

Example 5-7

September 12, 2020

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

library("plm")
library("lmtest")
library("sandwich")

# import the data, create the following formula, and run the pooled OLS model
data("Produc", package = "plm")
fm <- log(gsp) ~ log(pcap) + log(pc) + log(emp) + unemp
plmmmod <- plm(fm, Produc, model = "pooling")
```

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

#### Example 5-7 ####

# coeftest allows for passing the vcov parameter either as a
# matrix or as a function (as done in the previous examples)

## -----

# vcov parameter as a matrix
coeftest(plmmmod, vcov = vcovHC(plmmmod, type = "HC3"))
```

t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.643302	0.247058	6.6515	5.332e-11 ***
log(pcap)	0.155007	0.060612	2.5574	0.01073 *
log(pc)	0.309190	0.046809	6.6054	7.171e-11 ***
log(emp)	0.593935	0.069467	8.5499	< 2.2e-16 ***
unemp	-0.006733	0.003128	-2.1525	0.03165 *

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

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

```
# vcov defined as a function within the call  
coeftest(plmmod, vcov = function(x) vcovHC(x, type = "HC3"))
```

t test of coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.643302	0.247058	6.6515	5.332e-11 ***
log(pcap)	0.155007	0.060612	2.5574	0.01073 *
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