JOP_Replication.R

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2022-05-27

```
#Replication File
#Women's Political Representation in African Rebel Parties
#Journal of Politics


#Load packages
library(ggplot2)
library(extrafont)
```

```
## Registering fonts with R
```

```
library(lme4)
```

```
## Loading required package: Matrix
```

```
library(Hmisc)
```

```
## Loading required package: lattice
```

```
## Loading required package: survival
```

```
## Loading required package: Formula
```

```
##
## Attaching package: 'Hmisc'
```

```
## The following objects are masked from 'package:base':
##
##     format.pval, units
```

```
library(stargazer)
```

```
##
## Please cite as:
```

```
##  Hlavac, Marek (2022). stargazer: Well-Formatted Regression and Summary Statistics Tables.
```

```
##  R package version 5.2.3. https://CRAN.R-project.org/package=stargazer
```

```
library(faraway)
```

```
##
## Attaching package: 'faraway'
```

```
## The following objects are masked from 'package:survival':
##
##     rats, solder
```

```
## The following object is masked from 'package:lattice':
##
```

```
##     melanoma
```

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --
```

```
## v tibble  3.1.6     v dplyr   1.0.8
## v tidyr   1.2.0     v stringr 1.4.0
## v readr   2.1.2     v forcats 0.5.1
## v purrr   0.3.4
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x tidyr::expand()    masks Matrix::expand()
## x dplyr::filter()    masks stats::filter()
## x dplyr::lag()       masks stats::lag()
## x tidyr::pack()      masks Matrix::pack()
## x dplyr::src()       masks Hmisc::src()
## x dplyr::summarize() masks Hmisc::summarize()
## x tidyr::unpack()    masks Matrix::unpack()
```

```
library(broom)
library(lme4)
library(arm)
```

```
## Loading required package: MASS
```

```
##
## Attaching package: 'MASS'
```

```
## The following object is masked from 'package:dplyr':
##
##     select
```

```
##
## arm (Version 1.12-2, built: 2021-10-15)
```

```
## Working directory is /Users/elizabethbrannon/Dropbox/Dissertation/Project 1 Parties/Analysis
```

```
##
## Attaching package: 'arm'
```

```
## The following objects are masked from 'package:faraway':
##
##     fround, logit, pfround
```

```
library(MASS)
library(lmerTest)
```

```
##
## Attaching package: 'lmerTest'
```

```
## The following object is masked from 'package:lme4':
##
##     lmer
```

```
## The following object is masked from 'package:stats':
##
##     step
```

```
library(censReg)
```

```
## Loading required package: maxLik
```

```
## Loading required package: miscTools

##
## Please cite the 'maxLik' package as:
## Henningsen, Arne and Toomet, Ott (2011). maxLik: A package for maximum likelihood estimation in R. C
##
## If you have questions, suggestions, or comments regarding the 'maxLik' package, please use a forum o
## https://r-forge.r-project.org/projects/maxlik/

##
## Please cite the 'censReg' package as:
## Henningsen, Arne (2017). censReg: Censored Regression (Tobit) Models. R package version 0.5. http://
##
## If you have questions, suggestions, or comments regarding the 'censReg' package, please use a forum
## https://r-forge.r-project.org/projects/sampleselection/
```

```
library(dplyr)
library(sjPlot)
```

```
## Registered S3 method overwritten by 'parameters':
##   method                          from
##   format.parameters_distribution datawizard
```

```
library(sjmisc)
```

```
##
## Attaching package: 'sjmisc'

## The following object is masked from 'package:purrr':
##
##     is_empty

## The following object is masked from 'package:tidyr':
##
##     replace_na

## The following object is masked from 'package:tibble':
##
##     add_case

## The following object is masked from 'package:Hmisc':
##
##     %nin%
```

```
library(texreg)
```

```
## Version:  1.38.6
## Date:     2022-04-06
## Author:   Philip Leifeld (University of Essex)
##
## Consider submitting praise using the praise or praise_interactive functions.
## Please cite the JSS article in your publications -- see citation("texreg").

##
## Attaching package: 'texreg'

## The following object is masked from 'package:tidyr':
##
##     extract
```

```r
#Load data & name winners
winners <- read.csv("/Users/elizabethbrannon/Dropbox/Dissertation/Project 1 Parties/Analysis/JoP_Replica


#Descriptive Table in RD
t.test(winners$Percent_Women_Seats[winners$Rebel_Party==0], winners$Percent_Women_Seats[winners$Rebel_Pa
```

```
##
##  Welch Two Sample t-test
##
## data:  winners$Percent_Women_Seats[winners$Rebel_Party == 0] and winners$Percent_Women_Seats[winners$
## t = -5.3368, df = 170.77, p-value = 2.976e-07
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.1280708 -0.0589105
## sample estimates:
## mean of x mean of y
## 0.0840852 0.1775759
```

```r
t.test(winners$Percent_Women_Candidates[winners$Rebel_Party==0], winners$Percent_Women_Candidates[winner
```

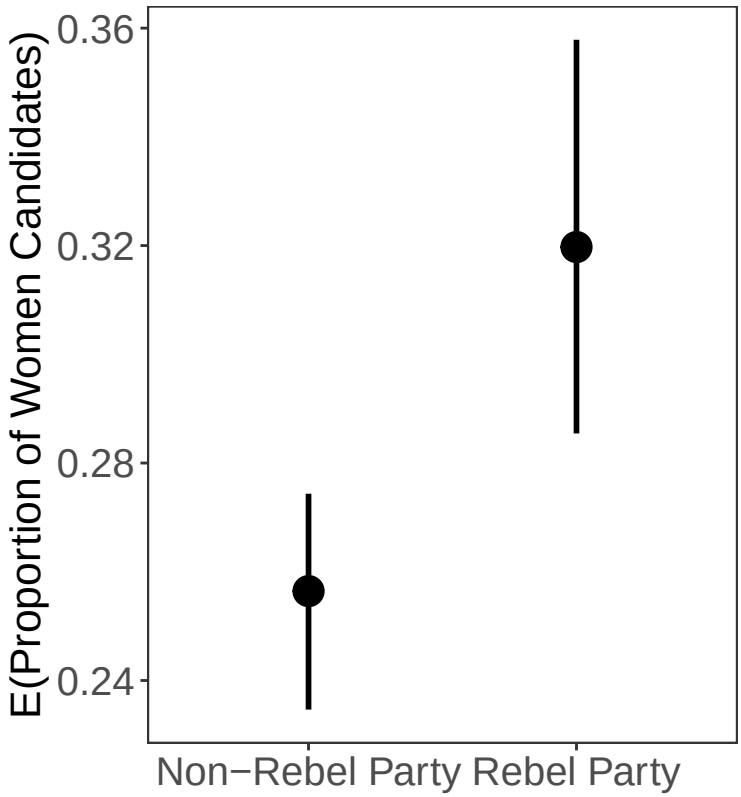
```
##
##  Welch Two Sample t-test
##
## data:  winners$Percent_Women_Candidates[winners$Rebel_Party == 0] and winners$Percent_Women_Candidate
## t = -2.2912, df = 63.81, p-value = 0.02527
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -0.111477777 -0.007623908
## sample estimates:
## mean of x mean of y
## 0.2812530 0.3408038
```

```r
###Model 1 -- candidacy

##Drop NAs for models & simulations
omit <- winners[,c("Percent_Women_Candidates", "Rebel_Party",
                   "democ",
                   "Adopted_Quotas",
                   "exclusive",
                   "opposition",
                   "Party_Institutionalization",
                   "gdplnvdem",
                   "vdem_wom_civsoc", "spline2", "spline3", "spline4", "Country")]
omit <- na.omit(omit)
modelcan <- lmerTest::lmer(Percent_Women_Candidates ~
                             Rebel_Party +
                             democ +
                             Adopted_Quotas +
                             exclusive +
                             opposition+
                             Party_Institutionalization+
                             gdplnvdem  +
                             vdem_wom_civsoc+
                             spline2 +
```

```
                              spline3 +
                              spline4  +
                              (1 | Country),
                            data=omit)

###Simulation, Figure 1
n.draws<-100
sim.model<-coef(sim(modelcan, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Candidates)), to=max(na.omit(omit$Percent_Women_Candidates))
sq.x.lo<-data.frame(
  intercept=1,
  Rebel_Party=0,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.hi<-data.frame(
  intercept=1,
  Rebel_Party=1,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
hi.x.lo <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)

sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
#Fill the vectors

for(j in 1:n.draws){
```

```
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)

}

dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)

preds <- as.data.frame(rbind( pe.x.lo, pe.x.hi))


rownames(preds) <- c('Non-Rebel Party',"Rebel Party")
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))

preds$lb <- preds$`2.5%`
preds$ub <- preds$`97.5%`

#Plot estimates
ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 5
             ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$ub
                   , xend = preds$levels
                   , yend = preds$lb)
               , color = "black"
               , size = 1
               , data = preds
               , lty= c(1,1)) +
  theme_bw() +
  theme(axis.text = element_text(size=15), axis.title=element_text(size=16), panel.grid.major = element
  xlab('') +
  ylab("E(Proportion of Women Candidates)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$ub` is discouraged. Use `ub` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$lb` is discouraged. Use `lb` instead.
```




```
dev.off()
```

```
## null device
##           1
```

```
###Model 2 -- Election
##Drop NAs for models & simulations
omit <- winners[,c("Percent_Women_Seats", "Rebel_Party", "logPercent",
                   "democ",
                   "Adopted_Quotas",
                   "exclusive",
                   "opposition",
                   "Party_Institutionalization",
                   "gdplnvdem",
                   "vdem_wom_civsoc", "spline2", "spline3", "spline4", "Country")]
omit <- na.omit(omit)

modelele <- lmerTest::lmer(Percent_Women_Seats ~
                             Rebel_Party
                           + logPercent
                           + democ
                           + Adopted_Quotas
                           + exclusive
                           + opposition
                           + Party_Institutionalization
                           + gdplnvdem
                           + vdem_wom_civsoc
                           + spline2
                           + spline3
```

```
                          + spline4
                          + (1 | Country), data=omit)
#table
texreg(list(modelcan, modelele))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c}
## \hline
##  & Model 1 & Model 2 \\
## \hline
## (Intercept)                 & $-0.14$     & $0.15$       \\
##                             & $(0.32)$    & $(0.09)$     \\
## Rebel\_Party                & $0.07^{**}$ & $0.05^{*}$   \\
##                             & $(0.03)$    & $(0.02)$     \\
## democ                       & $-0.05$     & $-0.02$      \\
##                             & $(0.10)$    & $(0.02)$     \\
## Adopted\_Quotas             & $-0.05$     & $0.03^{*}$   \\
##                             & $(0.06)$    & $(0.02)$     \\
## exclusive                   & $-0.02$     & $-0.03$      \\
##                             & $(0.05)$    & $(0.02)$     \\
## opposition                  & $-0.02$     & $0.00$       \\
##                             & $(0.03)$    & $(0.02)$     \\
## Party\_Institutionalization & $0.09$      & $0.27^{***}$ \\
##                             & $(0.23)$    & $(0.07)$     \\
## gdplnvdem                   & $0.04$      & $-0.04^{**}$ \\
##                             & $(0.05)$    & $(0.01)$     \\
## vdem\_wom\_civsoc           & $0.14$      & $0.18^{***}$ \\
##                             & $(0.29)$    & $(0.05)$     \\
## spline2                     & $0.01$      & $0.01^{*}$   \\
##                             & $(0.01)$    & $(0.01)$     \\
## spline3                     & $-0.29$     & $-0.20^{*}$  \\
##                             & $(0.18)$    & $(0.09)$     \\
## spline4                     & $1.45$      & $1.01^{*}$   \\
##                             & $(0.85)$    & $(0.43)$     \\
## logPercent                  &             & $0.02^{***}$ \\
##                             &             & $(0.00)$     \\
## \hline
## AIC                         & $-108.77$   & $-407.22$    \\
## BIC                         & $-69.29$    & $-336.86$    \\
## Log Likelihood              & $68.39$     & $218.61$     \\
## Num. obs.                   & $124$       & $805$        \\
## Num. groups: Country        & $11$        & $20$         \\
## Var: Country (Intercept)    & $0.01$      & $0.00$       \\
## Var: Residual               & $0.01$      & $0.03$       \\
## \hline
## \multicolumn{3}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```r
#Simulartion, Figure 2
n.draws<-100
sim.model<-coef(sim(modelele, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Seats)), to=max(na.omit(omit$Percent_Women_Seats)), length.
sq.x.lo<-data.frame(
  intercept=1,
  Rebel_Party=0,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.hi<-data.frame(
  intercept=1,
  Rebel_Party=1,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
hi.x.lo <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)


sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
#Fill the vectors

for(j in 1:n.draws){
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)
```

```
  #first differences
}

dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)

preds <- as.data.frame(rbind(pe.x.lo, pe.x.hi))

rownames(preds) <- c('Non-Rebel Party',"Rebel Party")
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))


ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 4
             ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$`2.5%`
                   , xend = preds$levels
                   , yend = preds$`97.5%`)
               , color = "black"
               , size = 1
               , data = preds
               , lty= c(1,1)) +
  theme_bw() +  geom_hline(yintercept=c(0), linetype="dotted") +
  theme(axis.text = element_text(size=15), axis.title=element_text(size=16), panel.grid.major = element_
  xlab('') +
  ylab("E(Proportion of Women Elected)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$`2.5%`` is discouraged. Use `2.5%` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$`97.5%`` is discouraged. Use `97.5%` instead.
```

```
dev.off()
```

```
## null device
##           1
```

```
###Model for Figure 3
m4data <- winners[,c("Percent_Women_Seats", "Rebel_Party","logPercent", "democ", "Adopted_Quotas",  "Pa
omit <- na.omit(m4data)
omit$time_sq <- omit$Time^2
```

```
modelele.time3 <- lmerTest::lmer(Percent_Women_Seats ~
                                   Rebel_Party
                                 +logPercent
                                 + democ
                                 + Adopted_Quotas
                                 + exclusive
                                 + opposition
                                 + Party_Institutionalization
                                 + gdplnvdem
                                 + vdem_wom_civsoc
                                 + Time
                                 + time_sq
                                 + spline2 +spline3 + spline4  + (1 | Country), data=omit)
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
summary(modelele.time3)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + time_sq + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: omit
##
## REML criterion at convergence: -422.3
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -2.1606 -0.4621 -0.2082  0.0862  5.6024
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0002252 0.01501
##  Residual             0.0305429 0.17477
## Number of obs: 802, groups:  Country, 19
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 1.052e-01  9.651e-02  4.843e+00   1.090 0.327097
## Rebel_Party                 4.133e-02  2.179e-02  3.685e+02   1.897 0.058602
## logPercent                  1.776e-02  4.822e-03  1.045e+02   3.683 0.000367
## democ                       7.438e-03  1.851e-02  2.822e+00   0.402 0.716235
## Adopted_Quotas              3.736e-02  1.726e-02  9.345e+00   2.164 0.057574
## exclusive                   7.495e-03  2.142e-02  8.504e+00   0.350 0.734958
## opposition                 -4.764e-03  2.056e-02  7.060e+02  -0.232 0.816807
## Party_Institutionalization  1.452e-01  8.035e-02  5.119e+00   1.807 0.129157
## gdplnvdem                  -2.226e-02  1.449e-02  3.606e+00  -1.536 0.206813
## vdem_wom_civsoc             1.377e-01  5.356e-02  2.988e+00   2.571 0.082765
```

```
## Time                         1.509e-03  2.564e-03  4.040e+01   0.589 0.559436
## time_sq                      1.274e-04  8.145e-05  6.205e+01   1.564 0.122853
## spline2                      6.074e-03  5.480e-03  1.273e+02   1.108 0.269799
## spline3                     -1.349e-01  9.359e-02  3.076e+02  -1.442 0.150393
## spline4                      7.735e-01  4.407e-01  2.674e+02   1.755 0.080381
##
## (Intercept)
## Rebel_Party                 .
## logPercent                  ***
## democ
## Adopted_Quotas              .
## exclusive
## opposition
## Party_Institutionalization
## gdplnvdem
## vdem_wom_civsoc             .
## Time
## time_sq
## spline2
## spline3
## spline4                     .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
##
## fit warnings:
## Some predictor variables are on very different scales: consider rescaling
```

```r
n.draws2 <- 100
sq2<-seq(from=min(na.omit(omit$Time)), to=max(na.omit(omit$Time)), length.out=100)
sim.fem.mem <- coef(sim(modelele.time3, n = 100))  %>% data.frame() %>% data.matrix()

# Empty vectors to store the point estimates and confidence intervals
pe.ov <- as.matrix(NA, nrow=length(sq2))
lo.ov <- as.matrix(NA, nrow=length(sq2))
hi.ov <- as.matrix(NA, nrow=length(sq2))

pe.ov.change <- as.matrix(NA, nrow=length(sq2))
lo.ov.change <- as.matrix(NA, nrow=length(sq2))
hi.ov.change <- as.matrix(NA, nrow=length(sq2))


for(j in 1:length(sq2)){ # Loop goes across distance values
  # Set the other independent variables to all of their observed values
  x.distance <- data.frame(intercept = 1,
                           Rebel_Party=omit$Rebel_Party,
                           logPercent=omit$logPercent,
                           democ=omit$democ,
                           Adopted_Quotas=omit$Adopted_Quotas,
                           exclusive=omit$exclusive,
                           opposition=omit$opposition,
```

```
                            Party_Institutionalization=omit$Party_Institutionalization,
                            gdplnvdem=omit$gdplnvdem,
                            vdem_wom_civsoc=omit$vdem_wom_civsoc,
                            Time=sq2[j],
                            time_sq=sq2[j]^2,
                            spline2=omit$spline2,
                            spline3=omit$spline3,
                            spline4=omit$spline4,
                            fastDummies::dummy_cols(omit$Country)[-c(1)])

  x.distance <-data.matrix(x.distance)

  # Save average of linear predictor across all the observations
  pp<-matrix(NA, nrow=n.draws2)
  pp.change<-matrix(NA, nrow=n.draws2)

  for(i in 1:n.draws2){# Loop over coefficients
    # For each observation in the dataset
    xb<-x.distance%*%(sim.fem.mem[i,])
    pp[i]<-mean(xb)
  }
  dim(sim.fem.mem)
  dim(x.distance)
  # Compute point estimate and CI for each value of distance
  pe.ov[j] <- quantile(pp, 0.5)
  lo.ov[j] <- quantile(pp, 0.025)
  hi.ov[j] <- quantile(pp, 0.975)

}
ggdata <- data.frame(x=sq2, pe.ov, lo.ov, hi.ov)

ggplot(ggdata, aes(x=x, y=pe.ov, ymin=lo.ov, ymax=hi.ov)) +
  geom_line() +
  geom_ribbon(alpha=0.1) +
  theme_bw() +
  theme(axis.text = element_text(size=14), axis.title=element_text(size=15), panel.grid.major = element_
  ylab("P(Proportion of Women Elected)") +
  xlab("Years since Conflict")

##Model for figure 4 - ongoing violence
m2data <- winners[,c("Percent_Women_Seats", "Rebel_Party", "logPercent", "democ", "Adopted_Quotas",  "Pa
omit <- na.omit(m2data)
modelele.vio <- lmerTest::lmer(Percent_Women_Seats ~
                                 Rebel_Party
                               +logPercent
                               + democ
                               + Adopted_Quotas
                               + exclusive
                               + opposition
                               + Party_Institutionalization
                               + gdplnvdem
                               + vdem_wom_civsoc
                               + Ongoing_conflict
```

