Results_Elections

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ADDITIONAL STUDY: DID TRUMP WIN IN THE STATES WITH GREATER ECONOMIC UNCERTEINTY?

ECONOMIC UNCERTAINTY = COMPOSITE MEASURE

Economic Uncerteinty = (HousingVacancy+AdultsnoWork+Poverty)/3

Data about economic uncerteinty downloaded from the 2016 Distress Comunities Index (http://eig.org/dci/interactive-maps/state-congressional-districts)

Data about election results downloaded from https://www.dailykos.com/stories/2016/11/25/1601042/-Nerd-Alert-This-spreadsheet-contains-every-presidential-election-by-state-from-1828-to-2016

Outcome: WinnerTrump=1, WinnerClinton=0

```
elections<-read.csv("C://EcoUncer.csv")
str(elections)
```

```
## 'data.frame':    50 obs. of  14 variables:
##  $ State             : chr  "Alabama" "Alaska" "Arizona" "Arkansas" ...
##  $ Clinton           : num  34.4 36.6 44.6 33.7 61.5 48.2 54.6 53.1 47.4 45.3 ...
##  $ Trump             : num  62.1 51.3 48.1 60.6 31.5 43.3 40.9 41.7 48.6 50.4 ...
##  $ Others            : num  3.5 12.1 7.3 5.7 7 8.5 4.5 5.2 4 4.3 ...
##  $ WinnerTrump       : int  1 1 1 1 0 0 0 0 1 1 ...
##  $ No_HighSchool     : int  16 8 14 16 19 10 11 12 14 15 ...
##  $ HousingVacancy    : int  12 8 10 11 6 6 7 8 10 12 ...
##  $ AdultsnoWrok      : int  48 38 46 46 44 38 39 42 47 44 ...
##  $ Poverty           : int  19 10 18 19 16 13 11 12 17 19 ...
##  $ MedianIncomeRAtion: int  100 100 100 100 100 100 100 100 100 100 ...
##  $ ChangeEmployment  : num  2.2 4.7 5.2 1.3 6.9 6.9 2.5 6.4 7.7 4.3 ...
##  $ ChangeBussiness   : num  -1.7 2.7 0.7 -0.6 2.9 1.9 -0.8 -0.6 3.9 0.2 ...
##  $ EcoUncer          : num  26.3 18.7 24.7 25.3 22 ...
##  $ Repshare2012      : num  60.5 54.8 53.5 60.6 37.1 46.1 40.7 40 49 53.2 ...
```

```
head(elections)
```

```
##        State Clinton Trump Others WinnerTrump No_HighSchool HousingVacancy
## 1    Alabama    34.4  62.1    3.5           1            16             12
## 2     Alaska    36.6  51.3   12.1           1             8              8
## 3    Arizona    44.6  48.1    7.3           1            14             10
## 4   Arkansas    33.7  60.6    5.7           1            16             11
## 5 California    61.5  31.5    7.0           0            19              6
## 6   Colorado    48.2  43.3    8.5           0            10              6
##   AdultsnoWrok Poverty MedianIncomeRAtion ChangeEmployment ChangeBussiness
```

```
## 1           48      19                100             2.2           -1.7
## 2           38      10                100             4.7            2.7
## 3           46      18                100             5.2            0.7
## 4           46      19                100             1.3           -0.6
## 5           44      16                100             6.9            2.9
## 6           38      13                100             6.9            1.9
##   EcoUncer Repshare2012
## 1 26.33333         60.5
## 2 18.66667         54.8
## 3 24.66667         53.5
## 4 25.33333         60.6
## 5 22.00000         37.1
## 6 19.00000         46.1
```

```r
# Null model
model0<-glm(WinnerTrump~1,family=binomial(link='logit'),data=elections)
summary(model0)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ 1, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##    Min      1Q  Median      3Q     Max
## -1.354  -1.354   1.011   1.011   1.011
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept)   0.4055     0.2887   1.405     0.16
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 67.301  on 49  degrees of freedom
## AIC: 69.301
##
## Number of Fisher Scoring iterations: 4
```

```r
# Model 1: Predictor = Economic Uncerteinty = (HousingVacancy+AdultsnoWork+Poverty)/3
# Economic Uncertainty Model
model1<-glm(WinnerTrump ~EcoUncer,family=binomial(link='logit'),data=elections)
summary(model1) # Economic Uncerteinty positively predicts the victory of Trump
```

```
##
## Call:
## glm(formula = WinnerTrump ~ EcoUncer, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -1.9594  -1.0726   0.6055   0.8544   1.5072
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
```

```
## (Intercept)  -6.2901     2.6181  -2.402   0.0163 *
## EcoUncer      0.3137     0.1233   2.545   0.0109 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 59.599  on 48  degrees of freedom
## AIC: 63.599
##
## Number of Fisher Scoring iterations: 3
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model1
(pseudo.R2.model1 <- (model1$null.deviance - model1$deviance)/model1$null.deviance)
```

```
## [1] 0.1144498
```

```
# Political Ideology Model (% votes for Republicans in 2012)
model2<-glm(WinnerTrump ~Repshare2012,family=binomial(link='logit'),data=elections)
summary(model2)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ Repshare2012, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -1.58845  -0.09645   0.00304   0.03993   1.74275
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -37.6123    17.6320  -2.133   0.0329 *
## Repshare2012   0.8148     0.3827   2.129   0.0332 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 15.372  on 48  degrees of freedom
## AIC: 19.372
##
## Number of Fisher Scoring iterations: 9
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model2
(pseudo.R2.model2 <- (model2$null.deviance - model2$deviance)/model2$null.deviance)
```

```
## [1] 0.7715942
```

```
#Full Model
model3<-glm(WinnerTrump ~EcoUncer + Repshare2012,family=binomial(link='logit'),data=elections)
summary(model3)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ EcoUncer + Repshare2012, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -1.56253  -0.07314   0.00061   0.01906   1.49583
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -48.5747    24.6099  -1.974   0.0484 *
## EcoUncer       0.3208     0.2706   1.186   0.2358
## Repshare2012   0.9097     0.4788   1.900   0.0574 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 13.793  on 47  degrees of freedom
## AIC: 19.793
##
## Number of Fisher Scoring iterations: 9
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model3
(pseudo.R2.model3 <- (model3$null.deviance - model3$deviance)/model3$null.deviance)
```

```
## [1] 0.7950499
```

