Yu, Whang, and Lee_logfile

```
### When Does Audience Matter? Challengers' Stability and Audience Costs
### Replication Main Result

try(setwd(dirname(rstudioapi::getActiveDocumentContext()$path)))
rm(list=ls())

### Load Packages
library(Hmisc)
```

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

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

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

```
## Loading required package: ggplot2
```

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

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

```
library(lmtest)
```

```
## Loading required package: zoo
```

```
##
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
##
##     as.Date, as.Date.numeric
```

```
library(sandwich)
library(multiwayvcov)
library(stargazer)
```

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

```
##  Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.
```

```
##  R package version 5.2.2. https://CRAN.R-project.org/package=stargazer
```

```
library(jtools)
```

```
##
## Attaching package: 'jtools'
```

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

```r
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:Hmisc':
##
##     src, summarize
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
library(tidyr)
library(colorspace)

### Load Dataset
data = read.csv('Yu, Whang, and Lee_dataset.csv')

### Table 1: Correlation between Regime and Stability
rcorr(cbind(data$polity2.1,data$stability.1,data$sfirev.1))
```

```
##      [,1] [,2] [,3]
## [1,] 1.00 0.29 0.63
## [2,] 0.29 1.00 0.82
## [3,] 0.63 0.82 1.00
##
## n
##      [,1] [,2] [,3]
## [1,]  894  445  753
## [2,]  445  479  323
## [3,]  753  323  788
##
## P
##      [,1] [,2] [,3]
## [1,]       0    0
## [2,]  0         0
## [3,]  0    0
```

```r
### Table 2: Effect of Stability on Reciprocation

## Without Control
mb1 = glm(recip~poly(stability.1,2)-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
mb2 = glm(recip~poly(sfirev.1,2)-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
```

```r
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

# Robust SEs
mb1.c = coeftest(mb1,vcov=cluster.vcov(mb1, ~ ccode1+ccode2,use_white = T))
mb2.c = coeftest(mb2,vcov=cluster.vcov(mb2, ~ ccode1+ccode2,use_white = T))

## With Control
m1 = glm(recip~poly(stability.1,2)+polity2.1+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m2 = glm(recip~poly(sfirev.1,2)+polity2.1+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

# Robust SEs
m1.c = coeftest(m1,vcov=cluster.vcov(m1, ~ ccode1+ccode2,use_white = T))
m2.c = coeftest(m2,vcov=cluster.vcov(m2, ~ ccode1+ccode2,use_white = T))

## Full Results
stargazer(mb1,m1,mb2,m2,no.space = T
          ,se=list(mb1.c[,2],m1.c[,2],mb2.c[,2],m2.c[,2])
          ,type='text',
          omit='styear',
          order=c(1,2,14,15,3:13))
```

