Untitled

Amanda McDermott

4/28/2019

```
##  [1] "c(\"100%\", \"33%\", \"97%\", \"69%\", \"99%\", \"99%\", \"99%\", \"100%\", \"75%\", \"100%\", \"98%\", \"93%\", \"100%\", \"99%\
##  [2] "c(\"100%\", \"45%\", \"79%\", \"72%\", \"68%\", \"35%\", \"88%\", \"82%\", \"87%\", \"100%\", \"81%\", \"90%\", \"100%\", \"65%\"
##  [3] "c(\"0%\", \"47%\", \"49%\", \"82%\", \"44%\", \"87%\", \"18%\", \"7%\", \"50%\", \"0%\", \"38%\", \"56%\", \"0%\", \"46%\", \"26%
##  [4] "c(\"0%\", \"100%\", \"52%\", \"100%\", \"92%\", \"88%\", \"47%\", \"10%\", \"83%\", \"0%\", \"46%\", \"55%\", \"0%\", \"76%\", \"
##  [5] "c(\"96%\", \"58%\", \"92%\", \"69%\", \"99%\", \"93%\", \"99%\", \"95%\", \"100%\", \"100%\", \"89%\", \"0%\", \"100%\", \"100%\"
##  [6] "c(\"57%\", \"53%\", \"52%\", \"67%\", \"72%\", \"28%\", \"71%\", \"24%\", \"67%\", \"73%\", \"59%\", \"93%\", \"57%\", \"98%\", \
##  [7] "c(\"33%\", \"55%\", \"82%\", \"95%\", \"57%\", \"85%\", \"41%\", \"27%\", \"49%\", \"70%\", \"72%\", \"54%\", \"44%\", \"48%\", \
##  [8] "c(\"100%\", \"100%\", \"95%\", \"94%\", \"93%\", \"90%\", \"89%\", \"87%\", \"87%\", \"77%\", \"77%\", \"72%\", \"71%\", \"71%\",
##  [9] "c(\"0.39\", \"0.61\", \"0.69\", \"0.59\", \"0.66\", \"0.63\", \"0.56\", \"0.39\", \"0.61\", \"0.43\", \"0.57\", \"0.68\", \"0.35\
## [10] "c(0.76, 0.25, 0.29, 0.39, 0.31, 0.24, 0.5, 0.59, 0.31, 0.7, 0.4, 0.23, 0.78, 0.19, 0.43, 0.77, 0.59, 0.56, 0.16, 0.74, 0.1, 0.13,
## [11] "c(0.33, 0.59, 0.52, 0.53, 0.58, 0.58, 0.4, 0.52, 0.55, 0.28, 0.43, 0.57, 0.37, 0.63, 0.27, 0.29, 0.43, 0.51, 0.65, 0.25, 0.64, 0.
## [12] "c(0.77, 0.29, 0.53, 0.42, 0.37, 0.31, 0.62, 0.45, 0.35, 0.76, 0.52, 0.34, 0.76, 0.28, 0.73, 0.85, 0.66, 0.6, 0.26, 0.87, 0.19, 0.
## [13] "c(0.5, 0.49, 0.46, 0.52, 0.49, 0.46, 0.43, 0.44, 0.52, 0.46, 0.51, 0.54, 0.43, 0.55, 0.53, 0.45, 0.45, 0.48, 0.48, 0.47, 0.55, 0.
## [14] "c(1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2
## [15] "c(\"0%\", \"96%\", \"42%\", \"97%\", \"90%\", \"84%\", \"39%\", \"13%\", \"78%\", \"0%\", \"35%\", \"46%\", \"0%\", \"67%\", \"22
## [16] "c(\"93%\", \"94%\", \"85%\", \"84%\", \"80%\", \"71%\", \"70%\", \"68%\", \"67%\", \"46%\", \"45%\", \"34%\", \"33%\", \"33%\", \
```

