Econometrics 2 CA2b

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I. Preliminaries

Clearing the workspace

```
rm(list = ls())
```

Libraries

```
library(foreign)
library(tidyverse)
library(ggdag)
library(dplyr)
library(tinytex)
library(jtools)
library(huxtable)
library(summarytools)
library(ggstance)
library(pwr)
library(knitr)
library(lemon)
library(AER)
library(lubridate)
library(ggplot2)
library(interflex)
library(plm)
library(margins)
library(coefplot)
```

Improving layout

```
knit_print.data.frame <- lemon_print
```

Summarytools R Markdown

```
st_options(plain.ascii = FALSE, style = "rmarkdown")
st_css()
```

```
## <style type="text/css">
##  img {   background-color: transparent;   border: 0; }  .st-table td, .st-table th {   padding: 8px;
```

II. Introduction to the computer assignment

Data

```
theUrl_ca2b_ectrics2 <- "https://surfdrive.surf.nl/files/index.php/s/sXRMtDDmAaGvGuG/download"
oil <- read.dta (file = theUrl_ca2b_ectrics2)
```

III. What to submit

(a)

```
print(min(oil$temp))
```

```
## [1] -3.9
```

```
print(mean(oil$temp))
```

```
## [1] 10.48036
```

```
print(max(oil$temp))
```

```
## [1] 21.1
```

```
print(min(oil$watertemp))
```

```
## [1] 5.7
```

```
print(mean(oil$watertemp))
```

```
## [1] 11.29222
```

```
print(max(oil$watertemp))
```

```
## [1] 19.6
```

(b)

```
groupmean <- oil %>%
  filter(month==12) %>%
  group_by(month, eventtime)


print(mean(groupmean$eventtime))
```

```
## [1] -1.67752
```

```
#Not sure this is the best way to do it. Same approach would be for July with
#7 instead of 12.
```

(c)

I assume this is the same as in 2A, though not sure if we have to specify it for this particular model.

(d)

```
#oil <- pdata.frame(oil, index=c("grid_id"))

#oil_et_reg <- plm(spot ~ eventtime + temp + temp_sq + watertemp + watertemp_sq + wind +
#wind_sq + factor(year) + factor(month),  data = oil, effect = "twoways",
#model = "within", effect='individual')

#coeftest(oil_et_reg, vcov=vcovHC(oil_et_reg, cluster="group"))

#Not sure how to leave out eventtime -2. Tried to copy the 2a lines but that did not work.

#Running this I get the error: Error in plm(spot ~ eventtime + temp + temp_sq +
#watertemp + watertemp_sq +  :
#formal argument "effect" matched by multiple actual arguments
```

(e)

```
#dataevent <- coefplot(oil_et_reg)

#dataevent <- dataevent$data

#dataevent$Coefficient <- as.character(dataevent$Coefficient)
#dataevent$Coefficient <- substr(dataevent$Coefficient, 10, 10000)
#dataevent$Coefficient <- as.numeric(dataevent$Coefficient)

#zero <- data.frame(0,-2,0,0,0,0,"model", stringsAsFactors = FALSE)
#names(zero) <- names(dataevent)
#dataevent <- bind_rows(dataevent,zero)

#coefplot(dataevent, horizontal = TRUE)

#This doesn't run because I can't do the regression, but the overall answer should
#be something close to this.
```