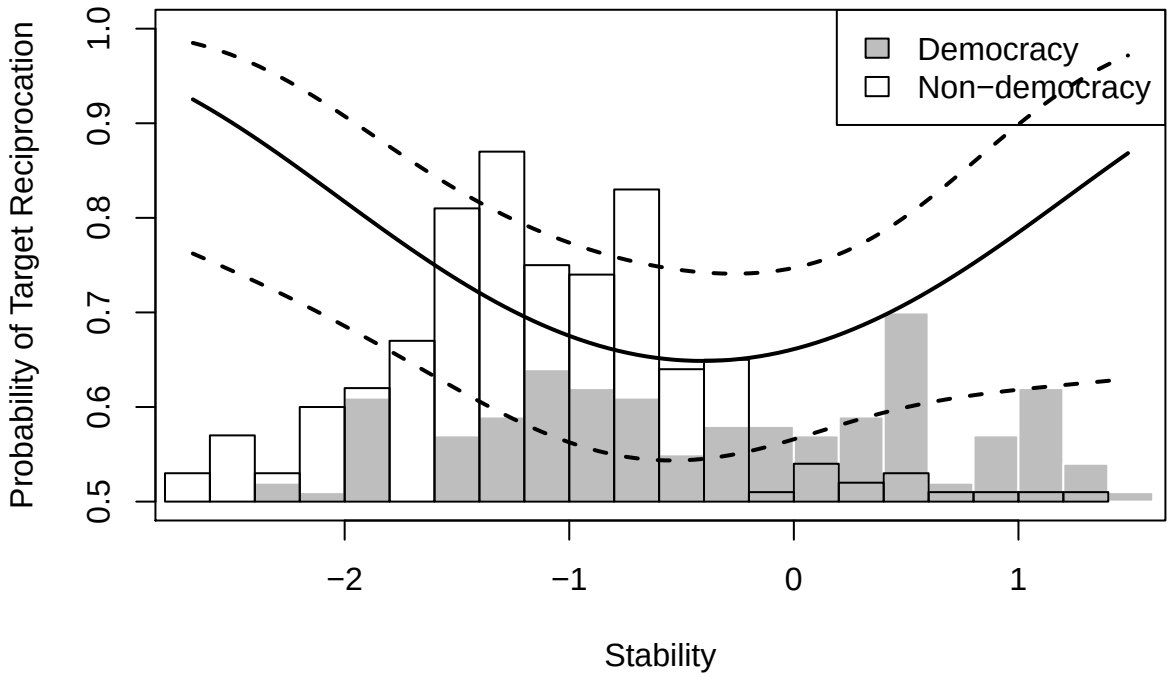
```
##
## ============================================================
##                                Dependent variable:
##                        -------------------------------------
##                                        recip
##                           (1)      (2)       (3)       (4)
## ------------------------------------------------------------
## poly(stability.1, 2)1 -6.451***  -3.621
##                        (2.040)  (3.303)
## poly(stability.1, 2)2 5.367***  5.641**
##                        (1.687)  (2.691)
## poly(sfirev.1, 2)1                        -11.145***  -6.029
##                                            (3.033)   (4.086)
## poly(sfirev.1, 2)2                         8.301***  9.077**
##                                            (2.814)   (4.028)
## polity2.1                        0.008                0.011
##                                 (0.019)              (0.019)
## cinc.ratio                       -0.050               -0.077
```

```
##                                 (0.076)             (0.060)
## affinity                       -0.580*             -0.574**
##                                 (0.319)             (0.260)
## dist.log                        -0.098              -0.046
##                                 (0.096)             (0.097)
## alliance                        0.153               0.216
##                                 (0.285)             (0.233)
## sqevaluation.1                  -0.635              -0.820**
##                                 (0.440)             (0.332)
## sqevaluation.2                  0.205               -0.036
##                                 (0.293)             (0.248)
## territory                      0.758***            0.854***
##                                 (0.191)             (0.217)
## gdpgrowth                       0.013               0.005
##                                 (0.020)             (0.011)
## log(gdppc)                      -0.031              -0.003
##                                 (0.102)             (0.098)
## history                         0.004               0.005
##                                 (0.009)             (0.008)
## ------------------------------------------------------------
## Observations             479      395       788       554
## Log Likelihood        -270.925  -217.347  -418.584  -310.127
## Akaike Inf. Crit.      561.849  476.695   873.168   678.253
## ============================================================
## Note:                            *p<0.1; **p<0.05; ***p<0.01
```