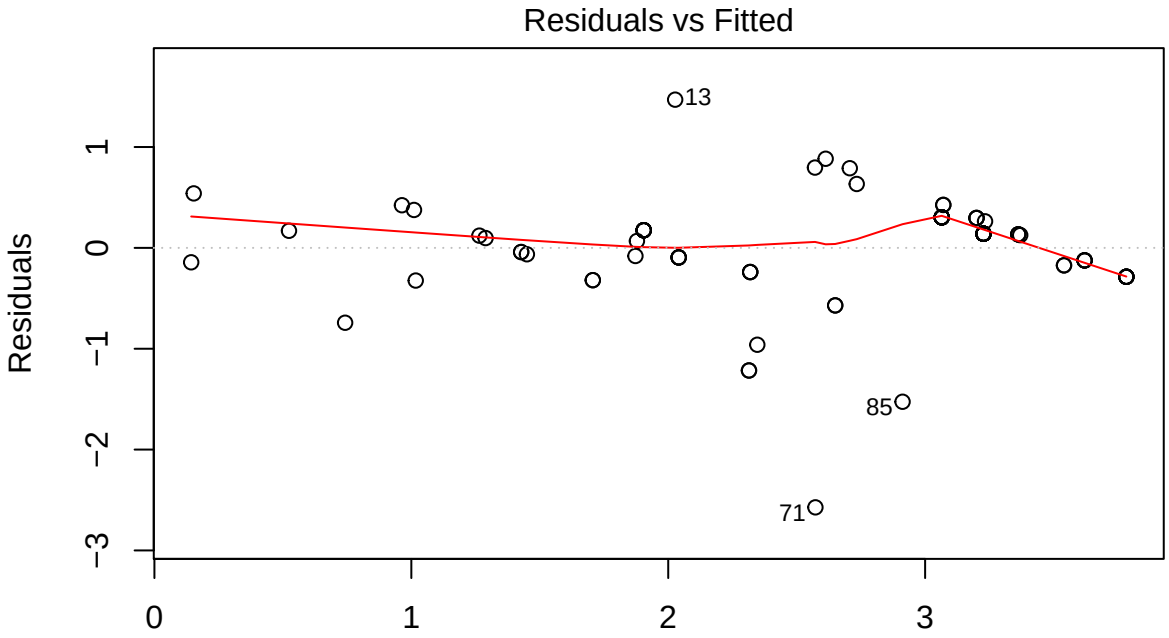
```
## Warning in .f(.x[[i]], ...): NAs introduced by coercion
```

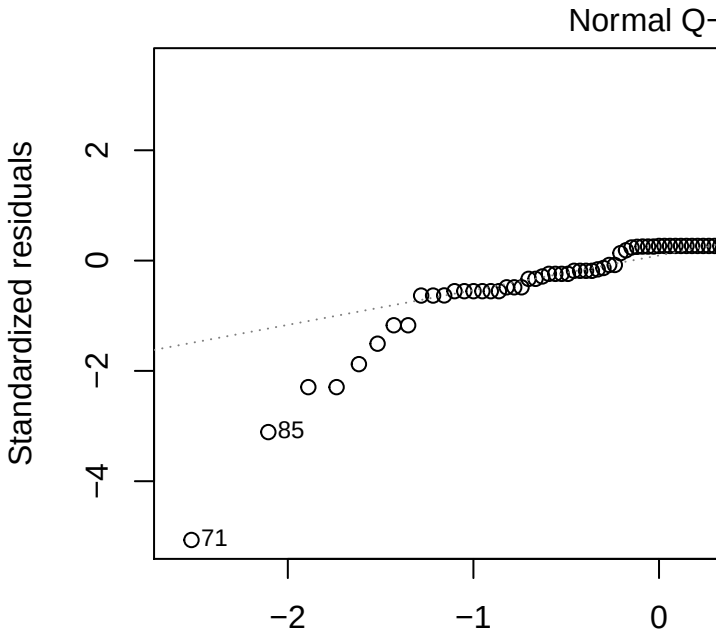
```
temp_holc <- holc[,c(1,2,3,4,5,6,7,8,9, 14)]

temp <- pvia_2 %>%
  filter(!is.na(fatalities)) %>%
  count(state, fatalities) %>%
  group_by(state) %>%
  mutate(assassinations = sum(n)) %>%
  dplyr::select(-fatalities, -n) %>%
  unique() %>%
  left_join(pvia_2, by = "state") %>%
  left_join(temp_holc, by = c("city_holc" = "city")) %>%
  mutate(year = as.integer(str_extract(date, "\\d{4}"))) %>%
  left_join(gtd_nkill_sum, by = c("year" = "iyear")) %>%
  transform(AMI = AMUI * 100,
```