```
                              +  spline2 + spline3 + spline4
                              + (1 | Country), data=winners)
summary(modelele.vio)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Ongoing_conflict + spline2 + spline3 +
##     spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -429.4
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.6106 -0.4751 -0.1752  0.0503  5.6094
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0002047 0.01431
##  Residual             0.0311222 0.17641
## Number of obs: 802, groups:  Country, 19
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.242287   0.109829   8.757038   2.206  0.05560 .
## Rebel_Party                  0.046369   0.021913 435.515141   2.116  0.03491 *
## logPercent                   0.014987   0.004894 201.911256   3.062  0.00250 **
## democ                       -0.020343   0.017338   3.901964  -1.173  0.30728
## Adopted_Quotas               0.034241   0.017204  19.707461   1.990  0.06061 .
## exclusive                   -0.028404   0.019733  11.968535  -1.439  0.17568
## opposition                  -0.001960   0.020749 733.896256  -0.094  0.92478
## Party_Institutionalization   0.291732   0.075595   9.667273   3.859  0.00337 **
## gdplnvdem                   -0.042588   0.014797   6.228212  -2.878  0.02698 *
## vdem_wom_civsoc              0.120649   0.060846  10.634227   1.983  0.07381 .
## Ongoing_conflict            -0.034469   0.021463  10.051994  -1.606  0.13921
## spline2                      0.013211   0.005188 608.400469   2.546  0.01113 *
## spline3                     -0.200151   0.090844 594.314065  -2.203  0.02796 *
## spline4                      0.980949   0.430337 417.541263   2.279  0.02314 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
n.draws<-100
sim.model<-coef(sim(modelele.vio, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Seats)), to=max(na.omit(omit$Percent_Women_Seats)), length.
sq.x.lo<-data.frame(
  intercept=1,
  Rebel_Party=omit$Rebel_Party,
```

```
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  Ongoing_conflict=0,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.hi<-data.frame(
  intercept=1,
  Rebel_Party=omit$Rebel_Party,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  Ongoing_conflict=1,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
hi.x.lo <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)

dif.x <- as.matrix(NA, nrow= n.draws)


sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
#Fill the vectors


for(j in 1:n.draws){
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)
```

```
  #first differences
  dif.x[j] <- pe.x.hi[j] - pe.x.lo[j]
}

dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)

dif.x <- dif.fun(dif.x)

preds <- as.data.frame(rbind(pe.x.lo,pe.x.hi))

rownames(preds) <- c("No Ongoing Conflict",'Ongoing Conflict')
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))

ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 4
             ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$`2.5%`
                   , xend = preds$levels
                   , yend = preds$`97.5%`)
               , color = "black"
               , size = 1
               , data = preds
               , lty= c(1,1)) +  theme_bw() +
  theme(axis.text = element_text(size=14), axis.title=element_text(size=15), panel.grid.major = element_
  xlab('') +
  ylab("E(Percent Women Elected)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$`2.5%`` is discouraged. Use `2.5%` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$`97.5%`` is discouraged. Use `97.5%` instead.
```

```
###Appendix Models & Figures

#Time, Table 1

winners$time_sq <- winners$Time^2

modelcan.time <- lmerTest::lmer(Percent_Women_Candidates ~
                                  Rebel_Party
                                + democ
```

```
                                + Adopted_Quotas
                                + exclusive
                                + opposition
                                + Party_Institutionalization
                                + gdplnvdem
                                + vdem_wom_civsoc
                                +  Time
                                +  spline2
                                + spline3
                                + spline4 + (1 | Country), data=winners)
summary(modelcan.time)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + spline2 + spline3 + spline4 + (1 |      Country)
##    Data: winners
##
## REML criterion at convergence: -134.2
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.2735 -0.3997  0.0774  0.5036  2.4936
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0009675 0.0311
##  Residual             0.0121214 0.1101
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                -0.156395   0.186567   7.653724  -0.838  0.42727
## Rebel_Party                 0.069076   0.024492 106.948017   2.820  0.00572 **
## democ                      -0.109464   0.059826  10.715342  -1.830  0.09522 .
## Adopted_Quotas             -0.079473   0.045785  18.011090  -1.736  0.09967 .
## exclusive                  -0.007211   0.045625  33.536037  -0.158  0.87537
## opposition                 -0.020580   0.025184 110.990824  -0.817  0.41557
## Party_Institutionalization  0.509251   0.166179   6.343869   3.064  0.02059 *
## gdplnvdem                  -0.003112   0.029476   7.941608  -0.106  0.91854
## vdem_wom_civsoc             0.353970   0.176754   9.869777   2.003  0.07344 .
## Time                       -0.010839   0.002754   9.908428  -3.936  0.00284 **
## spline2                     0.040876   0.013037  68.703194   3.135  0.00253 **
## spline3                    -0.488746   0.188886 103.571378  -2.588  0.01105 *
## spline4                     1.921470   0.841899 103.901587   2.282  0.02451 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```r
modelcan.time2 <- lmerTest::lmer(Percent_Women_Candidates ~
                                   Rebel_Party
                                 + democ
                                 + Adopted_Quotas
                                 + exclusive
                                 + opposition
                                 + Party_Institutionalization
                                 + gdplnvdem
                                 + vdem_wom_civsoc
                                 +  Time
                                 + Time:Rebel_Party
                                 +  spline2
                                 + spline3
                                 + spline4 + (1 | Country), data=winners)
summary(modelcan.time2)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + Time:Rebel_Party + spline2 + spline3 +
##     spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -124.3
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.2481 -0.4034  0.0633  0.5247  2.4816
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00105  0.0324
##  Residual             0.01220  0.1105
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                -0.154901   0.189490   7.603361  -0.817  0.43853
## Rebel_Party                 0.050281   0.053691 104.838513   0.936  0.35117
## democ                      -0.112956   0.061097  10.313483  -1.849  0.09332 .
## Adopted_Quotas             -0.081573   0.046572  16.933697  -1.752  0.09794 .
## exclusive                  -0.008371   0.046023  33.023352  -0.182  0.85678
## opposition                 -0.019023   0.025566 109.796756  -0.744  0.45842
## Party_Institutionalization  0.502351   0.169299   6.141400   2.967  0.02436 *
## gdplnvdem                  -0.001751   0.030015   7.613902  -0.058  0.95497
## vdem_wom_civsoc             0.356703   0.179328   9.549468   1.989  0.07608 .
## Time                       -0.011197   0.002959  11.789833  -3.784  0.00268 **
## spline2                     0.040860   0.013127  67.543716   3.113  0.00272 **
## spline3                    -0.489854   0.189918 102.628149  -2.579  0.01132 *
## spline4                     1.929039   0.846462 102.844875   2.279  0.02474 *
## Rebel_Party:Time            0.001047   0.002664 109.764904   0.393  0.69526
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelcan.time3 <- lmerTest::lmer(Percent_Women_Candidates ~
                                   Rebel_Party
                                 + democ
                                 + Adopted_Quotas
                                 + exclusive
                                 + opposition
                                 + Party_Institutionalization
                                 + gdplnvdem
                                 + vdem_wom_civsoc
                                 +  Time
                                 + time_sq
                                 +  spline2
                                 + spline3
                                 + spline4 + (1 | Country), data=winners)
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
summary(modelcan.time3)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + time_sq + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -119.5
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3052 -0.4153  0.0396  0.5516  2.5071
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.001688 0.04109
##  Residual             0.011990 0.10950
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)               -1.644e-01  2.054e-01  6.891e+00  -0.800  0.45014
## Rebel_Party                7.203e-02  2.479e-02  1.094e+02   2.905  0.00444 **
## democ                     -1.185e-01  6.513e-02  9.320e+00  -1.819  0.10115
## Adopted_Quotas            -6.399e-02  5.064e-02  1.404e+01  -1.264  0.22691
## exclusive                 -3.747e-02  5.216e-02  7.258e+01  -0.718  0.47488
## opposition                -1.744e-02  2.528e-02  1.095e+02  -0.690  0.49177
```

```
## Party_Institutionalization  5.078e-01  1.852e-01  6.075e+00   2.742  0.03320 *
## gdplnvdem                   2.055e-03  3.238e-02  7.871e+00   0.063  0.95097
## vdem_wom_civsoc             2.731e-01  2.045e-01  1.315e+01   1.335  0.20439
## Time                       -4.284e-03  6.546e-03  2.185e+01  -0.654  0.51965
## time_sq                    -1.687e-04  1.556e-04  2.958e+01  -1.084  0.28714
## spline2                     3.364e-02  1.432e-02  6.580e+01   2.349  0.02183 *
## spline3                    -4.132e-01  1.983e-01  9.961e+01  -2.083  0.03978 *
## spline4                     1.767e+00  8.533e-01  1.032e+02   2.071  0.04090 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
## fit warnings:
## Some predictor variables are on very different scales: consider rescaling
```

```
modelele.time <- lmerTest::lmer(Percent_Women_Seats ~ Rebel_Party
                                + logPercent
                                + democ
                                + Adopted_Quotas
                                + exclusive
                                + opposition
                                + Party_Institutionalization
                                + gdplnvdem
                                + vdem_wom_civsoc
                                + Time
                                +Time
                                + spline2
                                +spline3
                                + spline4  + (1 | Country), data=winners)
```

```
## boundary (singular) fit: see help('isSingular')
```

```
summary(modelele.time)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + Time + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -437.2
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.7700 -0.4561 -0.2082  0.1113  5.6011
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00000  0.0000
```

```
##  Residual             0.03069  0.1752
## Number of obs: 802, groups:  Country, 19
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.123459   0.087640 788.000000   1.409 0.159316
## Rebel_Party                  0.041858   0.021634 788.000000   1.935 0.053370
## logPercent                   0.017478   0.004734 788.000000   3.692 0.000238
## democ                        0.007681   0.016312 788.000000   0.471 0.637832
## Adopted_Quotas               0.042718   0.016163 788.000000   2.643 0.008380
## exclusive                    0.005212   0.019777 788.000000   0.264 0.792223
## opposition                  -0.005794   0.020525 788.000000  -0.282 0.777785
## Party_Institutionalization   0.172481   0.073375 788.000000   2.351 0.018985
## gdplnvdem                   -0.027557   0.012813 788.000000  -2.151 0.031796
## vdem_wom_civsoc              0.130633   0.047157 788.000000   2.770 0.005734
## Time                         0.004867   0.001206 788.000000   4.034 6.01e-05
## spline2                      0.005281   0.005365 788.000000   0.984 0.325246
## spline3                     -0.117319   0.091688 788.000000  -1.280 0.201083
## spline4                      0.693719   0.430718 788.000000   1.611 0.107665
##
## (Intercept)
## Rebel_Party                 .
## logPercent                  ***
## democ
## Adopted_Quotas              **
## exclusive
## opposition
## Party_Institutionalization *
## gdplnvdem                   *
## vdem_wom_civsoc             **
## Time                        ***
## spline2
## spline3
## spline4
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
## optimizer (nloptwrap) convergence code: 0 (OK)
## boundary (singular) fit: see help('isSingular')
```

```
modelele.time2 <- lmerTest::lmer(Percent_Women_Seats ~
                                   Rebel_Party
                                 + logPercent
                                 + democ
                                 + Adopted_Quotas
                                 + exclusive
                                 + opposition
                                 + Party_Institutionalization
                                 + gdplnvdem
                                 + vdem_wom_civsoc
```

```
                                  + Time
                                  + Time:Rebel_Party
                                  + spline2 +spline3 + spline4  + (1 | Country), data=winners)
```

```
## boundary (singular) fit: see help('isSingular')
```

```
summary(modelele.time2)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + Time:Rebel_Party + spline2 + spline3 +
##     spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -427.4
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.7188 -0.4567 -0.2125  0.0973  5.5955
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.0000   0.0000
##  Residual             0.0307   0.1752
## Number of obs: 802, groups:  Country, 19
##
## Fixed effects:
##                             Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 0.120750   0.087741 787.000000   1.376 0.169146
## Rebel_Party                 0.026435   0.029971 787.000000   0.882 0.378042
## logPercent                  0.017019   0.004775 787.000000   3.564 0.000387
## democ                       0.006463   0.016398 787.000000   0.394 0.693616
## Adopted_Quotas              0.042298   0.016177 787.000000   2.615 0.009102
## exclusive                   0.003832   0.019869 787.000000   0.193 0.847135
## opposition                 -0.003618   0.020738 787.000000  -0.174 0.861546
## Party_Institutionalization  0.170958   0.073425 787.000000   2.328 0.020146
## gdplnvdem                  -0.026987   0.012839 787.000000  -2.102 0.035876
## vdem_wom_civsoc             0.133134   0.047290 787.000000   2.815 0.004995
## Time                        0.004541   0.001284 787.000000   3.538 0.000428
## spline2                     0.005423   0.005370 787.000000   1.010 0.312891
## spline3                    -0.120355   0.091805 787.000000  -1.311 0.190246
## spline4                     0.707846   0.431259 787.000000   1.641 0.101125
## Rebel_Party:Time            0.001659   0.002231 787.000000   0.744 0.457229
##
## (Intercept)
## Rebel_Party
## logPercent                 ***
## democ
## Adopted_Quotas             **
## exclusive
## opposition
```

```
## Party_Institutionalization *
## gdplnvdem                  *
## vdem_wom_civsoc            **
## Time                       ***
## spline2
## spline3
## spline4
## Rebel_Party:Time
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
## optimizer (nloptwrap) convergence code: 0 (OK)
## boundary (singular) fit: see help('isSingular')
```

```
modelele.time3 <- lmerTest::lmer(Percent_Women_Seats ~
                                   Rebel_Party
                                 + logPercent
                                 + democ
                                 + Adopted_Quotas
                                 + exclusive
                                 + opposition
                                 + Party_Institutionalization
                                 + gdplnvdem
                                 + vdem_wom_civsoc
                                 + Time
                                 + time_sq
                                 + spline2 +spline3 + spline4  + (1 | Country), data=winners)
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
summary(modelele.time3)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Time + time_sq + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -422.3
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -2.1606 -0.4621 -0.2082  0.0862  5.6024
##
```

```
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0002252 0.01501
##  Residual             0.0305429 0.17477
## Number of obs: 802, groups:  Country, 19
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 1.052e-01  9.651e-02  4.843e+00   1.090 0.327097
## Rebel_Party                 4.133e-02  2.179e-02  3.685e+02   1.897 0.058602
## logPercent                  1.776e-02  4.822e-03  1.045e+02   3.683 0.000367
## democ                       7.438e-03  1.851e-02  2.822e+00   0.402 0.716235
## Adopted_Quotas              3.736e-02  1.726e-02  9.345e+00   2.164 0.057574
## exclusive                   7.495e-03  2.142e-02  8.504e+00   0.350 0.734958
## opposition                 -4.764e-03  2.056e-02  7.060e+02  -0.232 0.816807
## Party_Institutionalization  1.452e-01  8.035e-02  5.119e+00   1.807 0.129157
## gdplnvdem                  -2.226e-02  1.449e-02  3.606e+00  -1.536 0.206813
## vdem_wom_civsoc             1.377e-01  5.356e-02  2.988e+00   2.571 0.082765
## Time                        1.509e-03  2.564e-03  4.040e+01   0.589 0.559436
## time_sq                     1.274e-04  8.145e-05  6.205e+01   1.564 0.122853
## spline2                     6.074e-03  5.480e-03  1.273e+02   1.108 0.269799
## spline3                    -1.349e-01  9.359e-02  3.076e+02  -1.442 0.150393
## spline4                     7.735e-01  4.407e-01  2.674e+02   1.755 0.080381
##
## (Intercept)
## Rebel_Party                .
## logPercent                 ***
## democ
## Adopted_Quotas             .
## exclusive
## opposition
## Party_Institutionalization
## gdplnvdem
## vdem_wom_civsoc            .
## Time
## time_sq
## spline2
## spline3
## spline4                    .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
##
## fit warnings:
## Some predictor variables are on very different scales: consider rescaling
texreg(list(modelcan.time,modelcan.time2, modelcan.time3, modelele.time, modelele.time2, modelele.time3)
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c c c c}
```

```
## \hline
##  & Model 1 & Model 2 & Model 3 & Model 4 & Model 5 & Model 6 \\
## \hline
## (Intercept)                 & $-0.16$       & $-0.15$       & $-0.16$     & $0.12$       & $0.12$
##                             & $(0.19)$      & $(0.19)$      & $(0.21)$    & $(0.09)$     & $(0.09)$
## Rebel\_Party                & $0.07^{**}$   & $0.05$        & $0.07^{**}$ & $0.04$       & $0.03$
##                             & $(0.02)$      & $(0.05)$      & $(0.02)$    & $(0.02)$     & $(0.03)$
## democ                       & $-0.11$       & $-0.11$       & $-0.12$     & $0.01$       & $0.01$
##                             & $(0.06)$      & $(0.06)$      & $(0.07)$    & $(0.02)$     & $(0.02)$
## Adopted\_Quotas             & $-0.08$       & $-0.08$       & $-0.06$     & $0.04^{**}$  & $0.04^{**
##                             & $(0.05)$      & $(0.05)$      & $(0.05)$    & $(0.02)$     & $(0.02)$
## exclusive                   & $-0.01$       & $-0.01$       & $-0.04$     & $0.01$       & $0.00$
##                             & $(0.05)$      & $(0.05)$      & $(0.05)$    & $(0.02)$     & $(0.02)$
## opposition                  & $-0.02$       & $-0.02$       & $-0.02$     & $-0.01$      & $-0.00$
##                             & $(0.03)$      & $(0.03)$      & $(0.03)$    & $(0.02)$     & $(0.02)$
## Party\_Institutionalization & $0.51^{**}$   & $0.50^{**}$   & $0.51^{**}$ & $0.17^{*}$   & $0.17^{*}$
##                             & $(0.17)$      & $(0.17)$      & $(0.19)$    & $(0.07)$     & $(0.07)$
## gdplnvdem                   & $-0.00$       & $-0.00$       & $0.00$      & $-0.03^{*}$  & $-0.03^{*
##                             & $(0.03)$      & $(0.03)$      & $(0.03)$    & $(0.01)$     & $(0.01)$
## vdem\_wom\_civsoc           & $0.35^{*}$    & $0.36^{*}$    & $0.27$      & $0.13^{**}$  & $0.13^{**
##                             & $(0.18)$      & $(0.18)$      & $(0.20)$    & $(0.05)$     & $(0.05)$
## Time                        & $-0.01^{***}$ & $-0.01^{***}$ & $-0.00$     & $0.00^{***}$ & $0.00^{***
##                             & $(0.00)$      & $(0.00)$      & $(0.01)$    & $(0.00)$     & $(0.00)$
## spline2                     & $0.04^{**}$   & $0.04^{**}$   & $0.03^{*}$  & $0.01$       & $0.01$
##                             & $(0.01)$      & $(0.01)$      & $(0.01)$    & $(0.01)$     & $(0.01)$
## spline3                     & $-0.49^{**}$  & $-0.49^{**}$  & $-0.41^{*}$ & $-0.12$      & $-0.12$
##                             & $(0.19)$      & $(0.19)$      & $(0.20)$    & $(0.09)$     & $(0.09)$
## spline4                     & $1.92^{*}$    & $1.93^{*}$    & $1.77^{*}$  & $0.69$       & $0.71$
##                             & $(0.84)$      & $(0.85)$      & $(0.85)$    & $(0.43)$     & $(0.43)$
## Rebel\_Party:Time           &               & $0.00$        &             &              & $0.00$
##                             &               & $(0.00)$      &             &              & $(0.00)$
## time\_sq                    &               &               & $-0.00$     &              &
##                             &               &               & $(0.00)$    &              &
## logPercent                  &               &               &             & $0.02^{***}$ & $0.02^{***
##                             &               &               &             & $(0.00)$     & $(0.00)$
## \hline
## AIC                         & $-104.20$     & $-92.33$      & $-87.54$    & $-405.18$    & $-393.36$
## BIC                         & $-61.90$      & $-47.21$      & $-42.41$    & $-330.19$    & $-313.68$
## Log Likelihood              & $67.10$       & $62.17$       & $59.77$     & $218.59$     & $213.68$
## Num. obs.                   & $124$         & $124$         & $124$       & $802$        & $802$
## Num. groups: Country        & $11$          & $11$          & $11$        & $19$         & $19$
## Var: Country (Intercept)    & $0.00$        & $0.00$        & $0.00$      & $0.00$       & $0.00$
## Var: Residual               & $0.01$        & $0.01$        & $0.01$      & $0.03$       & $0.03$
## \hline
## \multicolumn{7}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
###Conflict Outcome, Table 2

modelcan.rebelvic <- lmerTest::lmer(Percent_Women_Candidates ~
```

```
                                    Rebel_Party
                                  + democ
                                  + Adopted_Quotas
                                  + exclusive
                                  + opposition
                                  + Party_Institutionalization
                                  + gdplnvdem
                                  + vdem_wom_civsoc
                                  + rebelvictory
                                  + Rebel_Party:rebelvictory
                                  + spline2 + spline3 + spline4 + (1 | Country), data=winners)
summary(modelcan.rebelvic)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + rebelvictory + Rebel_Party:rebelvictory +
##     spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -129.5
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3804 -0.3803  0.1334  0.5603  2.5058
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.01137  0.1066
##  Residual             0.01204  0.1097
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                -0.111246   0.343120  11.520623  -0.324   0.7516
## Rebel_Party                 0.063016   0.036624 105.645482   1.721   0.0882 .
## democ                      -0.063010   0.116166   7.165072  -0.542   0.6040
## Adopted_Quotas             -0.050674   0.062385  43.189231  -0.812   0.4211
## exclusive                  -0.027882   0.056174  65.018136  -0.496   0.6213
## opposition                 -0.019314   0.025801 106.347908  -0.749   0.4558
## Party_Institutionalization  0.117046   0.252091  13.939196   0.464   0.6496
## gdplnvdem                   0.032720   0.050874  14.521919   0.643   0.5301
## vdem_wom_civsoc             0.132750   0.317679  11.139631   0.418   0.6840
## rebelvictory               -0.019554   0.087287   6.403012  -0.224   0.8297
## spline2                     0.014458   0.011583 109.907912   1.248   0.2146
## spline3                    -0.298809   0.185926 109.954134  -1.607   0.1109
## spline4                     1.482376   0.862019 109.326646   1.720   0.0883 .
## Rebel_Party:rebelvictory    0.008774   0.050388 105.981225   0.174   0.8621
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 14 > 12.
```