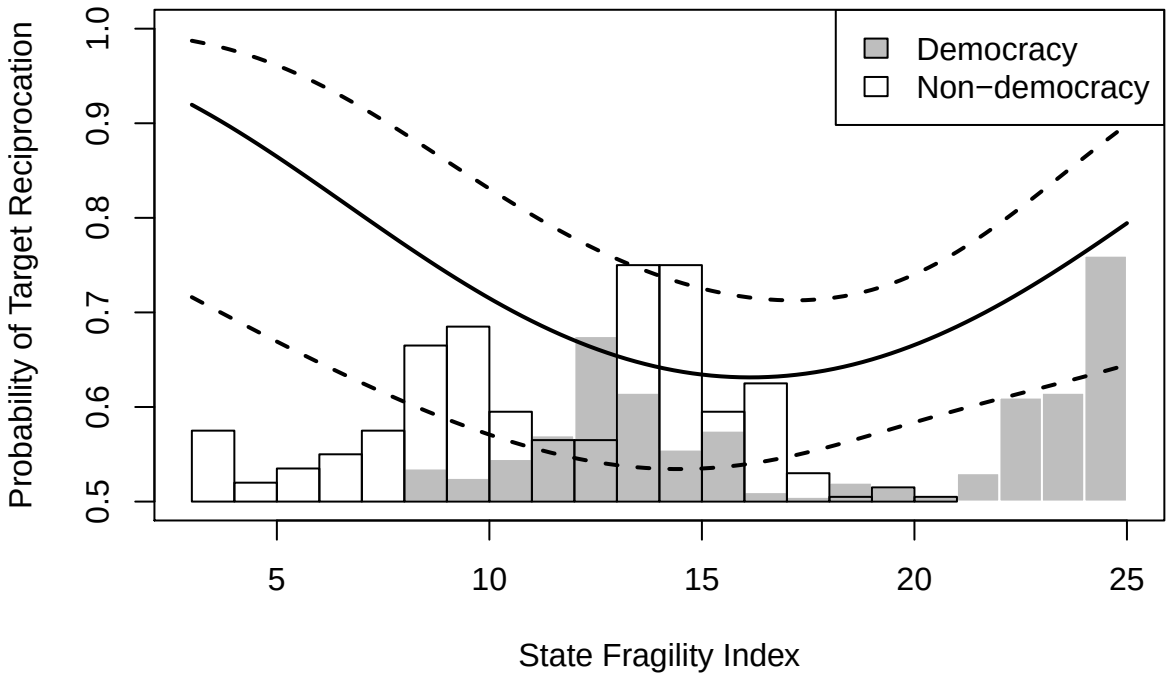
```
### Figure 1: Reciprocation ~ Stability
frame1 = data[rownames(model.frame(m1)),]
frame2 = data[rownames(model.frame(m2)),]

pre = make_predictions(m1,pred='stability.1',data=frame1,cluster=c('ccode1','ccode2'))
```

```
## Warning in predict.lm(object, newdata, se.fit, scale = residual.scale, type = if
## (type == : prediction from a rank-deficient fit may be misleading
```

```
hist(frame1[frame1$democracy==1,]$stability.1,breaks=20,col='grey',border='white',
     xlim=range(frame1$stability.1),ylim=c(0,50),
     xlab='',ylab='',xaxt='n',yaxt='n',main='')
hist(frame1[frame1$democracy==0,]$stability.1,breaks=20,add=T,col=rgb(1,1,1,alpha=0))
par(new=T)
plot(recip~stability.1,data=pre,type='l',
     ylab='Probability of Target Reciprocation',xlab='Stability',
     xlim=range(frame1$stability.1),ylim=c(0.5,1),lwd=2)
lines(ymax~stability.1,data=pre,lty='dashed',lwd=2)
lines(ymin~stability.1,data=pre,lty='dashed',lwd=2)

legend('topright',legend=c('Democracy','Non-democracy'),fill=c('grey','white'))
```




```
### Figure 2: Reciprocation ~ SFI
pre2 = make_predictions(m2,pred='sfirev.1',data=frame2,cluster=c('ccode1','ccode2'))

hist(frame2[frame2$democracy==1,]$sfirev.1,breaks=20,border='white',col='grey',
     xlim=range(frame2$sfirev.1),ylim=c(0,100),
     xlab='',ylab='',xaxt='n',yaxt='n',main='')
hist(frame2[frame2$democracy==0,]$sfirev.1,breaks=20,add=T,col=rgb(1,1,1,alpha=0))
par(new=T)
plot(recip~sfirev.1,data=pre2,type='l',
     ylab='Probability of Target Reciprocation',xlab='State Fragility Index',
     ylim=c(0.5,1),xlim=range(frame2$sfirev.1),lwd=2)
lines(ymax~sfirev.1,data=pre2,lty='dashed',lwd=2)
lines(ymin~sfirev.1,data=pre2,lty='dashed',lwd=2)

legend('topright',legend=c('Democracy','Non-democracy'),fill=c('grey','white'))
```




```
### Descriptive Statistics (Full)
data$gdppc = log(data$gdppc)

m.s = glm(recip~sfirev.1+stability.1+polity2.1+
            cinc.ratio+affinity+dist.log+alliance+
            sqevaluation.1+sqevaluation.2+territory+gdpgrowth+
            gdppc+history,data=data,family=binomial(link='probit'))
stargazer(data[!is.na(data$sfirev.1)|!is.na(data$stability.1),
               c('recip',names(m.s$coefficients[-1]))],type='text')
```

```
##
## ============================================================================
## Statistic       N   Mean  St. Dev.   Min   Pctl(25) Pctl(75)  Max
## ----------------------------------------------------------------------------
## recip           944 0.727   0.446      0       0        1       1
## sfirev.1        788 13.095  6.771    0.000   9.000    16.000  25.000
## stability.1     479 -0.903  0.994    -3.315  -1.542   -0.286  1.488
## polity2.1       894 1.285   7.200   -10.000  -7.000   8.000   10.000
## cinc.ratio      944 1.121   1.131   0.0003   0.244    1.638   8.197
## affinity        828 0.590   0.487   -0.889   0.486    0.911   1.000
## dist.log        893 7.196   1.063    5.056   6.358    7.649   9.692
## alliance        944 0.422   0.494      0       0        1       1
## sqevaluation.1 864 -0.311  0.432   -0.889   -0.627   -0.132  1.000
## sqevaluation.2 909 -0.287  0.440   -1.000   -0.616   -0.125  1.000
## territory       944 0.097   0.297      0       0        0       1
## gdpgrowth       858 5.749   6.136   -33.101  2.792    8.021   54.158
## gdppc           805 7.791   1.601    4.778   6.547    8.784   11.483
## history         944 10.565  11.335     0       2        16      45
## ----------------------------------------------------------------------------
```