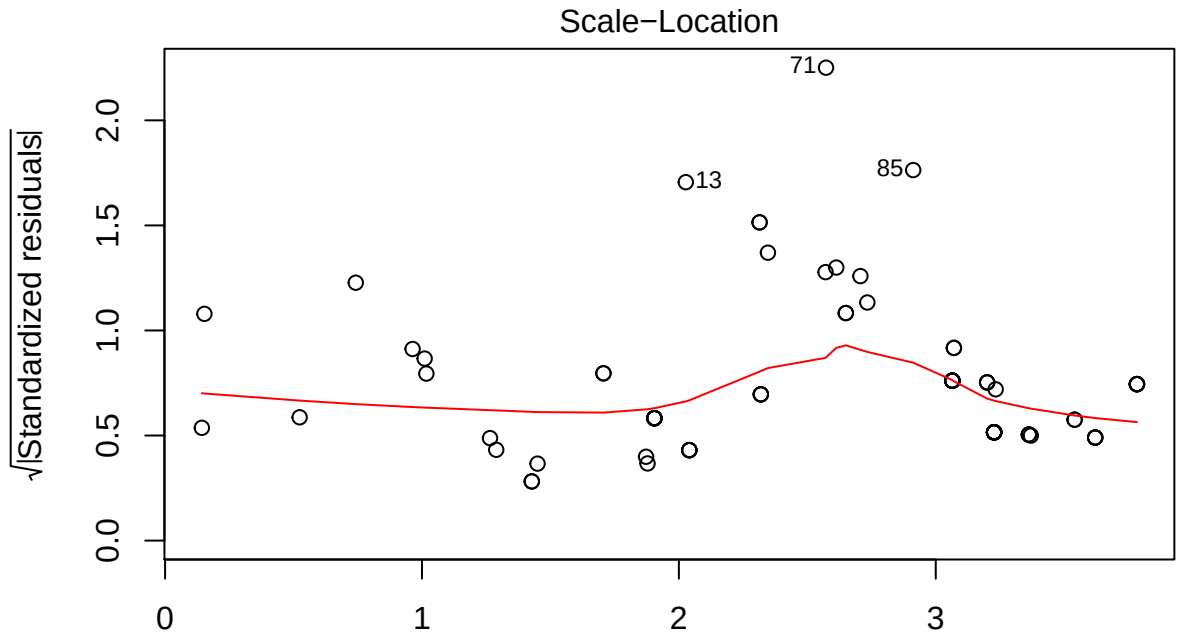
```
            BMUI = BMUI * 100,
         CLMI = CLMI * 100,
          DLMI = DLMI * 100,
          GINI = GINI * 100 )

lm_out <- lm(log(assassinations) ~ log(homicide_rate) +log(gdp_percapita_1980) + election_yr + civ_rights_yrs + gtd_incidents, data = temp



lm_out2 <- lm(log(assassinations) ~ log(homicide_rate) + election_yr + civ_rights_yrs + CLMI +DLMI + GINI, data = temp, na.action = na.omi
summary(lm_out2)
```

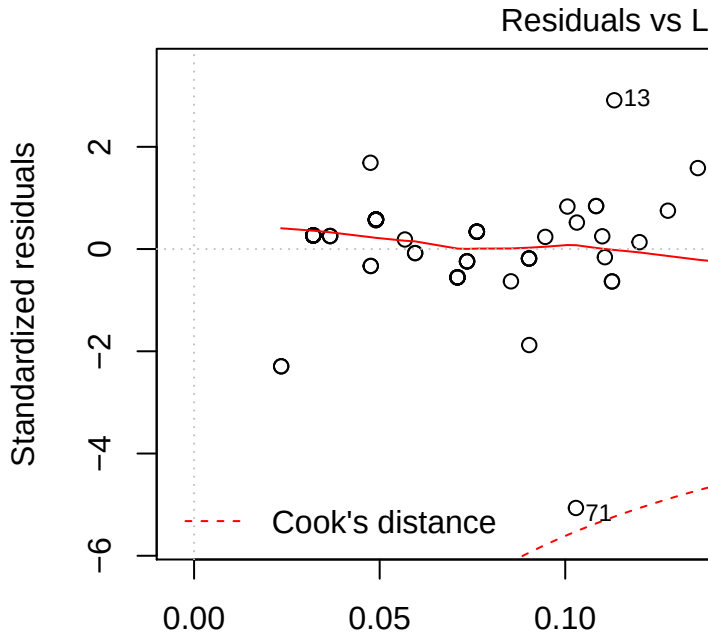
```
##
## Call:
## lm(formula = log(assassinations) ~ log(homicide_rate) + election_yr +
##     civ_rights_yrs + CLMI + DLMI + GINI, data = temp, na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.5729 -0.1732  0.1402  0.2633  1.4696
##
## Coefficients:
##                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)         2.934403   1.331603   2.204  0.03050 *
## log(homicide_rate)  2.458465   0.258719   9.502 1.15e-14 ***
## election_yr        -0.162558   0.128360  -1.266  0.20913
## civ_rights_yrs     -0.493363   0.203035  -2.430  0.01740 *
## CLMI               -0.004266   0.005155  -0.828  0.41044
## DLMI               -0.044210   0.008103  -5.456 5.56e-07 ***
## GINI               -0.063047   0.023643  -2.667  0.00931 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.5363 on 78 degrees of freedom
##   (78 observations deleted due to missingness)
## Multiple R-squared:  0.7539, Adjusted R-squared:  0.735
## F-statistic: 39.82 on 6 and 78 DF,  p-value: < 2.2e-16
```

```
plot(lm_out2)
```