```
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelcan.peaceag <- lmerTest::lmer(Percent_Women_Candidates ~
                                     Rebel_Party
                                   + democ
                                   + Adopted_Quotas
                                   + exclusive
                                   + opposition
                                   + Party_Institutionalization
                                   + gdplnvdem
                                   + vdem_wom_civsoc
                                   + peaceag
                                   + Rebel_Party:peaceag
                                   + spline2 + spline3 + spline4 + (1 | Country), data=winners)
summary(modelcan.peaceag)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + peaceag + Rebel_Party:peaceag + spline2 +
##     spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -130.9
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.4038 -0.3856  0.1253  0.5662  2.5408
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.01133  0.1065
##  Residual             0.01203  0.1097
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                -0.137283   0.383729  16.858905  -0.358   0.7250
## Rebel_Party                 0.072688   0.030757 105.381529   2.363   0.0199 *
## democ                      -0.048381   0.142286   6.017078  -0.340   0.7454
## Adopted_Quotas             -0.051445   0.062398  41.809225  -0.824   0.4144
## exclusive                  -0.026995   0.056394  64.090372  -0.479   0.6338
## opposition                 -0.021488   0.026406 106.304353  -0.814   0.4176
## Party_Institutionalization  0.102529   0.246830  16.224498   0.415   0.6833
## gdplnvdem                   0.036240   0.053289  18.747998   0.680   0.5048
## vdem_wom_civsoc             0.119861   0.312160  13.573908   0.384   0.7069
## peaceag                    -0.001982   0.151649   6.503296  -0.013   0.9900
## spline2                     0.014784   0.011678 109.663959   1.266   0.2082
## spline3                    -0.305596   0.188630 109.803310  -1.620   0.1081
## spline4                     1.516593   0.873028 109.966652   1.737   0.0852 .
## Rebel_Party:peaceag        -0.018844   0.054991 105.051833  -0.343   0.7325
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelcan.lowactivity <- lmerTest::lmer(Percent_Women_Candidates ~
                                         Rebel_Party
                                       + democ
                                       + Adopted_Quotas
                                       + exclusive
                                       + opposition
                                       + Party_Institutionalization
                                       + gdplnvdem
                                       + vdem_wom_civsoc
                                       + lowactivity
                                       + Rebel_Party:lowactivity
                                       + spline2
                                       + spline3
                                       + spline4
                                       + (1 | Country), data=winners)
summary(modelcan.lowactivity)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + lowactivity + Rebel_Party:lowactivity +
##     spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -133.8
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3503 -0.3834  0.0953  0.5802  2.5020
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.010    0.1000
##  Residual             0.012    0.1096
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.11104    0.32601  11.73029  -0.341   0.7394
## Rebel_Party                 0.06754    0.02623 108.74597   2.575   0.0114 *
## democ                      -0.01179    0.10759  11.90317  -0.110   0.9145
## Adopted_Quotas             -0.01840    0.06981  78.21940  -0.263   0.7929
## exclusive                  -0.04138    0.05793  68.11036  -0.714   0.4774
## opposition                 -0.01919    0.02591 107.46636  -0.740   0.4607
## Party_Institutionalization  0.08648    0.23076  13.20730   0.375   0.7138
## gdplnvdem                   0.05637    0.05181  10.24498   1.088   0.3016
## vdem_wom_civsoc            -0.15415    0.41864  21.17495  -0.368   0.7164
## lowactivity                -0.17087    0.20504  12.05104  -0.833   0.4209
## spline2                     0.01349    0.01150 109.99751   1.173   0.2431
```

```
## spline3                     -0.30245    0.18504 109.94497  -1.634   0.1050
## spline4                      1.55027    0.86162 109.18831   1.799   0.0747 .
## Rebel_Party:lowactivity     -0.02919    0.11408 104.81701  -0.256   0.7986
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
texreg(list(modelcan.rebelvic, modelcan.peaceag, modelcan.lowactivity))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c}
## \hline
##  & Model 1 & Model 2 & Model 3 \\
## \hline
## (Intercept)                 & $-0.11$  & $-0.14$    & $-0.11$    \\
##                             & $(0.34)$ & $(0.38)$   & $(0.33)$   \\
## Rebel\_Party                & $0.06$   & $0.07^{*}$ & $0.07^{*}$ \\
##                             & $(0.04)$ & $(0.03)$   & $(0.03)$   \\
## democ                       & $-0.06$  & $-0.05$    & $-0.01$    \\
##                             & $(0.12)$ & $(0.14)$   & $(0.11)$   \\
## Adopted\_Quotas             & $-0.05$  & $-0.05$    & $-0.02$    \\
##                             & $(0.06)$ & $(0.06)$   & $(0.07)$   \\
## exclusive                   & $-0.03$  & $-0.03$    & $-0.04$    \\
##                             & $(0.06)$ & $(0.06)$   & $(0.06)$   \\
## opposition                  & $-0.02$  & $-0.02$    & $-0.02$    \\
##                             & $(0.03)$ & $(0.03)$   & $(0.03)$   \\
## Party\_Institutionalization & $0.12$   & $0.10$     & $0.09$     \\
##                             & $(0.25)$ & $(0.25)$   & $(0.23)$   \\
## gdplnvdem                   & $0.03$   & $0.04$     & $0.06$     \\
##                             & $(0.05)$ & $(0.05)$   & $(0.05)$   \\
## vdem\_wom\_civsoc           & $0.13$   & $0.12$     & $-0.15$    \\
##                             & $(0.32)$ & $(0.31)$   & $(0.42)$   \\
## rebelvictory                & $-0.02$  &            &            \\
##                             & $(0.09)$ &            &            \\
## spline2                     & $0.01$   & $0.01$     & $0.01$     \\
##                             & $(0.01)$ & $(0.01)$   & $(0.01)$   \\
## spline3                     & $-0.30$  & $-0.31$    & $-0.30$    \\
##                             & $(0.19)$ & $(0.19)$   & $(0.19)$   \\
## spline4                     & $1.48$   & $1.52$     & $1.55$     \\
##                             & $(0.86)$ & $(0.87)$   & $(0.86)$   \\
## Rebel\_Party:rebelvictory   & $0.01$   &            &            \\
##                             & $(0.05)$ &            &            \\
## peaceag                     &          & $-0.00$    &            \\
##                             &          & $(0.15)$   &            \\
## Rebel\_Party:peaceag        &          & $-0.02$    &            \\
##                             &          & $(0.05)$   &            \\
## lowactivity                 &          &            & $-0.17$    \\
##                             &          &            & $(0.21)$   \\
## Rebel\_Party:lowactivity    &          &            & $-0.03$    \\
```

```
##                              &          &            & $(0.11)$   \\
## \hline
## AIC                          & $-97.53$ & $-98.91$   & $-101.81$  \\
## BIC                          & $-52.40$ & $-53.78$   & $-56.68$   \\
## Log Likelihood               & $64.76$  & $65.45$    & $66.90$    \\
## Num. obs.                    & $124$    & $124$      & $124$      \\
## Num. groups: Country         & $11$     & $11$       & $11$       \\
## Var: Country (Intercept)     & $0.01$   & $0.01$     & $0.01$     \\
## Var: Residual                & $0.01$   & $0.01$     & $0.01$     \\
## \hline
## \multicolumn{4}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
##Election, Table 3

modelele.rebelvic <- lmerTest::lmer(Percent_Women_Seats ~
                                      Rebel_Party
                                    + logPercent
                                    + democ
                                    + Adopted_Quotas
                                    + exclusive
                                    + opposition
                                    + Party_Institutionalization
                                    + gdplnvdem
                                    + vdem_wom_civsoc
                                    + rebelvictory
                                    + Rebel_Party:rebelvictory
                                    + spline2 + spline3 + spline4
                                    + (1 | Country), data=winners)
summary(modelele.rebelvic)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + rebelvictory + Rebel_Party:rebelvictory +
##     spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -427.8
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.6265 -0.4688 -0.1724  0.0358  5.6057
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0003976 0.01994
##  Residual             0.0310395 0.17618
## Number of obs: 805, groups:  Country, 20
```

```
##
## Fixed effects:
##                               Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                   0.136001   0.104363  11.035137   1.303 0.219055
## Rebel_Party                   0.039110   0.027437 778.524382   1.425 0.154429
## logPercent                    0.016381   0.004887 239.789420   3.352 0.000933
## democ                        -0.004678   0.023756  15.824479  -0.197 0.846406
## Adopted_Quotas                0.032558   0.018187  28.943145   1.790 0.083887
## exclusive                    -0.029974   0.020684  17.504150  -1.449 0.164979
## opposition                   -0.001521   0.020910 742.753335  -0.073 0.942023
## Party_Institutionalization    0.270314   0.078962  12.992509   3.423 0.004538
## gdplnvdem                    -0.031953   0.015287   9.161574  -2.090 0.065618
## vdem_wom_civsoc               0.139246   0.060750  10.816337   2.292 0.042997
## rebelvictory                  0.023433   0.024960  12.265389   0.939 0.365937
## spline2                       0.013144   0.005184 637.565937   2.535 0.011476
## spline3                      -0.208569   0.091985 642.791264  -2.267 0.023696
## spline4                       1.061475   0.440813 493.964406   2.408 0.016406
## Rebel_Party:rebelvictory      0.007369   0.037897 545.541208   0.194 0.845893
##
## (Intercept)
## Rebel_Party
## logPercent                  ***
## democ
## Adopted_Quotas              .
## exclusive
## opposition
## Party_Institutionalization **
## gdplnvdem                   .
## vdem_wom_civsoc             *
## rebelvictory
## spline2                     *
## spline3                     *
## spline4                     *
## Rebel_Party:rebelvictory
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelele.peaceag <- lmerTest::lmer(Percent_Women_Seats ~
                                     Rebel_Party
                                   + logPercent
                                   + democ
                                   + Adopted_Quotas
                                   + exclusive
                                   + opposition
                                   + Party_Institutionalization
                                   + gdplnvdem
                                   + vdem_wom_civsoc
                                   + peaceag
                                   + Rebel_Party:peaceag
                                   + spline2 + spline3 + spline4
```

```
                                    + (1 | Country), data=winners)
summary(modelele.peaceag)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + peaceag + Rebel_Party:peaceag + spline2 +
##     spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -429.3
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5976 -0.4511 -0.1821  0.0326  5.6150
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0004583 0.02141
##  Residual             0.0309790 0.17601
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.174068   0.109686   9.541246   1.587  0.14507
## Rebel_Party                  0.030064   0.023964 382.260257   1.255  0.21041
## logPercent                   0.015963   0.004934 315.612592   3.236  0.00134 **
## democ                       -0.020536   0.024489  24.700402  -0.839  0.40973
## Adopted_Quotas               0.027290   0.018249  25.793727   1.495  0.14695
## exclusive                   -0.033488   0.022771  25.921760  -1.471  0.15343
## opposition                   0.002915   0.020771 737.024026   0.140  0.88841
## Party_Institutionalization   0.270958   0.080742   9.886856   3.356  0.00741 **
## gdplnvdem                   -0.036446   0.015613   6.955541  -2.334  0.05250 .
## vdem_wom_civsoc              0.164795   0.060151   8.529083   2.740  0.02400 *
## peaceag                     -0.004144   0.026807   9.484006  -0.155  0.88040
## spline2                      0.012752   0.005162 616.837826   2.470  0.01377 *
## spline3                     -0.192994   0.091309 646.902611  -2.114  0.03493 *
## spline4                      0.957722   0.436796 470.808033   2.193  0.02882 *
## Rebel_Party:peaceag          0.065765   0.044352 715.279198   1.483  0.13857
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelele.lowactivity <- lmerTest::lmer(Percent_Women_Seats ~
                                         Rebel_Party
                                       + logPercent
                                       + democ
                                       + Adopted_Quotas
                                       + exclusive
```

```
                                    + opposition
                                    + Party_Institutionalization
                                    + gdplnvdem
                                    + vdem_wom_civsoc
                                    + lowactivity
                                    + Rebel_Party:lowactivity
                                    + spline2 + spline3 + spline4
                                    + (1 | Country), data=winners)
summary(modelele.lowactivity)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + lowactivity + Rebel_Party:lowactivity +
##     spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -433.3
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5910 -0.4521 -0.1771  0.0377  5.6471
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0001713 0.01309
##  Residual             0.0309847 0.17602
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                             Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 0.147399   0.094700  10.634190   1.556  0.14883
## Rebel_Party                 0.062854   0.023218 457.894078   2.707  0.00704 **
## logPercent                  0.014726   0.004841 161.330854   3.042  0.00275 **
## democ                      -0.018062   0.017157   4.274512  -1.053  0.34830
## Adopted_Quotas              0.033487   0.017293  24.351694   1.936  0.06449 .
## exclusive                  -0.029778   0.020529  17.179010  -1.451  0.16492
## opposition                  0.008151   0.020998 735.340777   0.388  0.69800
## Party_Institutionalization  0.272417   0.075712  13.297048   3.598  0.00314 **
## gdplnvdem                  -0.034524   0.015446  13.985437  -2.235  0.04224 *
## vdem_wom_civsoc             0.164581   0.064930  21.480001   2.535  0.01908 *
## lowactivity                 0.006812   0.036449   4.816448   0.187  0.85936
## spline2                     0.012369   0.005125 577.881986   2.413  0.01611 *
## spline3                    -0.196375   0.090430 616.728665  -2.172  0.03027 *
## spline4                     1.000848   0.430394 478.183186   2.325  0.02047 *
## Rebel_Party:lowactivity    -0.130683   0.060804 788.721083  -2.149  0.03192 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
```

```
##     vcov(x)        if you need it
```

```
texreg(list(modelele.rebelvic, modelele.peaceag, modelele.lowactivity))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c}
## \hline
##  & Model 1 & Model 2 & Model 3 \\
## \hline
## (Intercept)                 & $0.14$       & $0.17$       & $0.15$       \\
##                             & $(0.10)$     & $(0.11)$     & $(0.09)$     \\
## Rebel\_Party                & $0.04$       & $0.03$       & $0.06^{**}$  \\
##                             & $(0.03)$     & $(0.02)$     & $(0.02)$     \\
## logPercent                  & $0.02^{***}$ & $0.02^{**}$  & $0.01^{**}$  \\
##                             & $(0.00)$     & $(0.00)$     & $(0.00)$     \\
## democ                       & $-0.00$      & $-0.02$      & $-0.02$      \\
##                             & $(0.02)$     & $(0.02)$     & $(0.02)$     \\
## Adopted\_Quotas             & $0.03$       & $0.03$       & $0.03$       \\
##                             & $(0.02)$     & $(0.02)$     & $(0.02)$     \\
## exclusive                   & $-0.03$      & $-0.03$      & $-0.03$      \\
##                             & $(0.02)$     & $(0.02)$     & $(0.02)$     \\
## opposition                  & $-0.00$      & $0.00$       & $0.01$       \\
##                             & $(0.02)$     & $(0.02)$     & $(0.02)$     \\
## Party\_Institutionalization & $0.27^{***}$ & $0.27^{***}$ & $0.27^{***}$ \\
##                             & $(0.08)$     & $(0.08)$     & $(0.08)$     \\
## gdplnvdem                   & $-0.03^{*}$  & $-0.04^{*}$  & $-0.03^{*}$  \\
##                             & $(0.02)$     & $(0.02)$     & $(0.02)$     \\
## vdem\_wom\_civsoc           & $0.14^{*}$   & $0.16^{**}$  & $0.16^{*}$   \\
##                             & $(0.06)$     & $(0.06)$     & $(0.06)$     \\
## rebelvictory                & $0.02$       &              &              \\
##                             & $(0.02)$     &              &              \\
## spline2                     & $0.01^{*}$   & $0.01^{*}$   & $0.01^{*}$   \\
##                             & $(0.01)$     & $(0.01)$     & $(0.01)$     \\
## spline3                     & $-0.21^{*}$  & $-0.19^{*}$  & $-0.20^{*}$  \\
##                             & $(0.09)$     & $(0.09)$     & $(0.09)$     \\
## spline4                     & $1.06^{*}$   & $0.96^{*}$   & $1.00^{*}$   \\
##                             & $(0.44)$     & $(0.44)$     & $(0.43)$     \\
## Rebel\_Party:rebelvictory   & $0.01$       &              &              \\
##                             & $(0.04)$     &              &              \\
## peaceag                     &              & $-0.00$      &              \\
##                             &              & $(0.03)$     &              \\
## Rebel\_Party:peaceag        &              & $0.07$       &              \\
##                             &              & $(0.04)$     &              \\
## lowactivity                 &              &              & $0.01$       \\
##                             &              &              & $(0.04)$     \\
## Rebel\_Party:lowactivity    &              &              & $-0.13^{*}$  \\
##                             &              &              & $(0.06)$     \\
## \hline
## AIC                         & $-393.83$    & $-395.33$    & $-399.32$    \\
## BIC                         & $-314.09$    & $-315.59$    & $-319.58$    \\
## Log Likelihood              & $213.92$     & $214.67$     & $216.66$     \\
## Num. obs.                   & $805$        & $805$        & $805$        \\
## Num. groups: Country        & $20$         & $20$         & $20$         \\
```

