

Example 9-5

September 11, 2020

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

library("plm")
library("maxLik")
library("texreg")

[2]: # code to create a table for our results
extract.maxLik <- function (model, include.nobs = TRUE, ...){
  s <- summary(model, ...)
  names <- rownames(s$estimate)
  class(names) <- "character"
  co <- s$estimate[, 1]
  se <- s$estimate[, 2]
  pval <- s$estimate[, 4]
  class(co) <- class(se) <- class(pval) <- "numeric"
  n <- nrow(model$gradientObs)
  lik <- logLik(model)
  gof <- numeric()
  gof.names <- character()
  gof.decimal <- logical()
  gof <- c(gof, n, lik)
  gof.names <- c(gof.names, "Num. obs.", "Log Likelihood")
  gof.decimal <- c(gof.decimal, FALSE, TRUE)
  tr <- createTexreg(coef.names = names, coef = co, se = se, pvalues = pval,
    gof.names = gof.names, gof = gof, gof.decimal = gof.
    ↪decimal)
  return(tr)
}
setMethod("extract", signature = className("maxLik", "maxLik"), definition = ↪
  ↪extract.maxLik)

[5]: ##-----Block 1-----

#### Example 9-5 ####
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```
## -----
data("Donors", package = "pder")

# random effects censored models
# T3.2 and T5.2 adds an interaction term to the model
T3.1 <- plm(donation ~ treatment + prcontr, Donors, index = "id")
T3.2 <- plm(donation ~ treatment * prcontr - prcontr, Donors, index = "id")
T5.A <- pldv(donation ~ treatment + prcontr, Donors, index = "id",
             model = "random", method = "bfgs")
T5.B <- pldv(donation ~ treatment * prcontr - prcontr, Donors, index = "id",
             model = "random", method = "bfgs")

screenreg(list(OLS = T3.1, Tobit = T5.A, OLS = T3.2, Tobit = T5.B),
          reorder.coef = c(1:3, 7:9, 4:6))
```

```
'\n=====
OLS      Tobit      OLS      Tobit      \n-----
\ntreatmentgift -0.41 2.36 0.06 3.53 \n (0.61) (1.86) (0.66) (2.04) \ntreatmentlgift 1.79 **
6.36 *** 2.07 ** 7.66 *** \n (0.64) (1.93) (0.68) (2.08) \nprcontryes 1.29 * 5.74 ** \n (0.59) (1.79)
\ntreatmentvc:prcontryes 3.14 ** 10.78 ** \n (1.13) (3.41) \ntreatmentgift:prcontryes 0.20 4.47
\n (0.95) (2.88) \ntreatmentlgift:prcontryes 1.05 3.23 \n (1.00) (3.01) \n(Intercept) -15.16 ***
-16.05 *** \n (1.89) (1.97) \nsd.nu 16.40 *** 16.36 *** \n (0.80) (0.80) \nsd.eta 4.05 *** 3.92
*** \n (1.11) (1.10) \n----- \nR^2 0.02 0.02
\nAdj. R^2 -0.02 -0.01 \nNum. obs. 1039 1039 1039 1039 \nLog Likelihood -1498.38 -1496.84
\n=====
p < 0.001; ** p < 0.01; * p < 0.05\n'
```