Residuals vs Fitted
Residuals
Fitted values
lm(log(assassinations) ~ log(homicide_rate) + election_yr + civ_rights_yrs ...
13
85
71
−3
−2
−1
0
1
0
1
2
3


Normal Q-
Standardized residuals
Theoretical Qu
lm(log(assassinations) ~ log(homicide_rate
85
71
−4
−2
0
2
−2
−1
0



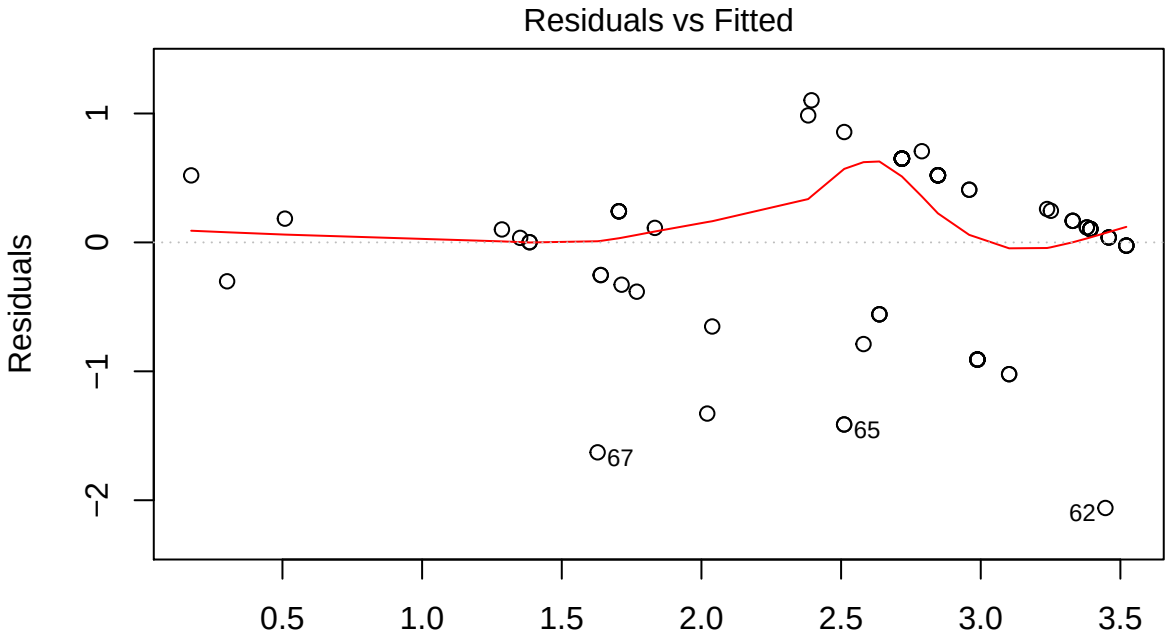


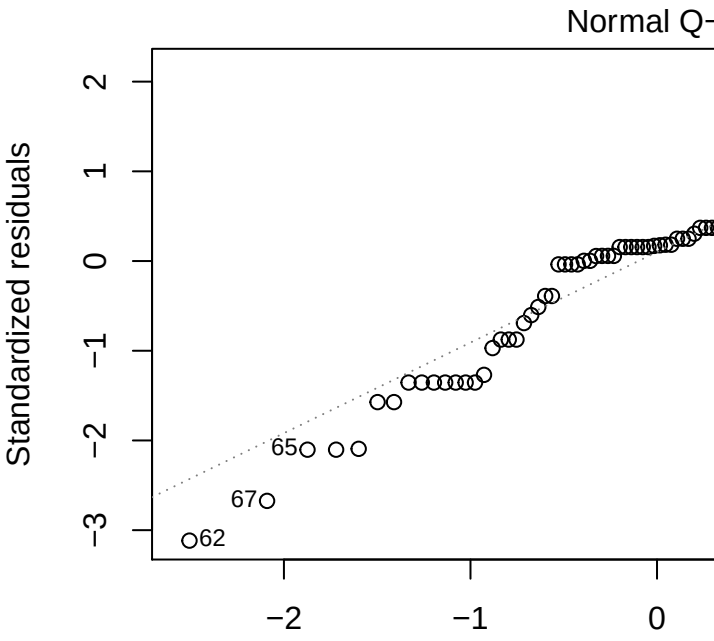

```
exclude <- c("Robert Francis Kennedy","Dr. Calvin Jackson","James Chaney, Andrew Goodman, Mickey Schwerner")

temp_no_outliers <- temp %>%
  filter(!target_name %in% exclude)


#model without outliers
lm_out3 <- lm(log(assassinations) ~ log(homicide_rate) + election_yr + civ_rights_yrs + CLMI +DLMI + GINI, data = temp_no_outliers, na.act


lm_out4 <- lm(log(assassinations) ~ log(homicide_rate) + election_yr + civ_rights_yrs + AMUI + BMUI + GINI, data = temp_no_outliers, na.ac
summary(lm_out4)
```