```
## Var: Country (Intercept)    & $0.00$       & $0.00$       & $0.00$       \\
## Var: Residual               & $0.03$       & $0.03$       & $0.03$       \\
## \hline
## \multicolumn{4}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
##Gender, Inclusivity, Rights, & Respect, Table 4



modelcan_left <- lmerTest::lmer(Percent_Women_Candidates ~
                                  rebelparty_left +
                                  democ +
                                  Adopted_Quotas +
                                  exclusive +
                                  opposition+
                                  Party_Institutionalization+
                                  gdplnvdem  +
                                  vdem_wom_civsoc+
                                  spline2 +
                                  spline3 +
                                  spline4  +
                                  (1 | Country),
                                data=winners)
summary(modelcan_left)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ rebelparty_left + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -130.1
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.4330 -0.4111  0.0211  0.5965  2.5474
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.009381 0.09686
##  Residual             0.012274 0.11079
## Number of obs: 119, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.20070    0.33793  12.41141  -0.594   0.5632
## rebelparty_left             0.17222    0.11880 102.78312   1.450   0.1502
## democ                      -0.05555    0.09890   9.57862  -0.562   0.5872
## Adopted_Quotas             -0.03000    0.06122  44.23828  -0.490   0.6266
```

```
## exclusive                   -0.02095    0.05560  64.40817  -0.377   0.7076
## opposition                  -0.01839    0.02600 104.53454  -0.707   0.4811
## Party_Institutionalization   0.10364    0.24384  14.82913   0.425   0.6769
## gdplnvdem                    0.04306    0.05000  15.80139   0.861   0.4020
## vdem_wom_civsoc              0.13539    0.29283  12.55825   0.462   0.6518
## spline2                      0.01511    0.01207 106.92350   1.251   0.2136
## spline3                     -0.31210    0.19515 106.78552  -1.599   0.1127
## spline4                      1.52338    0.90611 105.57581   1.681   0.0957 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) rblpr_ democ  Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## rblprty_lft -0.035
## democ        0.327  0.027
## Adopted_Qts  0.062  0.067  0.471
## exclusive   -0.112 -0.027 -0.011 -0.122
## opposition   0.068  0.010 -0.065  0.031 -0.081
## Prty_Insttt  0.470  0.016  0.189  0.276 -0.029 -0.013
## gdplnvdem   -0.831  0.011 -0.219 -0.109 -0.202 -0.057 -0.695
## vdm_wm_cvsc -0.482  0.007 -0.582 -0.336  0.509  0.014 -0.248  0.072
## spline2     -0.050  0.008  0.178  0.087  0.108 -0.155  0.077 -0.088 -0.020
## spline3      0.167 -0.014 -0.122 -0.094  0.078  0.155  0.096 -0.150  0.094
## spline4     -0.199  0.013  0.078  0.060 -0.214 -0.142 -0.177  0.273 -0.163
##             splin2 splin3
## rblprty_lft
## democ
## Adopted_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.911
## spline4      0.760 -0.956
```

```
modelele_left <- lmerTest::lmer(Percent_Women_Seats ~
                                  rebelparty_left +
                                  +logPercent
                                + democ
                                + Adopted_Quotas
                                + exclusive
                                + opposition
                                + Party_Institutionalization
                                + gdplnvdem
                                + vdem_wom_civsoc
                                + spline2
                                + spline3
                                + spline4
                                + (1 | Country), data=winners)
```

```
## boundary (singular) fit: see help('isSingular')
```

```
summary(modelele_left)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ rebelparty_left + +logPercent + democ +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -423.8
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.6072 -0.4354 -0.1946  0.0571  5.6096
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00000  0.0000
##  Residual             0.03139  0.1772
## Number of obs: 788, groups:  Country, 20
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                  0.15360    0.09098 775.00000   1.688 0.091746 .
## rebelparty_left              0.10602    0.07470 775.00000   1.419 0.156221
## logPercent                   0.01623    0.00430 775.00000   3.774 0.000173 ***
## democ                       -0.02120    0.01533 775.00000  -1.383 0.166981
## Adopted_Quotas               0.03732    0.01638 775.00000   2.278 0.022997 *
## exclusive                   -0.02824    0.01877 775.00000  -1.504 0.132912
## opposition                   0.01007    0.02100 775.00000   0.479 0.631857
## Party_Institutionalization   0.26880    0.07152 775.00000   3.758 0.000184 ***
## gdplnvdem                   -0.03453    0.01324 775.00000  -2.608 0.009276 **
## vdem_wom_civsoc              0.17729    0.04664 775.00000   3.801 0.000155 ***
## spline2                      0.01240    0.00521 775.00000   2.380 0.017576 *
## spline3                     -0.20572    0.09168 775.00000  -2.244 0.025113 *
## spline4                      1.05549    0.43273 775.00000   2.439 0.014945 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
## optimizer (nloptwrap) convergence code: 0 (OK)
## boundary (singular) fit: see help('isSingular')
```

```
modelcan_humn <- lmerTest::lmer(Percent_Women_Candidates ~
                                  rebelparty_humn +
                                  democ +
                                  Adopted_Quotas +
                                  exclusive +
                                  opposition+
                                  Party_Institutionalization+
```

```
                                  gdplnvdem  +
                                  vdem_wom_civsoc+
                                  spline2 +
                                  spline3 +
                                  spline4  +
                                  (1 | Country),
                                data=winners)
summary(modelcan_humn)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ rebelparty_humn + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -131.9
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.4227 -0.4543  0.0296  0.5822  2.5086
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.009621 0.09809
##  Residual             0.012518 0.11188
## Number of obs: 122, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.11389    0.32968  13.27714  -0.345   0.7352
## rebelparty_humn             0.17067    0.11997 105.71960   1.423   0.1578
## democ                      -0.02729    0.09787   9.22234  -0.279   0.7865
## Adopted_Quotas             -0.03088    0.06172  44.54496  -0.500   0.6193
## exclusive                  -0.02027    0.05610  66.00078  -0.361   0.7191
## opposition                 -0.02847    0.02586 106.38844  -1.101   0.2734
## Party_Institutionalization  0.14682    0.23605  15.58036   0.622   0.5429
## gdplnvdem                   0.03157    0.04838  16.77609   0.653   0.5229
## vdem_wom_civsoc             0.09301    0.29034  13.42212   0.320   0.7536
## spline2                     0.01600    0.01187 109.88680   1.348   0.1803
## spline3                    -0.31753    0.19465 109.75449  -1.631   0.1057
## spline4                     1.52540    0.90784 108.58907   1.680   0.0958 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) rblpr_ democ  Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## rblprty_hmn -0.034
## democ        0.289  0.029
## Adopted_Qts  0.048  0.067  0.471
## exclusive   -0.121 -0.027 -0.015 -0.124
## opposition   0.091  0.010 -0.046  0.031 -0.079
## Prty_Insttt  0.428  0.019  0.141  0.268 -0.039  0.002
## gdplnvdem   -0.819  0.010 -0.172 -0.094 -0.204 -0.081 -0.666
```

```
## vdm_wm_cvsc -0.457  0.006 -0.568 -0.331  0.520  0.006 -0.210  0.022
## spline2     -0.094  0.009  0.156  0.078  0.100 -0.149  0.026 -0.038 -0.002
## spline3      0.183 -0.014 -0.120 -0.091  0.087  0.151  0.120 -0.178  0.099
## spline4     -0.199  0.012  0.085  0.062 -0.222 -0.140 -0.185  0.286 -0.180
##             splin2 splin3
## rblprty_hmn
## democ
## Adopted_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.916
## spline4      0.771 -0.957
```

```
modelele_humn <- lmerTest::lmer(Percent_Women_Seats ~
                                  rebelparty_humn +
                                  +logPercent
                                + democ
                                + Adopted_Quotas
                                + exclusive
                                + opposition
                                + Party_Institutionalization
                                + gdplnvdem
                                + vdem_wom_civsoc
                                + spline2
                                + spline3
                                + spline4
                                + (1 | Country), data=winners)
summary(modelele_humn)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ rebelparty_humn + +logPercent + democ +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -430.5
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5795 -0.4360 -0.1920  0.0448  5.6241
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 2.327e-05 0.004824
##  Residual             3.136e-02 0.177081
## Number of obs: 798, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
```

```
## (Intercept)                  0.196496   0.090705  11.664247   2.166  0.05176
## rebelparty_humn              0.075766   0.075057 320.711269   1.009  0.31352
## logPercent                   0.018858   0.004201 117.995192   4.489 1.67e-05
## democ                       -0.017649   0.015508   2.795735  -1.138  0.34315
## Adopted_Quotas               0.034755   0.016398  18.748722   2.119  0.04763
## exclusive                   -0.031244   0.018785  12.194053  -1.663  0.12172
## opposition                   0.002351   0.020781 712.737191   0.113  0.90995
## Party_Institutionalization   0.289962   0.071304  12.446470   4.067  0.00145
## gdplnvdem                   -0.039487   0.013226   7.488322  -2.986  0.01882
## vdem_wom_civsoc              0.171630   0.047319   4.313167   3.627  0.01952
## spline2                      0.012063   0.005165 569.884429   2.335  0.01987
## spline3                     -0.192947   0.090921 566.403935  -2.122  0.03426
## spline4                      0.985061   0.429829 406.979689   2.292  0.02243
##
## (Intercept)                .
## rebelparty_humn
## logPercent                 ***
## democ
## Adopted_Quotas             *
## exclusive
## opposition
## Party_Institutionalization **
## gdplnvdem                  *
## vdem_wom_civsoc            *
## spline2                    *
## spline3                    *
## spline4                    *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelcan_forced <- lmerTest::lmer(Percent_Women_Candidates ~
                                    rebelparty_forced +
                                    democ +
                                    Adopted_Quotas +
                                    exclusive +
                                    opposition+
                                    Party_Institutionalization+
                                    gdplnvdem  +
                                    vdem_wom_civsoc+
                                    spline2 +
                                    spline3 +
                                    spline4  +
                                    (1 | Country),
                                  data=winners)
summary(modelcan_forced)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Candidates ~ rebelparty_forced + democ + Adopted_Quotas +
```

```
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -116.7
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.2586 -0.3898  0.1009  0.5244  2.4704
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.008104 0.09002
##  Residual             0.012525 0.11192
## Number of obs: 112, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.147702   0.332581 11.054156  -0.444    0.666
## rebelparty_forced           0.054054   0.035161 99.657544   1.537    0.127
## democ                      -0.066639   0.096491  9.056704  -0.691    0.507
## Adopted_Quotas             -0.019097   0.065764 27.787969  -0.290    0.774
## exclusive                  -0.034854   0.056764 54.083885  -0.614    0.542
## opposition                 -0.006971   0.027316 98.762716  -0.255    0.799
## Party_Institutionalization  0.118087   0.244229 13.929597   0.484    0.636
## gdplnvdem                   0.039664   0.049724 14.678321   0.798    0.438
## vdem_wom_civsoc             0.090145   0.289243 10.840299   0.312    0.761
## spline2                     0.009482   0.013080 99.826414   0.725    0.470
## spline3                    -0.238171   0.211185 98.667446  -1.128    0.262
## spline4                     1.300180   0.980383 96.579177   1.326    0.188
##
## Correlation of Fixed Effects:
##             (Intr) rblpr_ democ  Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## rblprty_frc -0.076
## democ        0.338 -0.042
## Adopted_Qts  0.098 -0.005  0.499
## exclusive   -0.108 -0.097  0.007 -0.102
## opposition   0.101  0.024 -0.074  0.024 -0.080
## Prty_Insttt  0.484 -0.029  0.254  0.367 -0.014 -0.014
## gdplnvdem   -0.825  0.069 -0.261 -0.183 -0.223 -0.078 -0.711
## vdm_wm_cvsc -0.487  0.000 -0.577 -0.337  0.522  0.007 -0.273  0.083
## spline2     -0.106 -0.028  0.186  0.055  0.123 -0.195  0.058 -0.046 -0.007
## spline3      0.209  0.012 -0.116 -0.034  0.070  0.193  0.111 -0.185  0.086
## spline4     -0.232  0.009  0.065 -0.003 -0.216 -0.175 -0.189  0.306 -0.163
##             splin2 splin3
## rblprty_frc
## democ
## Adopted_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
```

```
## spline3     -0.915
## spline4      0.765 -0.956
```

```
modelele_forced <- lmerTest::lmer(Percent_Women_Seats ~
                                    rebelparty_forced +
                                    +logPercent
                                  + democ
                                  + Adopted_Quotas
                                  + exclusive
                                  + opposition
                                  + Party_Institutionalization
                                  + gdplnvdem
                                  + vdem_wom_civsoc
                                  + spline2
                                  + spline3
                                  + spline4
                                  + (1 | Country), data=winners)
```

```
## boundary (singular) fit: see help('isSingular')
```

```
summary(modelele_forced)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ rebelparty_forced + +logPercent + democ +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -408.1
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5584 -0.4259 -0.2008  0.0275  5.6027
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 2.003e-20 1.415e-10
##  Residual             3.149e-02 1.775e-01
## Number of obs: 769, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.167429   0.092597 756.000000   1.808 0.070981
## rebelparty_forced            0.053375   0.027624 756.000000   1.932 0.053704
## logPercent                   0.012626   0.004732 756.000000   2.668 0.007797
## democ                       -0.025580   0.015572 756.000000  -1.643 0.100860
## Adopted_Quotas               0.040013   0.016566 756.000000   2.415 0.015953
## exclusive                   -0.036964   0.019190 756.000000  -1.926 0.054449
## opposition                   0.016704   0.021403 756.000000   0.780 0.435367
## Party_Institutionalization   0.247853   0.073061 756.000000   3.392 0.000729
## gdplnvdem                   -0.034830   0.013427 756.000000  -2.594 0.009671
## vdem_wom_civsoc              0.158209   0.047157 756.000000   3.355 0.000833
## spline2                      0.011926   0.005290 756.000000   2.254 0.024451
```

```
## spline3                      -0.207974   0.092893 756.000000  -2.239 0.025455
## spline4                       1.087187   0.438521 756.000000   2.479 0.013384
##
## (Intercept)                .
## rebelparty_forced          .
## logPercent                 **
## democ
## Adopted_Quotas             *
## exclusive                  .
## opposition
## Party_Institutionalization ***
## gdplnvdem                  **
## vdem_wom_civsoc            ***
## spline2                    *
## spline3                    *
## spline4                    *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
## optimizer (nloptwrap) convergence code: 0 (OK)
## boundary (singular) fit: see help('isSingular')
texreg(list(modelcan_left,modelcan_humn, modelcan_forced,modelele_left, modelele_humn, modelele_forced)
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c c c c}
## \hline
##  & Model 1 & Model 2 & Model 3 & Model 4 & Model 5 & Model 6 \\
## \hline
## (Intercept)                & $-0.20$   & $-0.11$   & $-0.15$  & $0.15$       & $0.20^{*}$   & $0.17
##                            & $(0.34)$  & $(0.33)$  & $(0.33)$ & $(0.09)$     & $(0.09)$     & $(0.0
## rebelparty\_left           & $0.17$    &           &          & $0.11$       &              &
##                            & $(0.12)$  &           &          & $(0.07)$     &              &
## democ                      & $-0.06$   & $-0.03$   & $-0.07$  & $-0.02$      & $-0.02$      & $-0.0
##                            & $(0.10)$  & $(0.10)$  & $(0.10)$ & $(0.02)$     & $(0.02)$     & $(0.0
## Adopted\_Quotas            & $-0.03$   & $-0.03$   & $-0.02$  & $0.04^{*}$   & $0.03^{*}$   & $0.04
##                            & $(0.06)$  & $(0.06)$  & $(0.07)$ & $(0.02)$     & $(0.02)$     & $(0.0
## exclusive                  & $-0.02$   & $-0.02$   & $-0.03$  & $-0.03$      & $-0.03$      & $-0.0
##                            & $(0.06)$  & $(0.06)$  & $(0.06)$ & $(0.02)$     & $(0.02)$     & $(0.0
## opposition                 & $-0.02$   & $-0.03$   & $-0.01$  & $0.01$       & $0.00$       & $0.02
##                            & $(0.03)$  & $(0.03)$  & $(0.03)$ & $(0.02)$     & $(0.02)$     & $(0.0
## Party\_Institutionalization & $0.10$    & $0.15$    & $0.12$   & $0.27^{***}$ & $0.29^{***}$ & $0.25
##                            & $(0.24)$  & $(0.24)$  & $(0.24)$ & $(0.07)$     & $(0.07)$     & $(0.0
## gdplnvdem                  & $0.04$    & $0.03$    & $0.04$   & $-0.03^{**}$ & $-0.04^{**}$ & $-0.0
##                            & $(0.05)$  & $(0.05)$  & $(0.05)$ & $(0.01)$     & $(0.01)$     & $(0.0
## vdem\_wom\_civsoc          & $0.14$    & $0.09$    & $0.09$   & $0.18^{***}$ & $0.17^{***}$ & $0.16
##                            & $(0.29)$  & $(0.29)$  & $(0.29)$ & $(0.05)$     & $(0.05)$     & $(0.0
## spline2                    & $0.02$    & $0.02$    & $0.01$   & $0.01^{*}$   & $0.01^{*}$   & $0.01
##                            & $(0.01)$  & $(0.01)$  & $(0.01)$ & $(0.01)$     & $(0.01)$     & $(0.0
```

```
## spline3                     & $-0.31$   & $-0.32$   & $-0.24$  & $-0.21^{*}$  & $-0.19^{*}$  & $-0.2
##                             & $(0.20)$  & $(0.19)$  & $(0.21)$ & $(0.09)$     & $(0.09)$     & $(0.0
## spline4                     & $1.52$    & $1.53$    & $1.30$   & $1.06^{*}$   & $0.99^{*}$   & $1.09
##                             & $(0.91)$  & $(0.91)$  & $(0.98)$ & $(0.43)$     & $(0.43)$     & $(0.4
## rebelparty\_humn            &           & $0.17$    &          &              & $0.08$       &
##                             &           & $(0.12)$  &          &              & $(0.08)$     &
## rebelparty\_forced          &           &           & $0.05$   &              &              & $0.05
##                             &           &           & $(0.04)$ &              &              & $(0.0
## logPercent                  &           &           &          & $0.02^{***}$ & $0.02^{***}$ & $0.01
##                             &           &           &          & $(0.00)$     & $(0.00)$     & $(0.0
## \hline
## AIC                         & $-102.09$ & $-103.92$ & $-88.68$ & $-393.83$    & $-400.51$    & $-378
## BIC                         & $-63.19$  & $-64.66$  & $-50.62$ & $-323.79$    & $-330.27$    & $-308
## Log Likelihood              & $65.05$   & $65.96$   & $58.34$  & $211.92$     & $215.25$     & $204.
## Num. obs.                   & $119$     & $122$     & $112$    & $788$        & $798$        & $769$
## Num. groups: Country        & $11$      & $11$      & $11$     & $20$         & $20$         & $20$
## Var: Country (Intercept)    & $0.01$    & $0.01$    & $0.01$   & $0.00$       & $0.00$       & $0.00
## Var: Residual               & $0.01$    & $0.01$    & $0.01$   & $0.03$       & $0.03$       & $0.03
## \hline
## \multicolumn{7}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
##Civilian victimization, Table 5 & Figure 1, Figure 2
m1data <- winners[,c("Percent_Women_Candidates", "civvil", "democ", "Adopted_Quotas",  "Party_Institutio
omit <- na.omit(m1data)
modelcan_civ <- lmerTest::lmer(Percent_Women_Candidates ~
                                 civvil +
                                 democ +
                                 Adopted_Quotas +
                                 exclusive +
                                 opposition+
                                 Party_Institutionalization+
                                 gdplnvdem  +
                                 vdem_wom_civsoc+
                                 spline2 +
                                 spline3 +
                                 spline4  +
                                 (1 | Country),
                               data=omit)
summary(modelcan_civ)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ civvil + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: omit
##
## REML criterion at convergence: -128.6
##
## Scaled residuals:
```