```
### Table A1: Stability model data
stabilitydata = data[!is.na(data$stability.1),c('recip',names(m.s$coefficients[-1]))]
stargazer(stabilitydata,omit.summary.stat=c('p25','p75'),omit='sfi'
```

```
          ,type='text')
```

```
##
## ================================================
## Statistic       N   Mean  St. Dev.   Min    Max
## ------------------------------------------------
## recip          479 0.716   0.451      0      1
## stability.1    479 -0.903  0.994   -3.315  1.488
## polity2.1      445 1.955   6.785   -10.000 10.000
## cinc.ratio     479 1.069   1.135   0.0003  8.197
## affinity       459 0.575   0.535   -0.889  1.000
## dist.log       469 7.153   1.086    5.199  9.692
## alliance       479 0.449   0.498      0      1
## sqevaluation.1 469 -0.429  0.436   -0.889  1.000
## sqevaluation.2 469 -0.411  0.461   -0.889  1.000
## territory      479 0.063   0.243      0      1
## gdpgrowth      449 5.166   5.750   -33.101 54.158
## gdppc          448 7.843   1.621    4.778  11.483
## history        479 11.317  11.642     0      45
## ------------------------------------------------
```

```
length(unique(data[!is.na(data$stability.1),]$ccode1))
```

```
## [1] 81
```

```
length(unique(data[!is.na(data$stability.1),]$ccode2))
```

```
## [1] 82
```

```
range(data[!is.na(data$stability.1),]$styear)
```

```
## [1] 2003 2010
```

```
# Table A2: SFI model data
sfidata = data[!is.na(data$sfirev.1),c('recip',names(m.s$coefficients[-1]))]
stargazer(sfidata,omit.summary.stat=c('p25','p75'),omit='stability'
          ,type='text')
```

```
##
## ================================================
## Statistic       N   Mean  St. Dev.   Min    Max
## ------------------------------------------------
## recip          788 0.730   0.444      0      1
## sfirev.1       788 13.095  6.771      0      25
## polity2.1      753 1.021   7.386   -10.000 10.000
## cinc.ratio     788 1.212   1.171    0.001  8.197
## affinity       681 0.550   0.511   -0.889  1.000
## dist.log       741 7.241   1.080    5.056  9.692
## alliance       788 0.431   0.496      0      1
## sqevaluation.1 716 -0.269  0.451   -0.889  1.000
## sqevaluation.2 754 -0.244  0.446   -1.000  1.000
## territory      788 0.105   0.307      0      1
## gdpgrowth      710 5.681   6.355   -33.101 54.158
## gdppc          657 7.931   1.581    5.218  11.483
## history        788 11.296  11.771     0      45
## ------------------------------------------------
```

```r
length(unique(data[!is.na(data$sfirev.1),]$ccode1))
```

```
## [1] 61
```

```r
length(unique(data[!is.na(data$sfirev.1),]$ccode2))
```

```
## [1] 106
```

```r
range(data[!is.na(data$sfirev.1),]$styear)
```

```
## [1] 1995 2010
```

```r
### Replication Comparison between Linear and Curvilinear Specifications

rm(list=ls())

### Reload Dataset
data = read.csv('Yu, Whang, and Lee_dataset.csv')

### Table OA1: Comparison between Linear and Curvilinear Specifications

## Linear Specification
m1 = glm(recip~stability.1+polity2.1+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m2 = glm(recip~sfirev.1+polity2.1+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m1.c = coeftest(m1,vcov=cluster.vcov(m1, ~ ccode1+ccode2,use_white = T))
m2.c = coeftest(m2,vcov=cluster.vcov(m2, ~ ccode1+ccode2,use_white = T))

## Curvilinear Specification (Main Result)
m3 = glm(recip~poly(stability.1,2)+polity2.1+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m4 = glm(recip~poly(sfirev.1,2)+polity2.1+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
```

