16:46:29

. lab var Memployed_sr "Simulated employment rate. Short-run. %"
r; t=0.00 16:46:29

. lab var Munemployed_sr "Simulated unemployment rate. Short-run %"
r; t=0.00 16:46:29

. lab var Mwage_lr  "Simulated wage. Long-run. EUR"
r; t=0.00 16:46:29

. lab var Memployed_lr "Simulated employment rate. Long-run. %"
r; t=0.00 16:46:29

. lab var Munemployed_lr "Simulated unemployment rate. Long-run %"
r; t=0.00 16:46:29

.
. //Summary by age
. global outcome  wage expwage Mwage_sr Memployed_sr  Munemployed_sr   Mwage_lr  Mempl
> oyed_lr Munemployed_lr ///
>
r; t=0.00 16:46:29

.
. foreach var in All age_group {
  2.
. preserve
  3. collapse  $outcome, by(`var')
  4.
. lab var wage "Actual wage. EUR"
  5. lab var expwage  "Expected wage assuming no loose of employment. EUR"
  6. lab var Mwage_sr  "Simulated wage. Short-run. EUR"
  7. lab var Memployed_sr "Simulated employment rate. Short-run. %"
  8. lab var Munemployed_sr "Simulated unemployment rate. Short-run %"
  9. lab var Mwage_lr  "Simulated wage. Long-run. EUR"
 10. lab var Memployed_lr "Simulated employment rate. Long-run. %"
 11. lab var Munemployed_lr "Simulated unemployment rate. Long-run %"
 12.
.
. export excel  using $Output\Romania_MW_sim_tax_1.xlsx, sheet("`var'") firstrow(varla
> bels) cell(A2) sheetreplace
 13. restore
 14. }
file Output\\Romania_MW_sim_tax_1.xlsx saved
file Output\\Romania_MW_sim_tax_1.xlsx saved
r; t=1626.01 17:13:35
```

```
.
. foreach var in All age_group {
  2.
. preserve
  3. collapse  $outcome  if wagelownew==1, by(`var')
  4.
. lab var wage "Actual wage. EUR"
  5. lab var expwage  "Expected wage assuming no loose of employment. EUR"
  6. lab var Mwage_sr  "Simulated wage. Short-run. EUR"
  7. lab var Memployed_sr "Simulated employment rate. Short-run. %"
  8. lab var Munemployed_sr "Simulated unemployment rate. Short-run %"
  9. lab var Mwage_lr  "Simulated wage. Long-run. EUR"
 10. lab var Memployed_lr "Simulated employment rate. Long-run. %"
 11. lab var Munemployed_lr "Simulated unemployment rate. Long-run %"
 12.
.
. export excel  using $Output\Romania_MW_sim_tax_1.xlsx, sheet("0nly affected `var'")
> firstrow(varlabels) cell(A2) s
> heetreplace
 13.
. restore
 14. }
file Output\\Romania_MW_sim_tax_1.xlsx saved
file Output\\Romania_MW_sim_tax_1.xlsx saved
r; t=1045.46 17:31:01

. log close
      name:  <unnamed>
       log:  C:\Users\mwronsk\OneDrive - Szkoła Główna Handlowa w Warszawie\Bank Świat
> owy Rumunia\Replication Minimu
> m Wage - Simulation\2.Simulation_Scenario_One.log
  log type:  text
 closed on:  10 May 2024, 17:31:01
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> ------------------------------
```