```
##     Min      1Q  Median      3Q     Max
## -3.5227 -0.4028  0.1134  0.4617  2.5386
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.007573 0.08703
##  Residual             0.011743 0.10836
## Number of obs: 117, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.11468    0.30041  10.30952  -0.382  0.71039
## civvil                      0.05159    0.01604 104.40695   3.217  0.00172 **
## democ                      -0.01982    0.09126   8.59328  -0.217  0.83308
## Adopted_Quotas             -0.01601    0.06358  27.22686  -0.252  0.80304
## exclusive                  -0.00963    0.05805  48.40703  -0.166  0.86894
## opposition                 -0.03364    0.02538 101.28124  -1.326  0.18796
## Party_Institutionalization  0.19602    0.22177  13.93422   0.884  0.39176
## gdplnvdem                   0.02662    0.04477  13.79421   0.595  0.56174
## vdem_wom_civsoc             0.07117    0.27572  11.58230   0.258  0.80084
## spline2                     0.01587    0.01184 104.98157   1.340  0.18304
## spline3                    -0.32250    0.19367 104.30563  -1.665  0.09888 .
## spline4                     1.57980    0.91005 101.81555   1.736  0.08560 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) civvil democ  Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## civvil       0.003
## democ        0.308 -0.021
## Adopted_Qts  0.081 -0.016  0.504
## exclusive   -0.083 -0.038  0.014 -0.095
## opposition   0.060  0.054 -0.072  0.006 -0.074
## Prty_Insttt  0.425  0.011  0.215  0.372 -0.005 -0.054
## gdplnvdem   -0.804 -0.011 -0.220 -0.171 -0.267 -0.039 -0.668
## vdm_wm_cvsc -0.457 -0.003 -0.560 -0.333  0.534  0.022 -0.238  0.015
## spline2     -0.077 -0.084  0.175  0.066  0.023 -0.137  0.071 -0.051 -0.048
## spline3      0.149  0.068 -0.131 -0.056  0.173  0.132  0.060 -0.158  0.161
## spline4     -0.161 -0.044  0.089  0.022 -0.311 -0.118 -0.123  0.270 -0.248
##             splin2 splin3
## civvil
## democ
## Adopted_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.917
## spline4      0.768 -0.956
```

```
#Simulation for candidacy
n.draws<-100
```

```
sim.model<-coef(sim(modelcan_civ, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Candidates)), to=max(na.omit(omit$Percent_Women_Candidates)
sq.x.lo<-data.frame(
  intercept=1,
  civvil=0,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.med<-data.frame(
  intercept=1,
  civvil=1,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])


sq.x.hi<-data.frame(
  intercept=1,
  civvil=2,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)
pe.x.med <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
```

```
hi.x.lo <- as.matrix(NA, nrow= n.draws)
hi.x.med <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)
lo.x.med <- as.matrix(NA, nrow= n.draws)

dif.1 <- as.matrix(NA, nrow= n.draws)
dif.2 <- as.matrix(NA, nrow= n.draws)
dif.3 <- as.matrix(NA, nrow= n.draws)

sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
sq.x.med <- as.matrix(sq.x.med)

#Fill the vectors

for(j in 1:n.draws){
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)
  pe.x.med[j] <- mean((sq.x.med %*% sim.model[j,]), na.rm=T)

  #first differences
  dif.1[j] <- pe.x.hi[j] - pe.x.med[j]
  dif.2[j] <- pe.x.hi[j] - pe.x.lo[j]
  dif.3[j] <- pe.x.med[j] - pe.x.lo[j]
}

dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)
pe.x.med <- dif.fun(pe.x.med)
dif.1 <- dif.fun(dif.1)
dif.2 <- dif.fun(dif.2)
dif.3 <- dif.fun(dif.3)

preds <- as.data.frame(rbind( pe.x.lo, pe.x.med, pe.x.hi))

#Pred probplot
rownames(preds) <- c('Non-Rebel Party', "Rebel Party w/o CV","Rebel Party w/ CV")
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))

preds$lb <- preds$`2.5%`
preds$ub <- preds$`97.5%`

ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 5
```

```
            ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$ub
                   , xend = preds$levels
                   , yend = preds$lb)
               , color = "black"
               , size = 1
               , data = preds
               , lty= c(1,1,1)) +
  theme_bw() +
  theme(axis.text = element_text(size=15, angle=90), axis.title=element_text(size=16), panel.grid.major
  xlab('') +
  ylab("E(Proportion of Women Candidates)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.

## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$ub` is discouraged. Use `ub` instead.

## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$lb` is discouraged. Use `lb` instead.
```

```
##Election civvic
m2data <- winners[,c("Percent_Women_Seats", "civvil", "logPercent", "democ", "Adopted_Quotas",  "Party_
omit <- na.omit(m2data)
modelele_civ <- lmerTest::lmer(Percent_Women_Seats ~
                                 civvil +
                                 logPercent +
                                 + democ
                               + Adopted_Quotas
                               + exclusive
                               + opposition
                               + Party_Institutionalization
                               + gdplnvdem
                               + vdem_wom_civsoc
                               + spline2
                               + spline3
                               + spline4
                               + (1 | Country), data=omit)
summary(modelele_civ)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ civvil + logPercent + +democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: omit
##
## REML criterion at convergence: -408
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.4693 -0.4546 -0.1823  0.0352  5.5693
```

```
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0001128 0.01062
##  Residual             0.0315871 0.17773
## Number of obs: 777, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 1.655e-01  9.429e-02  1.081e+01   1.756 0.107422
## civvil                      3.988e-02  1.500e-02  3.627e+02   2.659 0.008180
## logPercent                  1.635e-02  4.878e-03  1.916e+02   3.353 0.000964
## democ                      -2.557e-02  1.704e-02  3.727e+00  -1.500 0.212997
## Adopted_Quotas              2.877e-02  1.719e-02  2.084e+01   1.673 0.109173
## exclusive                  -3.288e-02  1.990e-02  1.240e+01  -1.653 0.123436
## opposition                 -8.004e-04  2.127e-02  6.678e+02  -0.038 0.970002
## Party_Institutionalization  2.492e-01  7.503e-02  1.100e+01   3.321 0.006824
## gdplnvdem                  -3.309e-02  1.377e-02  7.003e+00  -2.403 0.047254
## vdem_wom_civsoc             1.672e-01  5.017e-02  4.546e+00   3.332 0.023935
## spline2                     1.202e-02  5.279e-03  5.216e+02   2.276 0.023229
## spline3                    -1.924e-01  9.251e-02  5.432e+02  -2.080 0.038026
## spline4                     9.682e-01  4.378e-01  4.054e+02   2.211 0.027564
##
## (Intercept)
## civvil                     **
## logPercent                 ***
## democ
## Adopted_Quotas
## exclusive
## opposition
## Party_Institutionalization **
## gdplnvdem                  *
## vdem_wom_civsoc            *
## spline2                    *
## spline3                    *
## spline4                    *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
texreg(list(modelcan_civ,modelele_civ))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c}
## \hline
##  & Model 1 & Model 2 \\
## \hline
## (Intercept)                 & $-0.11$     & $0.17$       \\
##                             & $(0.30)$    & $(0.09)$     \\
```

```
## civvil                        & $0.05^{**}$ & $0.04^{**}$  \\
##                               & $(0.02)$     & $(0.01)$     \\
## democ                         & $-0.02$      & $-0.03$      \\
##                               & $(0.09)$     & $(0.02)$     \\
## Adopted\_Quotas               & $-0.02$      & $0.03$       \\
##                               & $(0.06)$     & $(0.02)$     \\
## exclusive                     & $-0.01$      & $-0.03$      \\
##                               & $(0.06)$     & $(0.02)$     \\
## opposition                    & $-0.03$      & $-0.00$      \\
##                               & $(0.03)$     & $(0.02)$     \\
## Party\_Institutionalization   & $0.20$       & $0.25^{***}$ \\
##                               & $(0.22)$     & $(0.08)$     \\
## gdplnvdem                     & $0.03$       & $-0.03^{*}$  \\
##                               & $(0.04)$     & $(0.01)$     \\
## vdem\_wom\_civsoc             & $0.07$       & $0.17^{***}$ \\
##                               & $(0.28)$     & $(0.05)$     \\
## spline2                       & $0.02$       & $0.01^{*}$   \\
##                               & $(0.01)$     & $(0.01)$     \\
## spline3                       & $-0.32$      & $-0.19^{*}$  \\
##                               & $(0.19)$     & $(0.09)$     \\
## spline4                       & $1.58$       & $0.97^{*}$   \\
##                               & $(0.91)$     & $(0.44)$     \\
## logPercent                    &              & $0.02^{***}$ \\
##                               &              & $(0.00)$     \\
## \hline
## AIC                           & $-100.58$    & $-377.96$    \\
## BIC                           & $-61.91$     & $-308.13$    \\
## Log Likelihood                & $64.29$      & $203.98$     \\
## Num. obs.                     & $117$        & $777$        \\
## Num. groups: Country          & $11$         & $20$         \\
## Var: Country (Intercept)      & $0.01$       & $0.00$       \\
## Var: Residual                 & $0.01$       & $0.03$       \\
## \hline
## \multicolumn{3}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```r
#Simulation

n.draws<-100
sim.model<-coef(sim(modelele_civ, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Seats)), to=max(na.omit(omit$Percent_Women_Seats)), length.
sq.x.lo<-data.frame(
  intercept=1,
  civvil=0,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
```

```
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.med<-data.frame(
  intercept=1,
  civvil=1,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])


sq.x.hi<-data.frame(
  intercept=1,
  civvil=2,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)
pe.x.med <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
hi.x.lo <- as.matrix(NA, nrow= n.draws)
hi.x.med <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)
lo.x.med <- as.matrix(NA, nrow= n.draws)

dif.1 <- as.matrix(NA, nrow= n.draws)
```

```r
dif.2 <- as.matrix(NA, nrow= n.draws)
dif.3 <- as.matrix(NA, nrow= n.draws)

sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
sq.x.med <- as.matrix(sq.x.med)

#Fill the vectors

for(j in 1:n.draws){
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)
  pe.x.med[j] <- mean((sq.x.med %*% sim.model[j,]), na.rm=T)

  #first differences
  dif.1[j] <- pe.x.hi[j] - pe.x.med[j]
  dif.2[j] <- pe.x.hi[j] - pe.x.lo[j]
  dif.3[j] <- pe.x.med[j] - pe.x.lo[j]
}

dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)
pe.x.med <- dif.fun(pe.x.med)
dif.1 <- dif.fun(dif.1)
dif.2 <- dif.fun(dif.2)
dif.3 <- dif.fun(dif.3)

preds <- as.data.frame(rbind( pe.x.lo, pe.x.med, pe.x.hi))

#Pred prob plot
rownames(preds) <- c('Non-Rebel Party', "Rebel Party w/o CV","Rebel Party w/ CV")
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))

preds$lb <- preds$`2.5%`
preds$ub <- preds$`97.5%`

ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 5
             ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$ub
                   , xend = preds$levels
                   , yend = preds$lb)
               , color = "black"
               , size = 1
               , data = preds
```

```
              , lty= c(1,1,1)) +
  theme_bw() +
  theme(axis.text = element_text(size=15, angle=90), axis.title=element_text(size=16), panel.grid.major
  xlab('') +
  ylab("E(Proportion of Women Elected)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$ub` is discouraged. Use `ub` instead.
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.
## Warning: Use of `preds$lb` is discouraged. Use `lb` instead.
```

```
#Ongoing Violence, Table 6

modelcan.vio <- lmerTest::lmer(Percent_Women_Candidates ~
                                 Rebel_Party
                               + democ
                               + Adopted_Quotas
                               + exclusive
                               + opposition
                               + Party_Institutionalization
                               + gdplnvdem
                               + vdem_wom_civsoc
                               + Ongoing_conflict
                               + spline2 + spline3 + spline4
                               + (1 | Country), data=winners)
summary(modelcan.vio)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Ongoing_conflict + spline2 + spline3 +
##     spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -134.1
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.4599 -0.4011  0.0929  0.5739  2.5527
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.01018  0.1009
##  Residual             0.01186  0.1089
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                 -0.23732    0.33938  13.96694  -0.699  0.49586
```

```
## Rebel_Party                   0.06957    0.02527 109.34889   2.753  0.00691 **
## democ                        -0.06661    0.09988   9.27893  -0.667  0.52104
## Adopted_Quotas               -0.08209    0.06792  56.43065  -1.209  0.23188
## exclusive                    -0.01745    0.05572  72.66219  -0.313  0.75509
## opposition                   -0.01916    0.02539 107.82289  -0.755  0.45218
## Party_Institutionalization    0.05191    0.23460  15.58998   0.221  0.82777
## gdplnvdem                     0.04343    0.04763  15.78625   0.912  0.37554
## vdem_wom_civsoc               0.23757    0.30941  15.11345   0.768  0.45442
## Ongoing_conflict              0.06265    0.05817  66.98221   1.077  0.28536
## spline2                       0.01220    0.01156 110.98820   1.056  0.29331
## spline3                      -0.26536    0.18556 110.70511  -1.430  0.15552
## spline4                       1.40975    0.85212 110.45888   1.654  0.10088
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelele.vio <- lmerTest::lmer(Percent_Women_Seats ~
                                 Rebel_Party
                               +logPercent
                               + democ
                               + Adopted_Quotas
                               + exclusive
                               + opposition
                               + Party_Institutionalization
                               + gdplnvdem
                               + vdem_wom_civsoc
                               + Ongoing_conflict
                               +  spline2 + spline3 + spline4
                               + (1 | Country), data=winners)
summary(modelele.vio)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Ongoing_conflict + spline2 + spline3 +
##     spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -429.4
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.6106 -0.4751 -0.1752  0.0503  5.6094
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0002047 0.01431
##  Residual             0.0311222 0.17641
## Number of obs: 802, groups:  Country, 19
```

```
##
## Fixed effects:
##                               Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                   0.242287   0.109829   8.757038   2.206  0.05560 .
## Rebel_Party                   0.046369   0.021913 435.515141   2.116  0.03491 *
## logPercent                    0.014987   0.004894 201.911256   3.062  0.00250 **
## democ                        -0.020343   0.017338   3.901964  -1.173  0.30728
## Adopted_Quotas                0.034241   0.017204  19.707461   1.990  0.06061 .
## exclusive                    -0.028404   0.019733  11.968535  -1.439  0.17568
## opposition                   -0.001960   0.020749 733.896256  -0.094  0.92478
## Party_Institutionalization    0.291732   0.075595   9.667273   3.859  0.00337 **
## gdplnvdem                    -0.042588   0.014797   6.228212  -2.878  0.02698 *
## vdem_wom_civsoc               0.120649   0.060846  10.634227   1.983  0.07381 .
## Ongoing_conflict             -0.034469   0.021463  10.051994  -1.606  0.13921
## spline2                       0.013211   0.005188 608.400469   2.546  0.01113 *
## spline3                      -0.200151   0.090844 594.314065  -2.203  0.02796 *
## spline4                       0.980949   0.430337 417.541263   2.279  0.02314 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelele.vio2 <- lmerTest::lmer(Percent_Women_Seats ~
                                  Rebel_Party
                                +logPercent
                                + democ
                                + Adopted_Quotas
                                + exclusive
                                + opposition
                                + Party_Institutionalization
                                + gdplnvdem
                                + vdem_wom_civsoc
                                + Ongoing_conflict
                                + Ongoing_conflict:Rebel_Party
                                +  spline2 + spline3 + spline4
                                + (1 | Country), data=winners)
summary(modelele.vio2)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + Ongoing_conflict + Ongoing_conflict:Rebel_Party +
##     spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -426.4
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5998 -0.4423 -0.1908  0.0416  5.6027
```

```
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 8.019e-05 0.008955
##  Residual             3.114e-02 0.176477
## Number of obs: 802, groups:  Country, 19
##
## Fixed effects:
##                                Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                    0.223511   0.105132   8.903309   2.126  0.06275
## Rebel_Party                    0.070325   0.027532 282.278023   2.554  0.01116
## logPercent                     0.014325   0.004853 165.575095   2.952  0.00362
## democ                         -0.020088   0.016131   3.167316  -1.245  0.29722
## Adopted_Quotas                 0.036190   0.016676  18.924882   2.170  0.04293
## exclusive                     -0.028445   0.018993  11.472006  -1.498  0.16123
## opposition                     0.002462   0.020971 678.924234   0.117  0.90656
## Party_Institutionalization     0.290650   0.072351   9.983365   4.017  0.00246
## gdplnvdem                     -0.041897   0.013994   5.838054  -2.994  0.02502
## vdem_wom_civsoc                0.129223   0.058393  10.251481   2.213  0.05067
## Ongoing_conflict              -0.023494   0.021779  11.192194  -1.079  0.30339
## spline2                        0.013272   0.005173 607.428531   2.566  0.01053
## spline3                       -0.205653   0.090574 583.382035  -2.271  0.02354
## spline4                        1.016256   0.428283 407.118000   2.373  0.01811
## Rebel_Party:Ongoing_conflict  -0.050592   0.037722 520.990218  -1.341  0.18044
##
## (Intercept)                  .
## Rebel_Party                  *
## logPercent                   **
## democ
## Adopted_Quotas               *
## exclusive
## opposition
## Party_Institutionalization   **
## gdplnvdem                    *
## vdem_wom_civsoc              .
## Ongoing_conflict
## spline2                      *
## spline3                      *
## spline4                      *
## Rebel_Party:Ongoing_conflict
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 15 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
texreg(list(modelcan.vio, modelele.vio, modelele.vio2))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c}
## \hline
```

