Indiana FSSA Analysis

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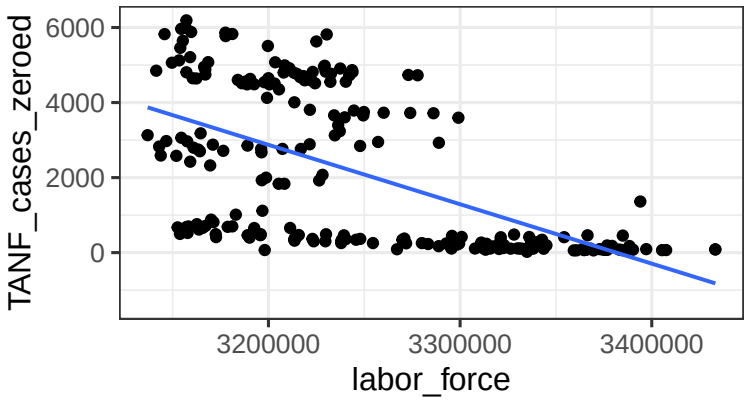
October 15, 2021

```
in_fssa <- read_csv('https://sldr.netlify.app/data/indiana_fssa.csv')
```

```
 glimpse(in_fssa)
```

```
## Rows: 223
## Columns: 13
## $ year                   <dbl> 2003, 2003, 2003, 2003, 2003, 2003, 2003, 2003,~
## $ month                  <chr> "January", "February", "March", "April", "May",~
## $ month_num              <dbl> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 1, 2, 3,~
## $ date                   <date> 2003-01-01, 2003-02-01, 2003-03-01, 2003-04-01~
## $ labor_force            <dbl> 3152618, 3154505, 3159690, 3167054, 3181169, 32~
## $ unemployment_rate      <dbl> 5.6, 5.6, 5.4, 4.9, 4.9, 5.5, 5.6, 5.4, 4.9, 4.~
## $ food_stamps_households <dbl> 191243, 192261, 195249, 196514, 197494, 205208,~
## $ TANF_families          <dbl> 52510, 47184, 46799, 47824, 46918, 46767, 46360~
## $ TANF_payments          <dbl> 12276896, 9735848, 9667117, 9839966, 9701632, 9~
## $ TANF_ave_case          <dbl> 233.80, 206.34, 206.57, 205.75, 206.78, 206.71,~
## $ TANF_cases_zeroed      <dbl> 673, 5966, 5881, 4878, 5828, 5816, 5629, 5509, ~
## $ COVID                  <chr> "pre-pandemic", "pre-pandemic", "pre-pandemic",~
## $ automation             <chr> "pre-automation", "pre-automation", "pre-automa~
```

```
gf_point(TANF_cases_zeroed ~ labor_force, data = in_fssa) %>%
  gf_lm()
```




```
mlr3 <- lm(TANF_cases_zeroed ~ labor_force + food_stamps_households + TANF_families, data = in_fssa)
```

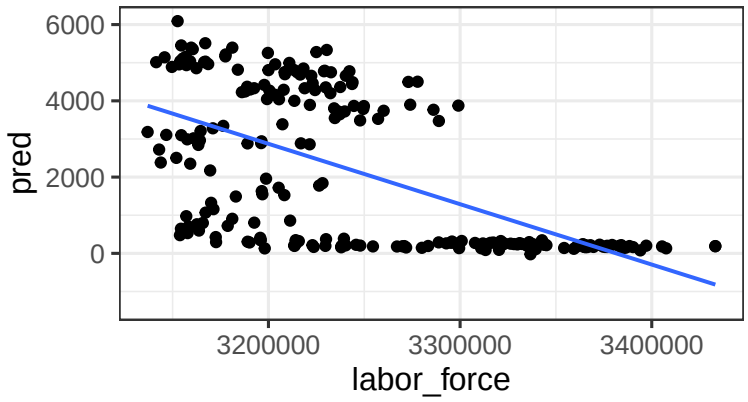
```
summary(mlr3)
```

```
##
## Call:
## lm(formula = TANF_cases_zeroed ~ labor_force + food_stamps_households +
##     TANF_families, data = in_fssa)
```

```
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -5417.7  -119.2   -10.1   147.8  1284.0
##
## Coefficients:
##                            Estimate Std. Error t value Pr(>|t|)
## (Intercept)              1.498e+03  3.201e+03   0.468  0.64032
## labor_force             -3.089e-04  8.807e-04  -0.351  0.72613
## food_stamps_households -3.522e-03  9.460e-04  -3.724  0.00025 ***
## TANF_families            1.188e-01  4.991e-03  23.813  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 455 on 219 degrees of freedom
## Multiple R-squared:  0.9521, Adjusted R-squared:  0.9514
## F-statistic:  1450 on 3 and 219 DF,  p-value: < 2.2e-16
```

