Preliminary Results - Question A

Harvard EcLabs

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```
# Packages
library(estimatr)
library(modelsummary)

# Reading in Data
dat <- read.csv('Sub_Openings_amz.csv')
# Variable Creation
dat$EMP_RAT <- dat$emp/dat$CT_POP
dat$TOT_EMP_RAT <- dat$TOT_EMP/dat$CT_POP
dat$WH_RAT <- dat$emp/dat$TOT_EMP
# Regressions Models with State-Fixed Effects
lm1 <- lm_robust(EMP_RAT ~ TREAT + factor(fipstate) - 1, data = dat)
lm2 <- lm_robust(TOT_EMP_RAT ~ TREAT + factor(fipstate) - 1, data = dat)
lm3 <- lm_robust(WH_RAT ~ TREAT + factor(fipstate) - 1, data = dat)
# Regression Models without State-Fixed Effects
lm5 <- lm_robust(EMP_RAT ~ TREAT, data = dat)
lm6 <- lm_robust(TOT_EMP_RAT ~ TREAT, data = dat)
lm7 <- lm_robust(WH_RAT ~ TREAT, data = dat)
# Summaries for Warehouse Employment over County Population
summary(lm1)
```

```
##
## Call:
## lm_robust(formula = EMP_RAT ~ TREAT + factor(fipstate) - 1, data = dat)
##
## Standard error type:  HC2
##
## Coefficients:
##                     Estimate Std. Error t value  Pr(>|t|)   CI Lower CI Upper DF
## TREAT               0.001212  0.0016087  0.7535 0.4669861 -0.0023286 0.004753 11
## factor(fipstate)6   0.003600  0.0013647  2.6382 0.0230656  0.0005967 0.006604 11
## factor(fipstate)8   0.004781  0.0014779  3.2350 0.0079438  0.0015282 0.008034 11
## factor(fipstate)9   0.004352  0.0008557  5.0863 0.0003515  0.0024690 0.006236 11
## factor(fipstate)12 0.004460  0.0021522  2.0721 0.0625443 -0.0002774 0.009196 11
##
## Multiple R-squared:  0.7409 ,    Adjusted R-squared:  0.6232
## F-statistic: 65.16 on 5 and 11 DF,  p-value: 8.484e-08
```

```
summary(lm5)
```

```
##
## Call:
## lm_robust(formula = EMP_RAT ~ TREAT, data = dat)
```

```
##
## Standard error type:  HC2
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)  CI Lower CI Upper DF
## (Intercept) 0.004057   0.001012  4.0093 0.001292  0.001887 0.006227 14
## TREAT       0.001212   0.001515  0.8003 0.436931 -0.002036 0.004461 14
##
## Multiple R-squared:  0.04374 ,   Adjusted R-squared:  -0.02456
## F-statistic: 0.6404 on 1 and 14 DF,  p-value: 0.4369
```

```
# Summaries for Total Employment over County Population
summary(lm2)
```

```
##
## Call:
## lm_robust(formula = TOT_EMP_RAT ~ TREAT + factor(fipstate) -
##     1, data = dat)
##
## Standard error type:  HC2
##
## Coefficients:
##                     Estimate Std. Error t value  Pr(>|t|) CI Lower CI Upper DF
## TREAT               0.007351    0.03290  0.2234 8.273e-01 -0.06506  0.07976 11
## factor(fipstate)6   0.277127    0.03091  8.9653 2.177e-06  0.20909  0.34516 11
## factor(fipstate)8   0.310175    0.02091 14.8330 1.282e-08  0.26415  0.35620 11
## factor(fipstate)9   0.502104    0.01897 26.4636 2.603e-11  0.46034  0.54386 11
## factor(fipstate)12 0.338618    0.04569  7.4112 1.341e-05  0.23806  0.43918 11
##
## Multiple R-squared:  0.972 , Adjusted R-squared:  0.9592
## F-statistic: 729.7 on 5 and 11 DF,  p-value: 1.765e-13
```

```
summary(lm6)
```

```
##
## Call:
## lm_robust(formula = TOT_EMP_RAT ~ TREAT, data = dat)
##
## Standard error type:  HC2
##
## Coefficients:
##             Estimate Std. Error t value  Pr(>|t|) CI Lower CI Upper DF
## (Intercept) 0.324753    0.03420   9.496 1.765e-07  0.25141   0.3981 14
## TREAT       0.007351    0.04899   0.150 8.829e-01 -0.09772   0.1124 14
##
## Multiple R-squared:  0.001606 ,  Adjusted R-squared:  -0.06971
## F-statistic: 0.02251 on 1 and 14 DF,  p-value: 0.8829
```

```
# Summaries for Warehouse Employment over Total Employment
summary(lm3)
```

```
##
## Call:
## lm_robust(formula = WH_RAT ~ TREAT + factor(fipstate) - 1, data = dat)
##
## Standard error type:  HC2
```

```
##
## Coefficients:
##                     Estimate Std. Error t value Pr(>|t|)   CI Lower CI Upper DF
## TREAT               0.003631   0.006929   0.524  0.61068 -0.0116197  0.01888 11
## factor(fipstate)6   0.014979   0.006125   2.446  0.03250  0.0014984  0.02846 11
## factor(fipstate)8   0.015512   0.005735   2.705  0.02047  0.0028902  0.02813 11
## factor(fipstate)9   0.007978   0.003774   2.114  0.05816 -0.0003278  0.01628 11
## factor(fipstate)12 0.015647   0.008738   1.791  0.10089 -0.0035863  0.03488 11
##
## Multiple R-squared:  0.6486 ,    Adjusted R-squared:  0.4888
## F-statistic: 14.26 on 5 and 11 DF,  p-value: 0.0001716
```

```
summary(lm7)
```

```
##
## Call:
## lm_robust(formula = WH_RAT ~ TREAT, data = dat)
##
## Standard error type:  HC2
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)  CI Lower CI Upper DF
## (Intercept) 0.014337   0.004404  3.2556 0.005749  0.004892  0.02378 14
## TREAT       0.003631   0.006594  0.5506 0.590609 -0.010513  0.01777 14
##
## Multiple R-squared:  0.02119 ,   Adjusted R-squared:  -0.04872
## F-statistic: 0.3031 on 1 and 14 DF,  p-value: 0.5906
```