```
##  & Model 1 & Model 2 & Model 3 \\
## \hline
## (Intercept)                    & $-0.24$     & $0.24^{*}$   & $0.22^{*}$   \\
##                                & $(0.34)$    & $(0.11)$     & $(0.11)$     \\
## Rebel\_Party                   & $0.07^{**}$ & $0.05^{*}$   & $0.07^{*}$   \\
##                                & $(0.03)$    & $(0.02)$     & $(0.03)$     \\
## democ                          & $-0.07$     & $-0.02$      & $-0.02$      \\
##                                & $(0.10)$    & $(0.02)$     & $(0.02)$     \\
## Adopted\_Quotas                & $-0.08$     & $0.03^{*}$   & $0.04^{*}$   \\
##                                & $(0.07)$    & $(0.02)$     & $(0.02)$     \\
## exclusive                      & $-0.02$     & $-0.03$      & $-0.03$      \\
##                                & $(0.06)$    & $(0.02)$     & $(0.02)$     \\
## opposition                     & $-0.02$     & $-0.00$      & $0.00$       \\
##                                & $(0.03)$    & $(0.02)$     & $(0.02)$     \\
## Party\_Institutionalization    & $0.05$      & $0.29^{***}$ & $0.29^{***}$ \\
##                                & $(0.23)$    & $(0.08)$     & $(0.07)$     \\
## gdplnvdem                      & $0.04$      & $-0.04^{**}$ & $-0.04^{**}$ \\
##                                & $(0.05)$    & $(0.01)$     & $(0.01)$     \\
## vdem\_wom\_civsoc              & $0.24$      & $0.12^{*}$   & $0.13^{*}$   \\
##                                & $(0.31)$    & $(0.06)$     & $(0.06)$     \\
## Ongoing\_conflict              & $0.06$      & $-0.03$      & $-0.02$      \\
##                                & $(0.06)$    & $(0.02)$     & $(0.02)$     \\
## spline2                        & $0.01$      & $0.01^{*}$   & $0.01^{*}$   \\
##                                & $(0.01)$    & $(0.01)$     & $(0.01)$     \\
## spline3                        & $-0.27$     & $-0.20^{*}$  & $-0.21^{*}$  \\
##                                & $(0.19)$    & $(0.09)$     & $(0.09)$     \\
## spline4                        & $1.41$      & $0.98^{*}$   & $1.02^{*}$   \\
##                                & $(0.85)$    & $(0.43)$     & $(0.43)$     \\
## logPercent                     &             & $0.01^{**}$  & $0.01^{**}$  \\
##                                &             & $(0.00)$     & $(0.00)$     \\
## Rebel\_Party:Ongoing\_conflict &             &              & $-0.05$      \\
##                                &             &              & $(0.04)$     \\
## \hline
## AIC                            & $-104.07$   & $-397.39$    & $-392.44$    \\
## BIC                            & $-61.77$    & $-322.40$    & $-312.76$    \\
## Log Likelihood                 & $67.03$     & $214.70$     & $213.22$     \\
## Num. obs.                      & $124$       & $802$        & $802$        \\
## Num. groups: Country           & $11$        & $19$         & $19$         \\
## Var: Country (Intercept)       & $0.01$      & $0.00$       & $0.00$       \\
## Var: Residual                  & $0.01$      & $0.03$       & $0.03$       \\
## \hline
## \multicolumn{4}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
##Women's Participation in Rebel Groups, Table 7, Figure 3, & Figure 4

m1data <- winners[,c("Percent_Women_Candidates", "Female_ord", "democ", "Adopted_Quotas",  "Party_Insti
omit <- na.omit(m1data)

modelcan_fem <- lmerTest::lmer(Percent_Women_Candidates ~
```

```
                                  Female_ord +
                                  democ +
                                  Adopted_Quotas +
                                  exclusive +
                                  opposition+
                                  Party_Institutionalization+
                                  gdplnvdem  +
                                  vdem_wom_civsoc+
                                  spline2 +
                                  spline3 +
                                  spline4  +
                                  (1 | Country),
                                data=omit)
summary(modelcan_fem)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Female_ord + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: omit
##
## REML criterion at convergence: -135.7
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3823 -0.3818  0.1265  0.5519  2.5429
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.009264 0.09625
##  Residual             0.011904 0.10910
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.13970    0.31724  11.93627  -0.440  0.66754
## Female_ord                  0.03493    0.01286 111.24976   2.717  0.00764 **
## democ                      -0.04910    0.09584   8.95858  -0.512  0.62085
## Adopted_Quotas             -0.04691    0.06028  42.64582  -0.778  0.44079
## exclusive                  -0.02479    0.05479  65.40058  -0.452  0.65242
## opposition                 -0.01820    0.02551 108.79483  -0.714  0.47696
## Party_Institutionalization  0.09321    0.22563  14.99872   0.413  0.68537
## gdplnvdem                   0.03769    0.04602  14.95342   0.819  0.42562
## vdem_wom_civsoc             0.11266    0.28403  13.17424   0.397  0.69798
## spline2                     0.01392    0.01142 111.83071   1.219  0.22537
## spline3                    -0.29028    0.18353 111.97402  -1.582  0.11656
## spline4                     1.44525    0.84971 111.51703   1.701  0.09176 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) Fml_rd democ  Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## Female_ord   0.012
```

```
## democ        0.287 -0.050
## Adopted_Qts  0.053 -0.068  0.472
## exclusive   -0.125 -0.060 -0.011 -0.118
## opposition   0.068  0.207 -0.061  0.019 -0.089
## Prty_Insttt  0.406 -0.024  0.136  0.278 -0.041 -0.032
## gdplnvdem   -0.813 -0.017 -0.167 -0.101 -0.206 -0.053 -0.648
## vdm_wm_cvsc -0.462  0.019 -0.568 -0.332  0.518  0.011 -0.214  0.020
## spline2     -0.069 -0.082  0.164  0.080  0.112 -0.147  0.066 -0.078 -0.001
## spline3      0.150  0.079 -0.132 -0.094  0.078  0.141  0.068 -0.130  0.102
## spline4     -0.165 -0.062  0.097  0.063 -0.220 -0.125 -0.134  0.243 -0.187
##             splin2 splin3
## Female_ord
## democ
## Adopted_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.916
## spline4      0.764 -0.954
```

```
###Estimates for candidacy models

n.draws<-100
sim.model<-coef(sim(modelcan_fem, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Candidates)), to=max(na.omit(omit$Percent_Women_Candidates))
sq.x.lo<-data.frame(
  intercept=1,
  Female_ord=0,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.med<-data.frame(
  intercept=1,
  Female_ord=1,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
```

```
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])


sq.x.hi<-data.frame(
  intercept=1,
  Female_ord=2,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)
pe.x.med <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
hi.x.lo <- as.matrix(NA, nrow= n.draws)
hi.x.med <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)
lo.x.med <- as.matrix(NA, nrow= n.draws)

dif.1 <- as.matrix(NA, nrow= n.draws)
dif.2 <- as.matrix(NA, nrow= n.draws)
dif.3 <- as.matrix(NA, nrow= n.draws)

sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
sq.x.med <- as.matrix(sq.x.med)

#Fill the vectors

for(j in 1:n.draws){
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)
  pe.x.med[j] <- mean((sq.x.med %*% sim.model[j,]), na.rm=T)

  #first differences
  dif.1[j] <- pe.x.hi[j] - pe.x.med[j]
  dif.2[j] <- pe.x.hi[j] - pe.x.lo[j]
  dif.3[j] <- pe.x.med[j] - pe.x.lo[j]
}
```

```r
dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)
pe.x.med <- dif.fun(pe.x.med)
dif.1 <- dif.fun(dif.1)
dif.2 <- dif.fun(dif.2)
dif.3 <- dif.fun(dif.3)

preds <- as.data.frame(rbind( pe.x.lo, pe.x.med, pe.x.hi))

#Pred probplot
rownames(preds) <- c('Non-Rebel Party', "Rebel Party w/o Females","Rebel Party w/ Females")
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))

preds$lb <- preds$`2.5%`
preds$ub <- preds$`97.5%`

ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 5
             ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$ub
                   , xend = preds$levels
                   , yend = preds$lb)
               , color = "black"
               , size = 1
               , data = preds
               , lty= c(1,1,1)) +
  theme_bw() +
  theme(axis.text = element_text(size=15, angle=90), axis.title=element_text(size=16), panel.grid.major
  xlab('') +
  ylab("E(Proportion of Women Candidates)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.

## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$ub` is discouraged. Use `ub` instead.

## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$lb` is discouraged. Use `lb` instead.
```

```r
###Election
m2data <- winners[,c("Percent_Women_Seats", "Female_ord", "logPercent", "democ", "Adopted_Quotas",  "Pa
omit <- na.omit(m2data)

modelele_fem <- lmerTest::lmer(Percent_Women_Seats ~
                                 Female_ord +
```

```
                                  logPercent +
                                  + democ
                                + Adopted_Quotas
                                + exclusive
                                + opposition
                                + Party_Institutionalization
                                + gdplnvdem
                                + vdem_wom_civsoc
                                + spline2
                                + spline3
                                + spline4
                                + (1 | Country), data=omit)
summary(modelele_fem)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Female_ord + logPercent + +democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: omit
##
## REML criterion at convergence: -437.5
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5518 -0.4516 -0.1755  0.0558  5.6696
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 3.816e-05 0.006177
##  Residual             3.099e-02 0.176054
## Number of obs: 801, groups:  Country, 20
##
## Fixed effects:
##                               Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                   0.142383   0.089295  11.518062   1.595  0.13787
## Female_ord                    0.028993   0.011439 288.618360   2.535  0.01179 *
## logPercent                    0.014967   0.004776 133.842450   3.134  0.00212 **
## democ                        -0.017357   0.015601   3.136190  -1.113  0.34384
## Adopted_Quotas                0.036274   0.016411  20.688337   2.210  0.03849 *
## exclusive                    -0.028177   0.018582  11.959373  -1.516  0.15540
## opposition                    0.003166   0.020647 710.307291   0.153  0.87817
## Party_Institutionalization    0.272227   0.070215  12.089841   3.877  0.00217 **
## gdplnvdem                    -0.034309   0.012961   7.213236  -2.647  0.03220 *
## vdem_wom_civsoc               0.171855   0.046914   4.442001   3.663  0.01792 *
## spline2                       0.012606   0.005114 589.501933   2.465  0.01399 *
## spline3                      -0.206710   0.090110 594.696695  -2.294  0.02214 *
## spline4                       1.055395   0.426634 439.653617   2.474  0.01375 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
```

```
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
#tables
texreg(list(modelcan_fem,modelele_fem))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c}
## \hline
##  & Model 1 & Model 2 \\
## \hline
## (Intercept)                 & $-0.14$     & $0.14$       \\
##                             & $(0.32)$    & $(0.09)$     \\
## Female\_ord                 & $0.03^{**}$ & $0.03^{*}$   \\
##                             & $(0.01)$    & $(0.01)$     \\
## democ                       & $-0.05$     & $-0.02$      \\
##                             & $(0.10)$    & $(0.02)$     \\
## Adopted\_Quotas             & $-0.05$     & $0.04^{*}$   \\
##                             & $(0.06)$    & $(0.02)$     \\
## exclusive                   & $-0.02$     & $-0.03$      \\
##                             & $(0.05)$    & $(0.02)$     \\
## opposition                  & $-0.02$     & $0.00$       \\
##                             & $(0.03)$    & $(0.02)$     \\
## Party\_Institutionalization & $0.09$      & $0.27^{***}$ \\
##                             & $(0.23)$    & $(0.07)$     \\
## gdplnvdem                   & $0.04$      & $-0.03^{**}$ \\
##                             & $(0.05)$    & $(0.01)$     \\
## vdem\_wom\_civsoc           & $0.11$      & $0.17^{***}$ \\
##                             & $(0.28)$    & $(0.05)$     \\
## spline2                     & $0.01$      & $0.01^{*}$   \\
##                             & $(0.01)$    & $(0.01)$     \\
## spline3                     & $-0.29$     & $-0.21^{*}$  \\
##                             & $(0.18)$    & $(0.09)$     \\
## spline4                     & $1.45$      & $1.06^{*}$   \\
##                             & $(0.85)$    & $(0.43)$     \\
## logPercent                  &             & $0.01^{**}$  \\
##                             &             & $(0.00)$     \\
## \hline
## AIC                         & $-107.67$   & $-407.49$    \\
## BIC                         & $-68.18$    & $-337.20$    \\
## Log Likelihood              & $67.83$     & $218.74$     \\
## Num. obs.                   & $124$       & $801$        \\
## Num. groups: Country        & $11$        & $20$         \\
## Var: Country (Intercept)    & $0.01$      & $0.00$       \\
## Var: Residual               & $0.01$      & $0.03$       \\
## \hline
## \multicolumn{3}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
####Estimates for election


n.draws<-100
sim.model<-coef(sim(modelele_fem, n.draws))  %>% data.frame() %>% data.matrix()
sq<-seq(from=min(na.omit(omit$Percent_Women_Seats)), to=max(na.omit(omit$Percent_Women_Seats)), length.
sq.x.lo<-data.frame(
  intercept=1,
  Female_ord=0,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])

sq.x.med<-data.frame(
  intercept=1,
  Female_ord=1,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
  fastDummies::dummy_cols(omit$Country)[-c(1)])


sq.x.hi<-data.frame(
  intercept=1,
  Female_ord=2,
  logPercent=omit$logPercent,
  democ=omit$democ,
  Adopted_Quotas=omit$Adopted_Quotas,
  exclusive=omit$exclusive,
  opposition=omit$opposition,
  Party_Institutionalization=omit$Party_Institutionalization,
  gdplnvdem=omit$gdplnvdem,
  vdem_wom_civsoc=omit$vdem_wom_civsoc,
  spline2=omit$spline2,
  spline3=omit$spline3,
  spline4=omit$spline4,
```

```
  fastDummies::dummy_cols(omit$Country)[-c(1)])

pe.x.hi <- as.matrix(NA, nrow= n.draws)
pe.x.lo <- as.matrix(NA, nrow= n.draws)
pe.x.med <- as.matrix(NA, nrow= n.draws)

hi.x.hi <- as.matrix(NA, nrow= n.draws)
hi.x.lo <- as.matrix(NA, nrow= n.draws)
hi.x.med <- as.matrix(NA, nrow= n.draws)

lo.x.hi <- as.matrix(NA, nrow= n.draws)
lo.x.lo <- as.matrix(NA, nrow= n.draws)
lo.x.med <- as.matrix(NA, nrow= n.draws)

dif.1 <- as.matrix(NA, nrow= n.draws)
dif.2 <- as.matrix(NA, nrow= n.draws)
dif.3 <- as.matrix(NA, nrow= n.draws)

sq.x.hi <- as.matrix(sq.x.hi)
sq.x.lo <- as.matrix(sq.x.lo)
sq.x.med <- as.matrix(sq.x.med)

#Fill the vectors

for(j in 1:n.draws){
  pe.x.hi[j] <- mean((sq.x.hi %*% sim.model[j,]), na.rm=T)
  pe.x.lo[j] <- mean((sq.x.lo %*% sim.model[j,]), na.rm=T)
  pe.x.med[j] <- mean((sq.x.med %*% sim.model[j,]), na.rm=T)

  #first differences
  dif.1[j] <- pe.x.hi[j] - pe.x.med[j]
  dif.2[j] <- pe.x.hi[j] - pe.x.lo[j]
  dif.3[j] <- pe.x.med[j] - pe.x.lo[j]
}

dif.fun <- function(x) {
  result <- c(quantile(x, 0.025), mean(x), quantile(x,.975))
  return(result)
}
pe.x.hi <- dif.fun(pe.x.hi)
pe.x.lo <- dif.fun(pe.x.lo)
pe.x.med <- dif.fun(pe.x.med)
dif.1 <- dif.fun(dif.1)
dif.2 <- dif.fun(dif.2)
dif.3 <- dif.fun(dif.3)

preds <- as.data.frame(rbind( pe.x.lo, pe.x.med, pe.x.hi))

#Pred probplot
rownames(preds) <- c('Non-Rebel Party', "Rebel Party w/o Females","Rebel Party w/ Females")
preds$levels <- rownames(preds)
preds$levels <- factor(preds$levels, levels=unique(preds$levels))
```

```
preds$lb <- preds$`2.5%`
preds$ub <- preds$`97.5%`

ggplot() +
  geom_point(data = preds
             ,aes(x=preds$levels, y=preds$V2)
             ,size = 5
             ,color = "black") +
  geom_segment(aes(x = preds$levels
                   , y = preds$ub
                   , xend = preds$levels
                   , yend = preds$lb)
               , color = "black"
               , size = 1
               , data = preds
               , lty= c(1,1,1)) +
  theme_bw() +
  theme(axis.text = element_text(size=15, angle=90), axis.title=element_text(size=16), panel.grid.major
  xlab('') +
  ylab("E(Proportion of Women Elected)")
```

```
## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$V2` is discouraged. Use `V2` instead.

## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$ub` is discouraged. Use `ub` instead.

## Warning: Use of `preds$levels` is discouraged. Use `levels` instead.

## Warning: Use of `preds$lb` is discouraged. Use `lb` instead.
```

```
###Alt Democracy Specification, Table 8
modelcan.int <- lmerTest::lmer(Percent_Women_Candidates ~
                            Rebel_Party +
                            democ +
                              democ:Rebel_Party +
                            Adopted_Quotas +
                            exclusive +
                            opposition+
                            Party_Institutionalization+
                            gdplnvdem  +
                            vdem_wom_civsoc+
                            spline2 +
                            spline3 +
                            spline4  +
                            (1 | Country),
                          data=winners)
summary(modelcan.int)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + democ:Rebel_Party +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
```

```
##    Data: winners
##
## REML criterion at convergence: -132.7
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3785 -0.3761  0.1475  0.5423  2.5289
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.009458 0.09725
##  Residual             0.012031 0.10969
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 -0.141124   0.320442  12.236539  -0.440   0.6673
## Rebel_Party                  0.068750   0.032787 106.004095   2.097   0.0384 *
## democ                       -0.051112   0.097973   9.605016  -0.522   0.6137
## Adopted_Quotas              -0.049840   0.060894  42.935551  -0.818   0.4176
## exclusive                   -0.022934   0.055158  65.085528  -0.416   0.6789
## opposition                  -0.019715   0.025683 108.008833  -0.768   0.4444
## Party_Institutionalization   0.096581   0.228906  15.551798   0.422   0.6789
## gdplnvdem                    0.035617   0.046762  15.683047   0.762   0.4576
## vdem_wom_civsoc              0.137105   0.286695  13.316576   0.478   0.6402
## spline2                      0.014220   0.011564 110.903356   1.230   0.2214
## spline3                     -0.293157   0.185413 110.940258  -1.581   0.1167
## spline4                      1.451493   0.856735 110.444129   1.694   0.0930 .
## Rebel_Party:democ           -0.003545   0.051231 107.825345  -0.069   0.9450
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelcan.elec <- lmerTest::lmer(Percent_Women_Candidates ~
                            Rebel_Party +
                            vdem_elecdem +
                            Adopted_Quotas +
                            exclusive +
                            opposition+
                            Party_Institutionalization+
                            gdplnvdem  +
                            vdem_wom_civsoc+
                            spline2 +
                            spline3 +
                            spline4  +
                            (1 | Country),
                          data=winners)
summary(modelcan.elec)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
```

```
## Formula:
## Percent_Women_Candidates ~ Rebel_Party + vdem_elecdem + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -140
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.4057 -0.3801  0.1216  0.5571  2.5397
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.006914 0.08315
##  Residual             0.011946 0.10930
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                            Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.31691    0.31513  13.31872  -1.006  0.33251
## Rebel_Party                 0.06705    0.02507 111.50401   2.674  0.00862 **
## vdem_elecdem               -0.31849    0.23369  14.88935  -1.363  0.19319
## Adopted_Quotas             -0.05348    0.05295  36.30386  -1.010  0.31920
## exclusive                  -0.01359    0.05317  55.13392  -0.256  0.79924
## opposition                 -0.01730    0.02551 109.68919  -0.678  0.49903
## Party_Institutionalization  0.06923    0.20857  13.98023   0.332  0.74486
## gdplnvdem                   0.05835    0.04662  21.21447   1.252  0.22431
## vdem_wom_civsoc             0.32435    0.27918  14.34926   1.162  0.26429
## spline2                     0.01359    0.01124 111.88173   1.209  0.22912
## spline3                    -0.28180    0.18101 111.25012  -1.557  0.12234
## spline4                     1.37878    0.84039 110.33019   1.641  0.10372
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) Rbl_Pr vdm_lc Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## Rebel_Party  0.009
## vdem_elecdm  0.474 -0.013
## Adopted_Qts  0.075 -0.056  0.318
## exclusive   -0.098 -0.046  0.009 -0.125
## opposition   0.027  0.185 -0.109  0.019 -0.081
## Prty_Insttt  0.428 -0.019  0.166  0.302 -0.017 -0.042
## gdplnvdem   -0.845 -0.029 -0.441 -0.170 -0.216 -0.013 -0.653
## vdm_wm_cvsc -0.558  0.031 -0.636 -0.271  0.484  0.053 -0.232  0.209
## spline2     -0.071 -0.061  0.107  0.013  0.108 -0.144  0.061 -0.083  0.014
## spline3      0.153  0.063 -0.064 -0.032  0.081  0.137  0.073 -0.118  0.075
## spline4     -0.167 -0.051  0.041  0.015 -0.221 -0.122 -0.135  0.226 -0.160
##             splin2 splin3
## Rebel_Party
## vdem_elecdm
## Adopted_Qts
## exclusive
## opposition
```

```
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.915
## spline4      0.764 -0.954
```