ECONOMIC UNCERTAINTY = Poverty Rate, Housing Vacancy Rate, Unemployment Rate as separate predictors

```
# Economic Uncertainty model with economic uncertainty variables introduced separately
model4<-glm(WinnerTrump ~ HousingVacancy+AdultsnoWrok+Poverty, family=binomial(link='logit'),data=elect
summary(model4)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ HousingVacancy + AdultsnoWrok + Poverty,
##     family = binomial(link = "logit"), data = elections)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -2.5254  -0.6391   0.3263   0.5298   1.6316
##
## Coefficients:
##                Estimate Std. Error z value Pr(>|z|)
## (Intercept)      4.6974     4.5313   1.037   0.2999
## HousingVacancy   0.7714     0.3012   2.561   0.0104 *
## AdultsnoWrok    -0.4509     0.1792  -2.517   0.0119 *
## Poverty          0.5465     0.2456   2.225   0.0261 *
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 43.796  on 46  degrees of freedom
## AIC: 51.796
##
## Number of Fisher Scoring iterations: 5
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model4
(pseudo.R2.model4 <- (model4$null.deviance - model4$deviance)/model4$null.deviance)
```

```
## [1] 0.3492565
```

```
# Housing Vacancy
model5<-glm(WinnerTrump ~ HousingVacancy, family=binomial(link='logit'),data=elections)
summary(model5)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ HousingVacancy, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -2.1677  -0.7946   0.4479   0.8076   1.9060
##
## Coefficients:
##                Estimate Std. Error z value Pr(>|z|)
## (Intercept)     -4.8789     1.6424  -2.971  0.00297 **
## HousingVacancy   0.6480     0.2023   3.203  0.00136 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 52.935  on 48  degrees of freedom
## AIC: 56.935
##
## Number of Fisher Scoring iterations: 4
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model5
(pseudo.R2.model5 <- (model5$null.deviance - model5$deviance)/model5$null.deviance)
```

```
## [1] 0.2134589
```

```
# Adults without work
model6<-glm(WinnerTrump ~ AdultsnoWrok, family=binomial(link='logit'),data=elections)
summary(model6)
```