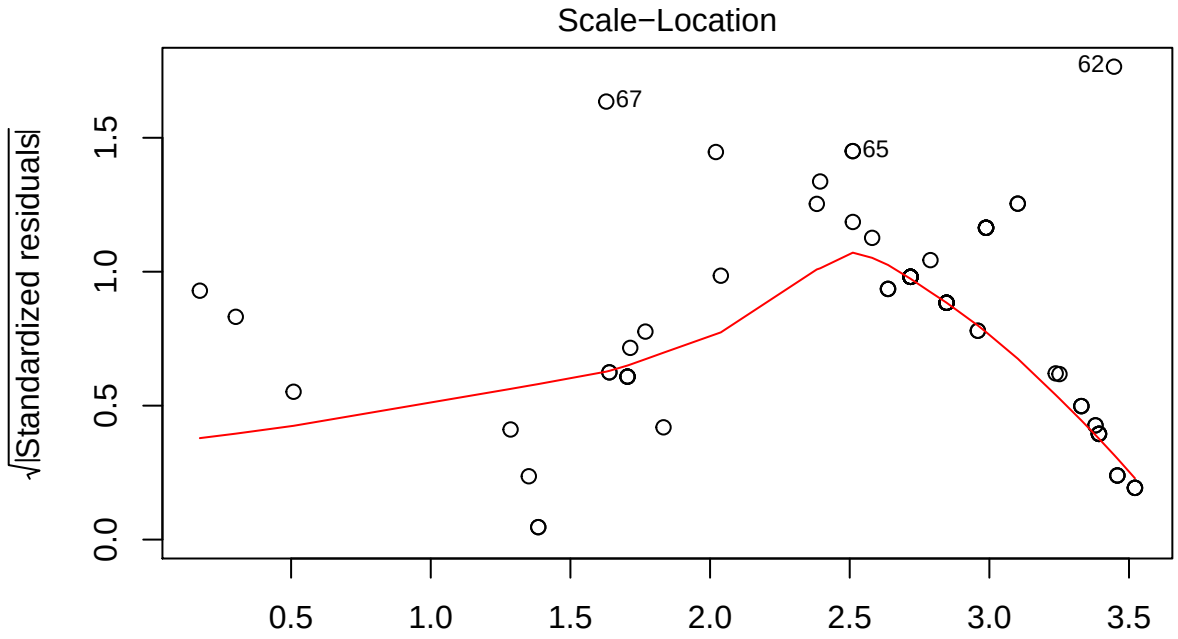
```
##
## Call:
```

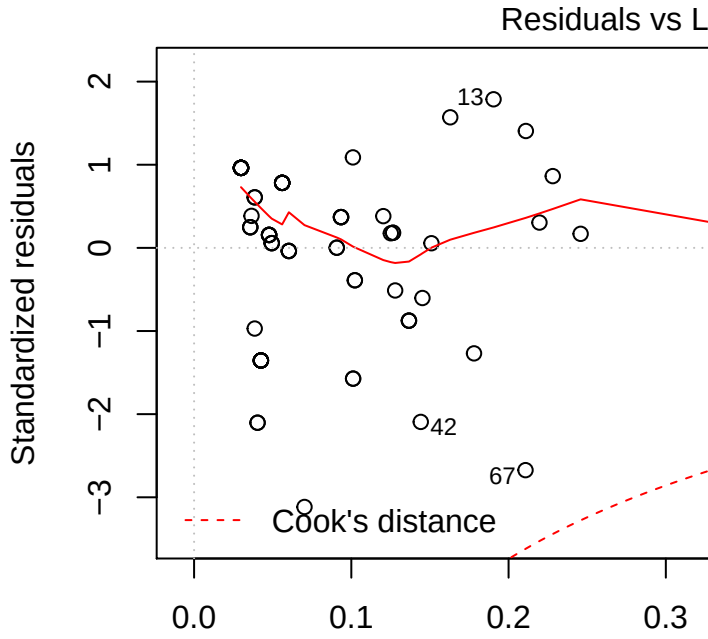
```
## lm(formula = log(assassinations) ~ log(homicide_rate) + election_yr +
##     civ_rights_yrs + AMUI + BMUI + GINI, data = temp_no_outliers,
##     na.action = na.omit)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -2.0600 -0.3214  0.1084  0.5206  1.1023
##
## Coefficients:
##                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)        -7.802042   1.631014  -4.784 8.42e-06 ***
## log(homicide_rate)  2.056177   0.346033   5.942 8.24e-08 ***
## election_yr         0.128914   0.170288   0.757  0.45140
## civ_rights_yrs     -0.335537   0.291065  -1.153  0.25266
## AMUI                2.489294   1.479527   1.682  0.09663 .
## BMUI                0.019363   0.006281   3.083  0.00287 **
## GINI                0.028258   0.028245   1.000  0.32029
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.6855 on 75 degrees of freedom
##   (78 observations deleted due to missingness)
## Multiple R-squared:  0.5703, Adjusted R-squared:  0.536
## F-statistic: 16.59 on 6 and 75 DF,  p-value: 4.495e-12
```

```
plot(lm_out4)
```


Residuals vs Fitted
Residuals
Fitted values
lm(log(assassinations) ~ log(homicide_rate) + election_yr + civ_rights_yrs ...
67
65
62


Normal Q-
Standardized residuals
Theoretical Qu