```
modelcan.lib <- lmerTest::lmer(Percent_Women_Candidates ~
                            Rebel_Party +
                            vdem_libdem +
                            Adopted_Quotas +
                            exclusive +
                            opposition+
                            Party_Institutionalization+
                            gdplnvdem  +
                            vdem_wom_civsoc+
                            spline2 +
                            spline3 +
                            spline4  +
                            (1 | Country),
                          data=winners)
summary(modelcan)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Adopted_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: omit
##
## REML criterion at convergence: -136.8
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3907 -0.3746  0.1403  0.5459  2.5372
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00945  0.09721
##  Residual             0.01192  0.10918
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.14173    0.31914  12.01385  -0.444  0.66485
## Rebel_Party                 0.06730    0.02521 110.55454   2.669  0.00874 **
## democ                      -0.05216    0.09657   8.98865  -0.540  0.60222
## Adopted_Quotas             -0.04961    0.06055  43.38080  -0.819  0.41707
## exclusive                  -0.02338    0.05488  65.98570  -0.426  0.67155
## opposition                 -0.01953    0.02544 108.59825  -0.768  0.44443
## Party_Institutionalization  0.09491    0.22684  15.04509   0.418  0.68157
## gdplnvdem                   0.03602    0.04628  14.94735   0.778  0.44855
## vdem_wom_civsoc             0.13586    0.28600  13.37372   0.475  0.64244
## spline2                     0.01413    0.01143 111.79495   1.236  0.21895
## spline3                    -0.29214    0.18371 111.98601  -1.590  0.11460
```

```
## spline4                      1.44900    0.85078 111.57048   1.703  0.09132 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) Rbl_Pr democ  Adpt_Q exclsv oppstn Prty_I gdplnv vdm_w_
## Rebel_Party  0.009
## democ        0.285 -0.063
## Adopted_Qts  0.052 -0.086  0.471
## exclusive   -0.125 -0.048 -0.012 -0.118
## opposition   0.068  0.192 -0.063  0.017 -0.087
## Prty_Insttt  0.405 -0.022  0.133  0.275 -0.043 -0.031
## gdplnvdem   -0.813 -0.032 -0.163 -0.097 -0.204 -0.056 -0.646
## vdm_wm_cvsc -0.461  0.052 -0.569 -0.334  0.516  0.017 -0.212  0.018
## spline2     -0.068 -0.078  0.164  0.082  0.111 -0.145  0.065 -0.077 -0.003
## spline3      0.150  0.078 -0.133 -0.096  0.079  0.140  0.069 -0.131  0.104
## spline4     -0.165 -0.063  0.098  0.065 -0.220 -0.124 -0.135  0.243 -0.188
##             splin2 splin3
## Rebel_Party
## democ
## Adopted_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.916
## spline4      0.764 -0.954
```

```
modelele.int <- lmerTest::lmer(Percent_Women_Seats ~
                           Rebel_Party
                         + logPercent
                         + democ
                         + democ:Rebel_Party
                         + Adopted_Quotas
                         + exclusive
                         + opposition
                         + Party_Institutionalization
                         + gdplnvdem
                         + vdem_wom_civsoc
                         + spline2
                         + spline3
                         + spline4
                         + (1 | Country), data=winners)
summary(modelele.int)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + democ:Rebel_Party +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
```

```
##
## REML criterion at convergence: -433.7
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5744 -0.4581 -0.1746  0.0582  5.6216
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0001652 0.01285
##  Residual             0.0310855 0.17631
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                               Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                   0.142730   0.094192  12.581364   1.515  0.15441
## Rebel_Party                   0.030967   0.026017 423.948234   1.190  0.23462
## logPercent                    0.015627   0.004820 201.133738   3.242  0.00139 **
## democ                        -0.024180   0.017611   5.369172  -1.373  0.22431
## Adopted_Quotas                0.032393   0.016945  24.447106   1.912  0.06772 .
## exclusive                    -0.026872   0.019470  15.086752  -1.380  0.18763
## opposition                    0.000884   0.020650 733.752243   0.043  0.96587
## Party_Institutionalization    0.261768   0.074397  13.352016   3.519  0.00364 **
## gdplnvdem                    -0.033022   0.013881   8.868929  -2.379  0.04169 *
## vdem_wom_civsoc               0.175418   0.050496   5.995500   3.474  0.01326 *
## spline2                       0.012340   0.005131 619.119749   2.405  0.01647 *
## spline3                      -0.194861   0.090423 628.954738  -2.155  0.03154 *
## spline4                       0.988887   0.428876 475.799393   2.306  0.02155 *
## Rebel_Party:democ             0.042126   0.038031 529.128614   1.108  0.26851
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelele.elec <- lmerTest::lmer(Percent_Women_Seats ~
                            Rebel_Party
                          + logPercent
                          + vdem_elecdem
                          + Adopted_Quotas
                          + exclusive
                          + opposition
                          + Party_Institutionalization
                          + gdplnvdem
                          + vdem_wom_civsoc
                          + spline2
                          + spline3
                          + spline4
                          + (1 | Country), data=winners)
```

```
## boundary (singular) fit: see help('isSingular')
```

```
summary(modelele.elec)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ Rebel_Party + logPercent + vdem_elecdem +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -446.3
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.7062 -0.4432 -0.1882  0.0652  5.5756
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00000  0.0000
##  Residual             0.03093  0.1759
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.094049   0.088120 792.000000   1.067  0.28617
## Rebel_Party                  0.046035   0.021595 792.000000   2.132  0.03333
## logPercent                   0.014902   0.004656 792.000000   3.201  0.00143
## vdem_elecdem                -0.181696   0.065961 792.000000  -2.755  0.00601
## Adopted_Quotas               0.023277   0.016820 792.000000   1.384  0.16678
## exclusive                   -0.033150   0.018025 792.000000  -1.839  0.06628
## opposition                   0.003958   0.020534 792.000000   0.193  0.84722
## Party_Institutionalization   0.284280   0.069109 792.000000   4.114 4.30e-05
## gdplnvdem                   -0.026601   0.012860 792.000000  -2.068  0.03892
## vdem_wom_civsoc              0.247907   0.052943 792.000000   4.683 3.33e-06
## spline2                      0.013714   0.005120 792.000000   2.678  0.00755
## spline3                     -0.197535   0.089594 792.000000  -2.205  0.02776
## spline4                      0.953667   0.425256 792.000000   2.243  0.02520
##
## (Intercept)
## Rebel_Party                 *
## logPercent                  **
## vdem_elecdem                **
## Adopted_Quotas
## exclusive                   .
## opposition
## Party_Institutionalization ***
## gdplnvdem                   *
## vdem_wom_civsoc             ***
## spline2                     **
## spline3                     *
## spline4                     *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
## optimizer (nloptwrap) convergence code: 0 (OK)
## boundary (singular) fit: see help('isSingular')
```

```
modelele.lib <- lmerTest::lmer(Percent_Women_Seats ~
                            Rebel_Party
                          + logPercent
                          + vdem_libdem
                          + Adopted_Quotas
                          + exclusive
                          + opposition
                          + Party_Institutionalization
                          + gdplnvdem
                          + vdem_wom_civsoc
                          + spline2
                          + spline3
                          + spline4
                          + (1 | Country), data=winners)
summary(modelele.lib)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ Rebel_Party + logPercent + vdem_libdem +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -442.6
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.6591 -0.4601 -0.1706  0.0507  5.5784
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 7.682e-05 0.008765
##  Residual             3.106e-02 0.176230
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.065472   0.098124  16.359772   0.667  0.51392
## Rebel_Party                  0.045658   0.021733 507.536749   2.101  0.03614 *
## logPercent                   0.015704   0.004721 130.655130   3.327  0.00114 **
## vdem_libdem                 -0.162437   0.089538  28.105271  -1.814  0.08034 .
## Adopted_Quotas               0.024502   0.017588  37.631665   1.393  0.17175
## exclusive                   -0.032382   0.019038  30.615060  -1.701  0.09909 .
## opposition                   0.001892   0.020603 722.199388   0.092  0.92686
## Party_Institutionalization   0.278344   0.071348  16.973542   3.901  0.00115 **
## gdplnvdem                   -0.025555   0.013905  10.453061  -1.838  0.09464 .
```

```
## vdem_wom_civsoc              0.251033   0.066499  12.853298   3.775  0.00236 **
## spline2                      0.012806   0.005126 548.419917   2.498  0.01277 *
## spline3                     -0.198535   0.090126 603.998638  -2.203  0.02798 *
## spline4                      1.000072   0.426926 572.263917   2.342  0.01950 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
texreg(list(modelcan.int, modelcan.elec, modelcan.lib, modelele.int, modelele.elec, modelele.lib))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c c c c}
## \hline
##  & Model 1 & Model 2 & Model 3 & Model 4 & Model 5 & Model 6 \\
## \hline
## (Intercept)                 & $-0.14$    & $-0.32$     & $-0.43$     & $0.14$       & $0.09$       &
##                             & $(0.32)$   & $(0.32)$    & $(0.32)$    & $(0.09)$     & $(0.09)$     &
## Rebel\_Party                & $0.07^{*}$ & $0.07^{**}$ & $0.07^{**}$ & $0.03$       & $0.05^{*}$   &
##                             & $(0.03)$   & $(0.03)$    & $(0.03)$    & $(0.03)$     & $(0.02)$     &
## democ                       & $-0.05$    &             &             & $-0.02$      &              &
##                             & $(0.10)$   &             &             & $(0.02)$     &              &
## Adopted\_Quotas             & $-0.05$    & $-0.05$     & $-0.06$     & $0.03$       & $0.02$       &
##                             & $(0.06)$   & $(0.05)$    & $(0.05)$    & $(0.02)$     & $(0.02)$     &
## exclusive                   & $-0.02$    & $-0.01$     & $-0.01$     & $-0.03$      & $-0.03$      &
##                             & $(0.06)$   & $(0.05)$    & $(0.05)$    & $(0.02)$     & $(0.02)$     &
## opposition                  & $-0.02$    & $-0.02$     & $-0.02$     & $0.00$       & $0.00$       &
##                             & $(0.03)$   & $(0.03)$    & $(0.03)$    & $(0.02)$     & $(0.02)$     &
## Party\_Institutionalization & $0.10$     & $0.07$      & $0.09$      & $0.26^{***}$ & $0.28^{***}$ &
##                             & $(0.23)$   & $(0.21)$    & $(0.20)$    & $(0.07)$     & $(0.07)$     &
## gdplnvdem                   & $0.04$     & $0.06$      & $0.06$      & $-0.03^{*}$  & $-0.03^{*}$  &
##                             & $(0.05)$   & $(0.05)$    & $(0.04)$    & $(0.01)$     & $(0.01)$     &
## vdem\_wom\_civsoc           & $0.14$     & $0.32$      & $0.44$      & $0.18^{***}$ & $0.25^{***}$ &
##                             & $(0.29)$   & $(0.28)$    & $(0.29)$    & $(0.05)$     & $(0.05)$     &
## spline2                     & $0.01$     & $0.01$      & $0.01$      & $0.01^{*}$   & $0.01^{**}$  &
##                             & $(0.01)$   & $(0.01)$    & $(0.01)$    & $(0.01)$     & $(0.01)$     &
## spline3                     & $-0.29$    & $-0.28$     & $-0.29$     & $-0.19^{*}$  & $-0.20^{*}$  &
##                             & $(0.19)$   & $(0.18)$    & $(0.18)$    & $(0.09)$     & $(0.09)$     &
## spline4                     & $1.45$     & $1.38$      & $1.39$      & $0.99^{*}$   & $0.95^{*}$   &
##                             & $(0.86)$   & $(0.84)$    & $(0.84)$    & $(0.43)$     & $(0.43)$     &
## Rebel\_Party:democ          & $-0.00$    &             &             & $0.04$       &              &
##                             & $(0.05)$   &             &             & $(0.04)$     &              &
## vdem\_elecdem               &            & $-0.32$     &             &              & $-0.18^{**}$ &
##                             &            & $(0.23)$    &             &              & $(0.07)$     &
## vdem\_libdem                &            &             & $-0.42$     &              &              &
##                             &            &             & $(0.25)$    &              &              &
## logPercent                  &            &             &             & $0.02^{**}$  & $0.01^{**}$  &
##                             &            &             &             & $(0.00)$     & $(0.00)$     &
## \hline
## AIC                         & $-102.67$  & $-112.05$   & $-112.91$   & $-401.73$    & $-416.28$    &
```

```
## BIC                          & $-60.36$   & $-72.56$    & $-73.42$    & $-326.68$    & $-345.92$    &
## Log Likelihood               & $66.33$    & $70.02$     & $70.45$     & $216.86$     & $223.14$     &
## Num. obs.                    & $124$      & $124$       & $124$       & $805$        & $805$        &
## Num. groups: Country         & $11$       & $11$        & $11$        & $20$         & $20$         &
## Var: Country (Intercept)     & $0.01$     & $0.01$      & $0.01$      & $0.00$       & $0.00$       &
## Var: Residual                & $0.01$     & $0.01$      & $0.01$      & $0.03$       & $0.03$       &
## \hline
## \multicolumn{7}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
##GENDER QUOTAS, TABLE 9
#Implemented
modelcan_q1 <- lmerTest::lmer(Percent_Women_Candidates ~
                                Rebel_Party +
                                democ+
                                Implemented_Quotas +
                                exclusive +
                                opposition+
                                Party_Institutionalization+
                                gdplnvdem  +
                                vdem_wom_civsoc+
                                spline2 +
                                spline3 +
                                spline4  +
                                (1 | Country),
                              data=winners)
summary(modelcan_q1)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Implemented_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -136.8
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3907 -0.3746  0.1403  0.5459  2.5372
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00945  0.09721
##  Residual             0.01192  0.10918
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.14173    0.31914  12.01385  -0.444  0.66485
## Rebel_Party                 0.06730    0.02521 110.55454   2.669  0.00874 **
```

```
## democ                       -0.05216    0.09657   8.98865  -0.540  0.60222
## Implemented_Quotas          -0.04961    0.06055  43.38080  -0.819  0.41707
## exclusive                   -0.02338    0.05488  65.98570  -0.426  0.67155
## opposition                  -0.01953    0.02544 108.59825  -0.768  0.44443
## Party_Institutionalization   0.09491    0.22684  15.04509   0.418  0.68157
## gdplnvdem                    0.03602    0.04628  14.94735   0.778  0.44855
## vdem_wom_civsoc              0.13586    0.28600  13.37372   0.475  0.64244
## spline2                      0.01413    0.01143 111.79495   1.236  0.21895
## spline3                     -0.29214    0.18371 111.98601  -1.590  0.11460
## spline4                      1.44900    0.85078 111.57048   1.703  0.09132 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) Rbl_Pr democ  Impl_Q exclsv oppstn Prty_I gdplnv vdm_w_
## Rebel_Party  0.009
## democ        0.285 -0.063
## Implmntd_Qt  0.052 -0.086  0.471
## exclusive   -0.125 -0.048 -0.012 -0.118
## opposition   0.068  0.192 -0.063  0.017 -0.087
## Prty_Insttt  0.405 -0.022  0.133  0.275 -0.043 -0.031
## gdplnvdem   -0.813 -0.032 -0.163 -0.097 -0.204 -0.056 -0.646
## vdm_wm_cvsc -0.461  0.052 -0.569 -0.334  0.516  0.017 -0.212  0.018
## spline2     -0.068 -0.078  0.164  0.082  0.111 -0.145  0.065 -0.077 -0.003
## spline3      0.150  0.078 -0.133 -0.096  0.079  0.140  0.069 -0.131  0.104
## spline4     -0.165 -0.063  0.098  0.065 -0.220 -0.124 -0.135  0.243 -0.188
##             splin2 splin3
## Rebel_Party
## democ
## Implmntd_Qt
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.916
## spline4      0.764 -0.954
```

```
modelele_q2 <- lmerTest::lmer(Percent_Women_Seats ~
                                Rebel_Party
                              + democ
                              + Implemented_Quotas
                              + exclusive
                              + opposition
                              + Party_Institutionalization
                              + gdplnvdem
                              + vdem_wom_civsoc
                              + spline2
                              + spline3
                              + spline4
                              + (1 | Country), data=winners)
```

```
## boundary (singular) fit: see help('isSingular')
```

```
summary(modelele_q2)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Seats ~ Rebel_Party + democ + Implemented_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -443.9
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5785 -0.4280 -0.2219  0.0569  5.5709
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00000  0.0000
##  Residual             0.03137  0.1771
## Number of obs: 811, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.055058   0.084615 799.000000   0.651 0.515434
## Rebel_Party                  0.084670   0.018388 799.000000   4.605 4.81e-06
## democ                       -0.029869   0.014795 799.000000  -2.019 0.043838
## Implemented_Quotas           0.030972   0.016382 799.000000   1.891 0.059044
## exclusive                   -0.036500   0.018014 799.000000  -2.026 0.043074
## opposition                   0.018606   0.019900 799.000000   0.935 0.350082
## Party_Institutionalization   0.236996   0.066766 799.000000   3.550 0.000408
## gdplnvdem                   -0.028541   0.012435 799.000000  -2.295 0.021979
## vdem_wom_civsoc              0.198803   0.045478 799.000000   4.371 1.40e-05
## spline2                      0.012635   0.004942 799.000000   2.557 0.010756
## spline3                     -0.219813   0.089306 799.000000  -2.461 0.014052
## spline4                      1.157470   0.426828 799.000000   2.712 0.006836
##
## (Intercept)
## Rebel_Party                 ***
## democ                       *
## Implemented_Quotas          .
## exclusive                   *
## opposition
## Party_Institutionalization ***
## gdplnvdem                   *
## vdem_wom_civsoc             ***
## spline2                     *
## spline3                     *
## spline4                     **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) Rbl_Pr democ  Impl_Q exclsv oppstn Prty_I gdplnv vdm_w_
## Rebel_Party  0.012
```

```
## democ       -0.211  0.130
## Implmntd_Qt  0.018  0.014  0.034
## exclusive   -0.584  0.045  0.288  0.024
## opposition   0.061 -0.080 -0.035  0.084 -0.013
## Prty_Insttt  0.532  0.082 -0.051  0.226 -0.070 -0.015
## gdplnvdem   -0.893 -0.079  0.157 -0.087  0.323 -0.042 -0.785
## vdm_wm_cvsc -0.435 -0.051 -0.210 -0.073  0.428 -0.098 -0.210  0.199
## spline2     -0.075  0.046 -0.112 -0.188 -0.186 -0.008 -0.007  0.032 -0.136
## spline3      0.115 -0.025  0.055 -0.006  0.102 -0.001  0.022 -0.073  0.087
## spline4     -0.122  0.021  0.022  0.074 -0.028 -0.008 -0.014  0.077 -0.070
##             splin2 splin3
## Rebel_Party
## democ
## Implmntd_Qt
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.909
## spline4      0.780 -0.963
## optimizer (nloptwrap) convergence code: 0 (OK)
## boundary (singular) fit: see help('isSingular')
```

```
#Effective
modelcan_q3 <- lmerTest::lmer(Percent_Women_Candidates ~
                                Rebel_Party +
                                democ +
                                Effective_Quotas +
                                exclusive +
                                opposition+
                                Party_Institutionalization+
                                gdplnvdem  +
                                vdem_wom_civsoc+
                                spline2 +
                                spline3 +
                                spline4  +
                                (1 | Country),
                              data=winners)
summary(modelcan_q3)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + democ + Effective_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -136.9
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3630 -0.3803  0.1244  0.5625  2.5656
##
```