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

```
## glm(formula = WinnerTrump ~ AdultsnoWrok, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -1.5771  -1.2863   0.8248   0.9789   1.3739
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -3.88935    3.09722  -1.256    0.209
## AdultsnoWrok  0.10419    0.07507   1.388    0.165
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 65.288  on 48  degrees of freedom
## AIC: 69.288
##
## Number of Fisher Scoring iterations: 4
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model6
(pseudo.R2.model6 <- (model6$null.deviance - model6$deviance)/model6$null.deviance)
```

```
## [1] 0.02990796
```

```
# Poverty
model7<-glm(WinnerTrump ~ Poverty, family=binomial(link='logit'),data=elections)
summary(model7)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ Poverty, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -2.3195  -0.9580   0.5237   0.8387   1.7300
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -4.7545     1.7859  -2.662  0.00776 **
## Poverty       0.3512     0.1221   2.877  0.00402 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 56.550  on 48  degrees of freedom
## AIC: 60.55
##
## Number of Fisher Scoring iterations: 4
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model7
```

```
(pseudo.R2.model7 <- (model7$null.deviance - model7$deviance)/model7$null.deviance)
```

```
## [1] 0.1597455
```

```
# Full model with economic uncertainty variables introduced separately
model8<-glm(WinnerTrump ~ Repshare2012 + HousingVacancy+AdultsnoWrok+Poverty, family=binomial(link='logi
```

```
## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred
```

```
summary(model8)
```

```
##
## Call:
## glm(formula = WinnerTrump ~ Repshare2012 + HousingVacancy + AdultsnoWrok +
##     Poverty, family = binomial(link = "logit"), data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -1.60797  -0.00007   0.00000   0.00000   1.43366
##
## Coefficients:
##                 Estimate Std. Error z value Pr(>|z|)
## (Intercept)    -149.8896    96.2189  -1.558    0.119
## Repshare2012      2.8950     1.8821   1.538    0.124
## HousingVacancy   -1.5520     1.2288  -1.263    0.207
## AdultsnoWrok      0.1471     0.4231   0.348    0.728
## Poverty           1.6249     1.2513   1.299    0.194
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 67.301  on 49  degrees of freedom
## Residual deviance: 10.521  on 45  degrees of freedom
## AIC: 20.521
##
## Number of Fisher Scoring iterations: 11
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model8
(pseudo.R2.model8 <- (model8$null.deviance - model8$deviance)/model8$null.deviance)
```

```
## [1] 0.8436681
```

Same models but with proportion of voting for trump as outcome variable (Binomial for proportional data)

ECONOMIC UNCERTAINTY = COMPOSITE MEASURE

```
elections$Trump_Proportion<-elections$Trump/100
```

```
# Null model
model0<-glm(Trump_Proportion~1,family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```r
summary(model0)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ 1, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.38880  -0.15989  -0.01488   0.16839   0.38516
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept) -0.03424    0.28288  -0.121    0.904
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.0778  on 49  degrees of freedom
## Residual deviance: 2.0778  on 49  degrees of freedom
## AIC: 71.192
##
## Number of Fisher Scoring iterations: 3
```

```r
# Economic Uncertainty Model
model1<-glm(Trump_Proportion ~EcoUncer,family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```r
summary(model1) # Economic Uncerteinty positively predicts the victory of Trump
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ EcoUncer, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -0.3673  -0.1139   0.0090   0.1323   0.4589
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept) -1.12697    2.20638  -0.511    0.610
## EcoUncer     0.05057    0.10125   0.499    0.617
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.0778  on 49  degrees of freedom
## Residual deviance: 1.8272  on 48  degrees of freedom
## AIC: 71.315
##
## Number of Fisher Scoring iterations: 3
```

```r
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model1
(pseudo.R2.model1 <- (model1$null.deviance - model1$deviance)/model1$null.deviance)
```

```
## [1] 0.1206158
```

```
# Political Ideology Model (% votes for Republicans in 2012)
model2<-glm(Trump_Proportion ~Repshare2012,family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```
summary(model2)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ Repshare2012, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.49115  -0.04944   0.00810   0.05773   0.15910
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -1.85365    1.47947  -1.253     0.21
## Repshare2012  0.03652    0.02912   1.254     0.21
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.07779  on 49  degrees of freedom
## Residual deviance: 0.44352  on 48  degrees of freedom
## AIC: 61.518
##
## Number of Fisher Scoring iterations: 3
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model2
(pseudo.R2.model2 <- (model2$null.deviance - model2$deviance)/model2$null.deviance)
```

```
## [1] 0.7865429
```

```
#Full Model
model3<-glm(Trump_Proportion ~EcoUncer + Repshare2012,family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```
summary(model3)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ EcoUncer + Repshare2012, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.44877  -0.03614   0.01311   0.04938   0.16445
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -2.16181    2.40518  -0.899    0.369
## EcoUncer      0.01731    0.10627   0.163    0.871
## Repshare2012  0.03519    0.03017   1.166    0.243
```

```
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.07779  on 49  degrees of freedom
## Residual deviance: 0.41699  on 47  degrees of freedom
## AIC: 63.299
##
## Number of Fisher Scoring iterations: 3
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model3
(pseudo.R2.model3 <- (model3$null.deviance - model3$deviance)/model3$null.deviance)
```

```
## [1] 0.7993115
```

Same models but with proportion of voting for trump as outcome variable (Binomial for proportional data)