lm(log(assassinations) ~ log(homicide_rate
65
67
62






```
#stargazer(lm_out, lm_out2, lm_out3, title = "Regression Results", order = c(1, 3, 2, 5, 4, 6, 7, 8), #covariate.labels = c("Log(1980 Hom

stargazer(lm_out, lm_out2, lm_out3, title = "Regression Results", order = c(1,3,2,5,4,6,7,8), covariate.labels = c("Log(1980 Homicide Rate
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu % Date and time: Mon, Apr 29, 2019 - 00:42:35

Table 1: Regression Results

	Dependent variable:		
	Log(Assassination Attacks)		
		Inequality Model	Inequality Model w/o Outliers
	(1)	(2)	(3)
Log(1980 Homicide Rate)	1.191***	2.458***	2.544***
	(0.306)	(0.259)	(0.195)
Election Year Dummy	−0.171	−0.163	−0.014
	(0.199)	(0.128)	(0.100)
Log(1980 GDP Per Capita)	0.225		
	(0.417)		
Int'l Assassination Incidents	−0.0003		
	(0.0003)		
Civil Rights Year Dummy		−0.493**	−0.383**
		(0.203)	(0.168)
C Lower-Middle Income		−0.004	−0.007*
		(0.005)	(0.004)
D Lower-Middle Income		−0.044***	−0.038***
		(0.008)	(0.006)
Gini Index		−0.063***	−0.053***
		(0.024)	(0.018)
Constant	−2.689	2.934**	1.897*
	(3.780)	(1.332)	(1.046)
Observations	127	85	82
R^2	0.199	0.754	0.852
Adjusted R^2	0.173	0.735	0.840
Residual Std. Error	0.995 (df = 122)	0.536 (df = 78)	0.402 (df = 75)
F Statistic	7.579*** (df = 4; 122)	39.821*** (df = 6; 78)	72.061*** (df = 6; 75)
Note:			*p<0.1; **p<0.05; ***p<0.01