```
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.009733 0.09865
##  Residual             0.011940 0.10927
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                             Estimate Std. Error        df t value Pr(>|t|)
## (Intercept)                -0.09452    0.32621  12.54807  -0.290   0.7767
## Rebel_Party                 0.06725    0.02533 110.16073   2.655   0.0091 **
## democ                      -0.05659    0.11241  13.68444  -0.503   0.6227
## Effective_Quotas           -0.04365    0.07516  90.11865  -0.581   0.5629
## exclusive                  -0.02834    0.05474  67.38342  -0.518   0.6064
## opposition                 -0.01907    0.02547 108.24553  -0.749   0.4557
## Party_Institutionalization  0.19487    0.23573  12.72111   0.827   0.4237
## gdplnvdem                   0.02063    0.05072  16.72475   0.407   0.6894
## vdem_wom_civsoc             0.14499    0.31388  14.95357   0.462   0.6508
## spline2                     0.01402    0.01150 111.14810   1.219   0.2253
## spline3                    -0.28275    0.18803 111.78393  -1.504   0.1355
## spline4                     1.38846    0.87201 111.90237   1.592   0.1141
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##             (Intr) Rbl_Pr democ  Effc_Q exclsv oppstn Prty_I gdplnv vdm_w_
## Rebel_Party  0.034
## democ        0.115 -0.095
## Effectv_Qts -0.168 -0.119  0.642
## exclusive   -0.113 -0.054  0.012 -0.039
## opposition   0.067  0.194 -0.064 -0.004 -0.086
## Prty_Insttt  0.432  0.045 -0.229 -0.358  0.001 -0.032
## gdplnvdem   -0.801 -0.085  0.166  0.402 -0.213 -0.052 -0.696
## vdm_wm_cvsc -0.318  0.079 -0.649 -0.499  0.460  0.023  0.072 -0.214
## spline2     -0.092 -0.086  0.191  0.132  0.116 -0.146 -0.007 -0.011 -0.042
## spline3      0.187  0.096 -0.219 -0.227  0.075  0.139  0.173 -0.218  0.176
## spline4     -0.199 -0.083  0.199  0.222 -0.218 -0.124 -0.225  0.313 -0.259
##             splin2 splin3
## Rebel_Party
## democ
## Effectv_Qts
## exclusive
## opposition
## Prty_Insttt
## gdplnvdem
## vdm_wm_cvsc
## spline2
## spline3     -0.913
## spline4      0.766 -0.957
```

```
modelele_q4 <- lmerTest::lmer(Percent_Women_Seats ~
                                Rebel_Party
                              + logPercent
                              + democ
                              + Effective_Quotas
```

```
                              + exclusive
                              + opposition
                              + Party_Institutionalization
                              + gdplnvdem
                              + vdem_wom_civsoc
                              + spline2
                              + spline3
                              + spline4
                              + (1 | Country), data=winners)
summary(modelele_q4)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Effective_Quotas +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -444.5
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.7478 -0.4818 -0.1627  0.0438  5.5701
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0003715 0.01928
##  Residual             0.0307578 0.17538
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                 4.877e-02  1.040e-01  1.321e+01   0.469  0.64662
## Rebel_Party                 4.603e-02  2.185e-02  5.550e+02   2.106  0.03562 *
## logPercent                  1.516e-02  4.868e-03  2.980e+02   3.114  0.00203 **
## democ                       8.111e-04  2.004e-02  1.109e+01   0.040  0.96844
## Effective_Quotas            8.195e-02  2.679e-02  2.031e+01   3.059  0.00612 **
## exclusive                  -1.716e-02  2.095e-02  2.034e+01  -0.819  0.42210
## opposition                  5.449e-03  2.070e-02  7.447e+02   0.263  0.79242
## Party_Institutionalization  1.476e-01  8.187e-02  1.229e+01   1.802  0.09603 .
## gdplnvdem                  -1.438e-02  1.550e-02  1.069e+01  -0.928  0.37398
## vdem_wom_civsoc             1.586e-01  5.489e-02  8.980e+00   2.890  0.01792 *
## spline2                     1.108e-02  5.112e-03  5.047e+02   2.168  0.03063 *
## spline3                    -1.658e-01  9.104e-02  6.691e+02  -1.821  0.06898 .
## spline4                     8.638e-01  4.308e-01  6.076e+02   2.005  0.04541 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation matrix not shown by default, as p = 13 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```r
modelcan_q5 <- lmerTest::lmer(Percent_Women_Candidates ~
                                Rebel_Party +
                               logPercent +
                                democ +
                                Party_Quota +
                                exclusive +
                                opposition+
                                Party_Institutionalization+
                                gdplnvdem  +
                                vdem_wom_civsoc+
                                spline2 +
                                spline3 +
                                spline4  +
                                Rebel_Party*Party_Quota +
                                (1 | Country),
                              data=winners)
summary(modelcan_q5)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: Percent_Women_Candidates ~ Rebel_Party + logPercent + democ +
##     Party_Quota + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4 +
##     Rebel_Party * Party_Quota + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -127.1
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -3.3349 -0.4448  0.0383  0.5496  2.3993
##
## Random effects:
##  Groups   Name        Variance Std.Dev.
##  Country  (Intercept) 0.00938  0.09685
##  Residual             0.01185  0.10887
## Number of obs: 124, groups:  Country, 11
##
## Fixed effects:
##                               Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  -0.109150   0.321825  11.547854  -0.339    0.741
## Rebel_Party                   0.037136   0.038149 106.766134   0.973    0.333
## logPercent                    0.013255   0.009269 107.797048   1.430    0.156
## democ                        -0.014267   0.085272   6.606438  -0.167    0.872
## Party_Quota                   0.036869   0.049303 107.337870   0.748    0.456
## exclusive                    -0.028024   0.054604  65.803559  -0.513    0.610
## opposition                   -0.037905   0.028907 106.169314  -1.311    0.193
## Party_Institutionalization    0.145049   0.219475  10.703856   0.661    0.523
## gdplnvdem                     0.036472   0.046033  13.622689   0.792    0.442
## vdem_wom_civsoc               0.055839   0.271723  11.370682   0.206    0.841
## spline2                       0.012644   0.011500 109.301635   1.100    0.274
## spline3                      -0.267677   0.183782 109.550070  -1.456    0.148
## spline4                       1.335366   0.851547 109.992489   1.568    0.120
## Rebel_Party:Party_Quota      -0.045497   0.063909 105.214841  -0.712    0.478
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
modelele_q6 <- lmerTest::lmer(Percent_Women_Seats ~
                                Rebel_Party
                              + logPercent
                              + democ
                              + Party_Quota
                              + exclusive
                              + opposition
                              + Party_Institutionalization
                              + gdplnvdem
                              + vdem_wom_civsoc
                              + spline2
                              + spline3
                              + spline4
                              + Rebel_Party*Party_Quota
                              + (1 | Country), data=winners)
summary(modelele_q6)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula:
## Percent_Women_Seats ~ Rebel_Party + logPercent + democ + Party_Quota +
##     exclusive + opposition + Party_Institutionalization + gdplnvdem +
##     vdem_wom_civsoc + spline2 + spline3 + spline4 + Rebel_Party *
##     Party_Quota + (1 | Country)
##    Data: winners
##
## REML criterion at convergence: -447
##
## Scaled residuals:
##     Min      1Q  Median      3Q     Max
## -1.5855 -0.4180 -0.1912  0.0366  5.5747
##
## Random effects:
##  Groups   Name        Variance  Std.Dev.
##  Country  (Intercept) 0.0009259 0.03043
##  Residual             0.0304106 0.17439
## Number of obs: 805, groups:  Country, 20
##
## Fixed effects:
##                              Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)                  0.118028   0.112642  20.442761   1.048   0.3070
## Rebel_Party                  0.022821   0.023045 730.551799   0.990   0.3224
## logPercent                   0.013048   0.005064 408.484682   2.576   0.0103 *
## democ                       -0.025320   0.021035  20.598452  -1.204   0.2424
## Party_Quota                  0.115204   0.057398 635.072648   2.007   0.0452 *
## exclusive                   -0.030065   0.022581  38.868114  -1.331   0.1908
## opposition                   0.007408   0.021271 752.857646   0.348   0.7277
## Party_Institutionalization   0.170598   0.088590  20.065923   1.926   0.0684 .
## gdplnvdem                   -0.022384   0.016775  18.843147  -1.334   0.1980
## vdem_wom_civsoc              0.151931   0.062908  18.269833   2.415   0.0264 *
```

```
## spline2                      0.012185   0.005093 491.410162   2.392   0.0171 *
## spline3                     -0.168638   0.091267 684.946229  -1.848   0.0651 .
## spline4                      0.826338   0.433825 677.973994   1.905   0.0572 .
## Rebel_Party:Party_Quota      0.033788   0.071298 740.180902   0.474   0.6357
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## Correlation matrix not shown by default, as p = 14 > 12.
## Use print(x, correlation=TRUE)  or
##     vcov(x)        if you need it
```

```
texreg(list(modelcan_q1, modelcan_q3, modelcan_q5, modelele_q2, modelele_q4, modelele_q6))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c c c c c}
## \hline
##  & Model 1 & Model 2 & Model 3 & Model 4 & Model 5 & Model 6 \\
## \hline
## (Intercept)                 & $-0.14$     & $-0.09$     & $-0.11$  & $0.06$       & $0.05$      & $0
##                             & $(0.32)$    & $(0.33)$    & $(0.32)$ & $(0.08)$     & $(0.10)$    & $(0
## Rebel\_Party                & $0.07^{**}$ & $0.07^{**}$ & $0.04$   & $0.08^{***}$ & $0.05^{*}$  & $0
##                             & $(0.03)$    & $(0.03)$    & $(0.04)$ & $(0.02)$     & $(0.02)$    & $(0
## democ                       & $-0.05$     & $-0.06$     & $-0.01$  & $-0.03^{*}$  & $0.00$      & $-0
##                             & $(0.10)$    & $(0.11)$    & $(0.09)$ & $(0.01)$     & $(0.02)$    & $(0
## Implemented\_Quotas         & $-0.05$     &             &          & $0.03$       &             &
##                             & $(0.06)$    &             &          & $(0.02)$     &             &
## exclusive                   & $-0.02$     & $-0.03$     & $-0.03$  & $-0.04^{*}$  & $-0.02$     & $-0
##                             & $(0.05)$    & $(0.05)$    & $(0.05)$ & $(0.02)$     & $(0.02)$    & $(0
## opposition                  & $-0.02$     & $-0.02$     & $-0.04$  & $0.02$       & $0.01$      & $0
##                             & $(0.03)$    & $(0.03)$    & $(0.03)$ & $(0.02)$     & $(0.02)$    & $(0
## Party\_Institutionalization & $0.09$      & $0.19$      & $0.15$   & $0.24^{***}$ & $0.15$      & $0
##                             & $(0.23)$    & $(0.24)$    & $(0.22)$ & $(0.07)$     & $(0.08)$    & $(0
## gdplnvdem                   & $0.04$      & $0.02$      & $0.04$   & $-0.03^{*}$  & $-0.01$     & $-0
##                             & $(0.05)$    & $(0.05)$    & $(0.05)$ & $(0.01)$     & $(0.02)$    & $(0
## vdem\_wom\_civsoc           & $0.14$      & $0.14$      & $0.06$   & $0.20^{***}$ & $0.16^{**}$ & $0
##                             & $(0.29)$    & $(0.31)$    & $(0.27)$ & $(0.05)$     & $(0.05)$    & $(0
## spline2                     & $0.01$      & $0.01$      & $0.01$   & $0.01^{*}$   & $0.01^{*}$  & $0
##                             & $(0.01)$    & $(0.01)$    & $(0.01)$ & $(0.00)$     & $(0.01)$    & $(0
## spline3                     & $-0.29$     & $-0.28$     & $-0.27$  & $-0.22^{*}$  & $-0.17$     & $-0
##                             & $(0.18)$    & $(0.19)$    & $(0.18)$ & $(0.09)$     & $(0.09)$    & $(0
## spline4                     & $1.45$      & $1.39$      & $1.34$   & $1.16^{**}$  & $0.86^{*}$  & $0
##                             & $(0.85)$    & $(0.87)$    & $(0.85)$ & $(0.43)$     & $(0.43)$    & $(0
## Effective\_Quotas           &             & $-0.04$     &          &              & $0.08^{**}$ &
##                             &             & $(0.08)$    &          &              & $(0.03)$    &
## logPercent                  &             &             & $0.01$   &              & $0.02^{**}$ & $0
##                             &             &             & $(0.01)$ &              & $(0.00)$    & $(0
## Party\_Quota                &             &             & $0.04$   &              &             & $0
##                             &             &             & $(0.05)$ &              &             & $(0
## Rebel\_Party:Party\_Quota   &             &             & $-0.05$  &              &             & $0
##                             &             &             & $(0.06)$ &              &             & $(0
## \hline
## AIC                         & $-108.77$   & $-108.86$   & $-95.10$ & $-415.87$    & $-414.51$   & $-4
```

```
## BIC                          & $-69.29$    & $-69.38$    & $-49.97$ & $-350.09$    & $-344.15$   & $-3
## Log Likelihood               & $68.39$     & $68.43$     & $63.55$  & $221.94$     & $222.25$    & $2
## Num. obs.                    & $124$       & $124$       & $124$    & $811$        & $805$       & $8
## Num. groups: Country         & $11$        & $11$        & $11$     & $20$         & $20$        & $2
## Var: Country (Intercept)     & $0.01$      & $0.01$      & $0.01$   & $0.00$       & $0.00$      & $0
## Var: Residual                & $0.01$      & $0.01$      & $0.01$   & $0.03$       & $0.03$      & $0
## \hline
## \multicolumn{7}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```

```
####OLS MODEL, TABLE 10
modelcan <- glm(Percent_Women_Candidates ~
                  Rebel_Party +
                  democ +
                  Adopted_Quotas +
                  exclusive +
                  opposition+
                  Party_Institutionalization+
                  gdplnvdem  +
                  vdem_wom_civsoc+
                  spline2 +
                  spline3 +
                  spline4,
                family=gaussian(identity),
                data=winners)
summary(modelcan)
```

```
##
## Call:
## glm(formula = Percent_Women_Candidates ~ Rebel_Party + democ +
##     Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4,
##     family = gaussian(identity), data = winners)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.34563  -0.05861  -0.00018   0.08033   0.28540
##
## Coefficients:
##                             Estimate Std. Error t value Pr(>|t|)
## (Intercept)                -0.214712   0.167114  -1.285  0.20150
## Rebel_Party                 0.072517   0.026450   2.742  0.00712 **
## democ                       0.016544   0.049722   0.333  0.73996
## Adopted_Quotas             -0.017765   0.042372  -0.419  0.67583
## exclusive                   0.105626   0.040018   2.639  0.00949 **
## opposition                 -0.029520   0.027499  -1.073  0.28536
## Party_Institutionalization  0.261242   0.127365   2.051  0.04259 *
## gdplnvdem                   0.002695   0.026211   0.103  0.91828
## vdem_wom_civsoc             0.316614   0.163163   1.940  0.05484 .
## spline2                     0.014810   0.011736   1.262  0.20958
## spline3                    -0.178502   0.185196  -0.964  0.33720
```

```
## spline4                     0.572236   0.833007   0.687  0.49353
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for gaussian family taken to be 0.01484852)
##
##     Null deviance: 2.4696  on 123  degrees of freedom
## Residual deviance: 1.6630  on 112  degrees of freedom
##   (723 observations deleted due to missingness)
## AIC: -156.75
##
## Number of Fisher Scoring iterations: 2
```

```
modelele <- glm(Percent_Women_Seats ~
                  Rebel_Party
                +logPercent
                + democ
                + Adopted_Quotas
                + exclusive
                + opposition
                + Party_Institutionalization
                + gdplnvdem
                + vdem_wom_civsoc
                + spline2
                + spline3
                + spline4, family=gaussian(identity),
                data=winners)
summary(modelele)
```

```
##
## Call:
## glm(formula = Percent_Women_Seats ~ Rebel_Party + logPercent +
##     democ + Adopted_Quotas + exclusive + opposition + Party_Institutionalization +
##     gdplnvdem + vdem_wom_civsoc + spline2 + spline3 + spline4,
##     family = gaussian(identity), data = winners)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -0.27531  -0.08385  -0.03105   0.01258   0.99741
##
## Coefficients:
##                              Estimate Std. Error t value Pr(>|t|)
## (Intercept)                 0.1482726  0.0880186   1.685  0.09247 .
## Rebel_Party                 0.0489867  0.0216519   2.262  0.02394 *
## logPercent                  0.0154997  0.0047346   3.274  0.00111 **
## democ                      -0.0180245  0.0151425  -1.190  0.23427
## Adopted_Quotas              0.0354862  0.0161883   2.192  0.02866 *
## exclusive                  -0.0261747  0.0182949  -1.431  0.15291
## opposition                  0.0009112  0.0206049   0.044  0.96474
## Party_Institutionalization  0.2756164  0.0692993   3.977 7.61e-05 ***
## gdplnvdem                  -0.0356430  0.0127175  -2.803  0.00519 **
## vdem_wom_civsoc             0.1811689  0.0458262   3.953 8.39e-05 ***
## spline2                     0.0122543  0.0051099   2.398  0.01671 *
## spline3                    -0.1985227  0.0900577  -2.204  0.02778 *
## spline4                     1.0205285  0.4260991   2.395  0.01685 *
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for gaussian family taken to be 0.03117343)
##
##     Null deviance: 29.556  on 804  degrees of freedom
## Residual deviance: 24.689  on 792  degrees of freedom
##   (42 observations deleted due to missingness)
## AIC: -492.51
##
## Number of Fisher Scoring iterations: 2
```

```
texreg(list(modelcan, modelele))
```

```
##
## \begin{table}
## \begin{center}
## \begin{tabular}{l c c}
## \hline
##  & Model 1 & Model 2 \\
## \hline
## (Intercept)                 & $-0.21$     & $0.15$       \\
##                             & $(0.17)$    & $(0.09)$     \\
## Rebel\_Party                & $0.07^{**}$ & $0.05^{*}$   \\
##                             & $(0.03)$    & $(0.02)$     \\
## democ                       & $0.02$      & $-0.02$      \\
##                             & $(0.05)$    & $(0.02)$     \\
## Adopted\_Quotas             & $-0.02$     & $0.04^{*}$   \\
##                             & $(0.04)$    & $(0.02)$     \\
## exclusive                   & $0.11^{**}$ & $-0.03$      \\
##                             & $(0.04)$    & $(0.02)$     \\
## opposition                  & $-0.03$     & $0.00$       \\
##                             & $(0.03)$    & $(0.02)$     \\
## Party\_Institutionalization & $0.26^{*}$  & $0.28^{***}$ \\
##                             & $(0.13)$    & $(0.07)$     \\
## gdplnvdem                   & $0.00$      & $-0.04^{**}$ \\
##                             & $(0.03)$    & $(0.01)$     \\
## vdem\_wom\_civsoc           & $0.32$      & $0.18^{***}$ \\
##                             & $(0.16)$    & $(0.05)$     \\
## spline2                     & $0.01$      & $0.01^{*}$   \\
##                             & $(0.01)$    & $(0.01)$     \\
## spline3                     & $-0.18$     & $-0.20^{*}$  \\
##                             & $(0.19)$    & $(0.09)$     \\
## spline4                     & $0.57$      & $1.02^{*}$   \\
##                             & $(0.83)$    & $(0.43)$     \\
## logPercent                  &             & $0.02^{**}$  \\
##                             &             & $(0.00)$     \\
## \hline
## AIC                         & $-156.75$   & $-492.51$    \\
## BIC                         & $-120.08$   & $-426.84$    \\
## Log Likelihood              & $91.37$     & $260.25$     \\
## Deviance                    & $1.66$      & $24.69$      \\
## Num. obs.                   & $124$       & $805$        \\
## \hline
## \multicolumn{3}{l}{\scriptsize{$^{***}p<0.001$; $^{**}p<0.01$; $^{*}p<0.05$}}
```

```
## \end{tabular}
## \caption{Statistical models}
## \label{table:coefficients}
## \end{center}
## \end{table}
```