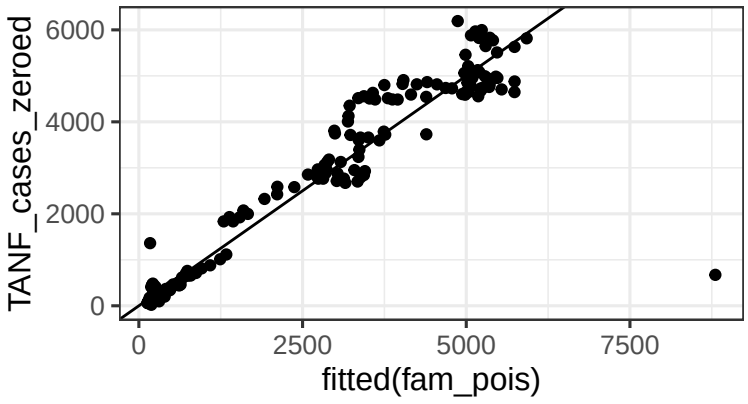
```
in_fssa <- in_fssa %>%
  mutate(resid = resid(mlr3),
         pred = predict(mlr3))
```

```
gf_point(pred ~ labor_force, data = in_fssa)%>%
  gf_lm()
```

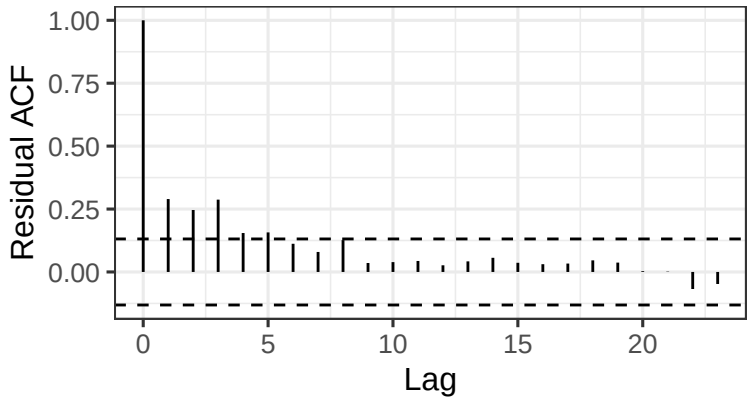



```
fam_pois <- glm(TANF_cases_zeroed ~ labor_force + food_stamps_households + TANF_families, data = in_fssa
```

```
gf_point(TANF_cases_zeroed ~ fitted(fam_pois), data = in_fssa) %>%
  gf_abline(intercept = 0, slope = 1)
```



```
s245::gf_acf( ~fam_pois)
```




```
require(glmmTMB)
fam_nb1 <- glmmTMB(TANF_cases_zeroed ~ labor_force + food_stamps_households + TANF_families, data = in_
```

```
fam_nb2 <- glmmTMB(TANF_cases_zeroed ~ labor_force + food_stamps_households + TANF_families, data = in_
```

```
car::Anova(fam_pois)
```

```
## Analysis of Deviance Table (Type II tests)
##
## Response: TANF_cases_zeroed
##                         LR Chisq Df Pr(>Chisq)
## labor_force                 1080  1  < 2.2e-16 ***
## food_stamps_households     16534  1  < 2.2e-16 ***
## TANF_families             126600  1  < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Problem 0.0

Problem ?.?