ECONOMIC UNCERTAINTY = Poverty Rate, Housing Vacancy Rate, Unemployment Rate as separate predictors

```
# Economic Uncertainty model with economic uncertainty variables introduced separately
model4<-glm(Trump_Proportion ~ HousingVacancy+AdultsnoWrok+Poverty, family=binomial(link='logit'),data=
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```
summary(model4)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ HousingVacancy + AdultsnoWrok +
##     Poverty, family = binomial(link = "logit"), data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.30622  -0.07963   0.00800   0.09691   0.41444
##
## Coefficients:
##                Estimate Std. Error z value Pr(>|z|)
## (Intercept)     0.83756    3.45507   0.242    0.808
## HousingVacancy  0.14202    0.22078   0.643    0.520
## AdultsnoWrok   -0.07112    0.12519  -0.568    0.570
## Poverty         0.05835    0.16839   0.347    0.729
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.0778  on 49  degrees of freedom
## Residual deviance: 1.1688  on 46  degrees of freedom
## AIC: 68.563
##
## Number of Fisher Scoring iterations: 3
```

```r
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model4
(pseudo.R2.model4 <- (model4$null.deviance - model4$deviance)/model4$null.deviance)
```

```
## [1] 0.4374577
```

```r
# Housing Vacancy
model5<-glm(Trump_Proportion ~ HousingVacancy, family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```r
summary(model5)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ HousingVacancy, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.36733  -0.11687  -0.00319   0.10726   0.40675
##
## Coefficients:
##                Estimate Std. Error z value Pr(>|z|)
## (Intercept)     -0.9431     1.2300  -0.767    0.443
## HousingVacancy   0.1082     0.1424   0.760    0.447
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.0778  on 49  degrees of freedom
## Residual deviance: 1.4939  on 48  degrees of freedom
## AIC: 68.199
##
## Number of Fisher Scoring iterations: 3
```

```r
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model5
(pseudo.R2.model5 <- (model5$null.deviance - model5$deviance)/model5$null.deviance)
```

```
## [1] 0.2810226
```

```r
# Adults without work
model6<-glm(Trump_Proportion ~ AdultsnoWrok, family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```r
summary(model6)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ AdultsnoWrok, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.39356  -0.15119  -0.01162   0.14899   0.42692
##
```

```
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)  -0.68258    2.93331  -0.233    0.816
## AdultsnoWrok  0.01567    0.07055   0.222    0.824
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.0778  on 49  degrees of freedom
## Residual deviance: 2.0284  on 48  degrees of freedom
## AIC: 72.983
##
## Number of Fisher Scoring iterations: 3
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model6
(pseudo.R2.model6 <- (model6$null.deviance - model6$deviance)/model6$null.deviance)
```

```
## [1] 0.02376251
```

```
# Poverty
model7<-glm(Trump_Proportion ~ Poverty, family=binomial(link='logit'),data=elections)
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```
summary(model7)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ Poverty, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.38206  -0.09507  -0.01593   0.12970   0.46336
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept) -0.81439    1.39889  -0.582    0.560
## Poverty      0.05186    0.09105   0.570    0.569
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.0778  on 49  degrees of freedom
## Residual deviance: 1.7509  on 48  degrees of freedom
## AIC: 70.504
##
## Number of Fisher Scoring iterations: 3
```

```
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model7
(pseudo.R2.model7 <- (model7$null.deviance - model7$deviance)/model7$null.deviance)
```

```
## [1] 0.1573315
```

```
# Full model with economic uncertainty variables introduced separately
model8<-glm(Trump_Proportion ~ Repshare2012 + HousingVacancy+AdultsnoWrok+Poverty, family=binomial(link=
```

```
## Warning in eval(family$initialize): non-integer #successes in a binomial glm!
```

```r
summary(model8)
```

```
##
## Call:
## glm(formula = Trump_Proportion ~ Repshare2012 + HousingVacancy +
##     AdultsnoWrok + Poverty, family = binomial(link = "logit"),
##     data = elections)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.35372  -0.05011   0.01804   0.05327   0.16242
##
## Coefficients:
##                 Estimate Std. Error z value Pr(>|z|)
## (Intercept)    -1.578934   4.396315  -0.359    0.719
## Repshare2012    0.031769   0.035309   0.900    0.368
## HousingVacancy  0.070721   0.236671   0.299    0.765
## AdultsnoWrok   -0.014147   0.140948  -0.100    0.920
## Poverty        -0.003162   0.182768  -0.017    0.986
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 2.07779  on 49  degrees of freedom
## Residual deviance: 0.33927  on 45  degrees of freedom
## AIC: 66.123
##
## Number of Fisher Scoring iterations: 3
```

```r
#https://mgimond.github.io/Stats-in-R/Logistic.html
# pseudo.R2.model8
(pseudo.R2.model8 <- (model8$null.deviance - model8$deviance)/model8$null.deviance)
```

```
## [1] 0.8367154
```