Example 2-9

September 12, 2020

[ ]:
```
# first install the following packages and libraries
install.packages("pglm")
install.packages("plm")
install.packages("stargazer")

library("plm")
library("stargazer")
```

[2]:
```
##---------------------------------Block 1---------------------------------

#### Example 2-9 ####

## ------------------------------------------------------------------------
data("UnionWage", package = "pglm")
pdim(UnionWage)

## ------------------------------------------------------------------------

# multiple linear models
UnionWage$exper2 <- with(UnionWage, exper ^ 2)
wages.within1 <- plm(wage ~ union + school + exper + exper2 +
                         com + rural + married + health +
                         region + sector, UnionWage)
wages.within2 <- plm(wage ~ union + school + exper + exper2 +
                         com + rural + married + health +
                         region + sector + occ, UnionWage)
wages.pooling1 <- update(wages.within1, model = "pooling")
wages.pooling2 <- update(wages.within2, model = "pooling")

## ------------------------------------------------------------------------

#stargazer takes the results and renders them into an output table
stargazer(wages.pooling2, wages.pooling1, wages.within2, wages.within1,
          omit = c("region", "sector", "occ"),
          omit.labels = c("region dummies", "sector dummies", "occupation␣
 ↪dummies"),
          column.labels = c("pooling estimation", "within estimation"),
```

```
          column.separate = c(2, 2),
          dep.var.labels = "log of hourly wage",
          covariate.labels = c("union membership", "education years",
                               "experience years", "experience years squared",
                               "black", "hispanic", "rural residence",
                               "married", "health problems",
                               "Intercept"),
          omit.stat = c("adj.rsq", "f"),
          title = "Wage equation",
          label = "tab:wagesresult",
          no.space = TRUE,
          type = "text"
)
```

```
Balanced Panel: n = 545, T = 8, N = 4360
```

```
Wage equation
=================================================================
                                Dependent variable:
                            ------------------------------------
                                     log of hourly wage
                            pooling estimation   within estimation
                               (1)       (2)       (3)       (4)
-----------------------------------------------------------------
union membership            0.176***  0.146***  0.080***  0.079***
                             (0.017)   (0.017)   (0.020)   (0.019)
education years             0.078***  0.090***
                             (0.005)   (0.005)
experience years            0.070***  0.076***  0.111***  0.112***
                             (0.010)   (0.010)   (0.009)   (0.008)
experience years squared -0.002*** -0.002*** -0.004*** -0.004***
                             (0.001)   (0.001)   (0.001)   (0.001)
black                       -0.130*** -0.155***
                             (0.023)   (0.023)
hispanic                    -0.047**  -0.059***
                             (0.022)   (0.022)
rural residence             -0.116*** -0.131***  0.048*    0.050*
                             (0.019)   (0.018)   (0.029)   (0.029)
married                     0.102***  0.110***   0.038**   0.040**
                             (0.015)   (0.015)   (0.018)   (0.018)
health problems              -0.035    -0.058    -0.010    -0.017
                             (0.054)   (0.054)   (0.047)   (0.047)
Intercept                   0.273***   -0.039
                             (0.091)   (0.076)
-----------------------------------------------------------------
region dummies                Yes       Yes       Yes       Yes
```

sector dummies	Yes	Yes	Yes	Yes
occupation dummies	Yes	No	Yes	No
Observations	4,360	4,360	4,360	4,360
R2	0.278	0.264	0.192	0.190
Note:		*p<0.1; **p<0.05; ***p<0.01		