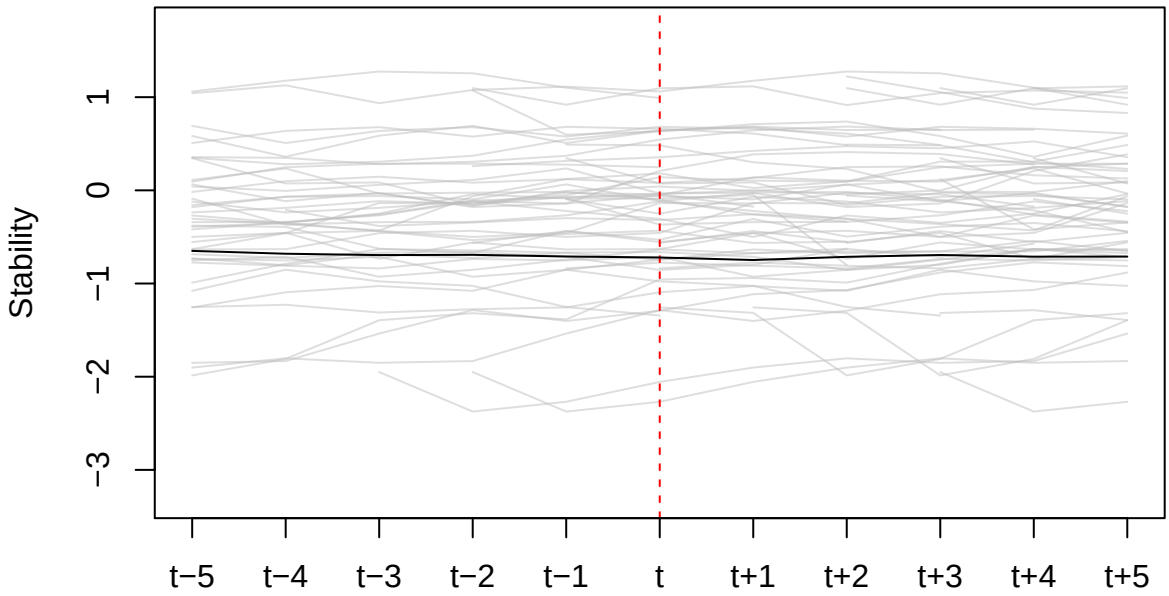
```r
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m3.c = coeftest(m3,vcov=cluster.vcov(m3, ~ ccode1+ccode2,use_white = T))
m4.c = coeftest(m4,vcov=cluster.vcov(m4, ~ ccode1+ccode2,use_white = T))

## Results
stargazer(m1,m3,m2,m4,no.space=T,
          se=list(m1.c[,2],m3.c[,2],m2.c[,2],m4.c[,2]),
          omit='styear',
          type='text')
```

```
##
## ==========================================================
##                                Dependent variable:
##                         ----------------------------------
##                                        recip
##                           (1)      (2)      (3)      (4)
## ----------------------------------------------------------
## stability.1             -0.125
##                        (0.159)
## poly(stability.1, 2)1            -3.621
##                                 (3.303)
## poly(stability.1, 2)2           5.641**
##                                 (2.691)
## sfirev.1                                   -0.012
##                                           (0.025)
## poly(sfirev.1, 2)1                                  -6.029
##                                                    (4.086)
## poly(sfirev.1, 2)2                                 9.077**
##                                                    (4.028)
## polity2.1               0.009    0.008    0.007    0.011
##                        (0.020)  (0.019)  (0.020)  (0.019)
## cinc.ratio              -0.082   -0.050  -0.131**  -0.077
##                        (0.071)  (0.076)  (0.058)  (0.060)
## affinity                -0.512  -0.580*  -0.468*  -0.574**
##                        (0.324)  (0.319)  (0.253)  (0.260)
## dist.log                -0.086   -0.098   -0.026   -0.046
##                        (0.098)  (0.096)  (0.096)  (0.097)
## alliance                0.125    0.153    0.142    0.216
##                        (0.287)  (0.285)  (0.239)  (0.233)
## sqevaluation.1          -0.661   -0.635   -0.598  -0.820**
##                        (0.437)  (0.440)  (0.381)  (0.332)
## sqevaluation.2          0.192    0.205    -0.087   -0.036
##                        (0.287)  (0.293)  (0.231)  (0.248)
## territory              0.830*** 0.758*** 0.906*** 0.854***
##                        (0.205)  (0.191)  (0.225)  (0.217)
## gdpgrowth               0.010    0.013    0.005    0.005
##                        (0.019)  (0.020)  (0.011)  (0.011)
## log(gdppc)              0.033    -0.031   0.024    -0.003
##                        (0.101)  (0.102)  (0.101)  (0.098)
## history                 0.002    0.004    0.002    0.005
##                        (0.009)  (0.009)  (0.009)  (0.008)
```

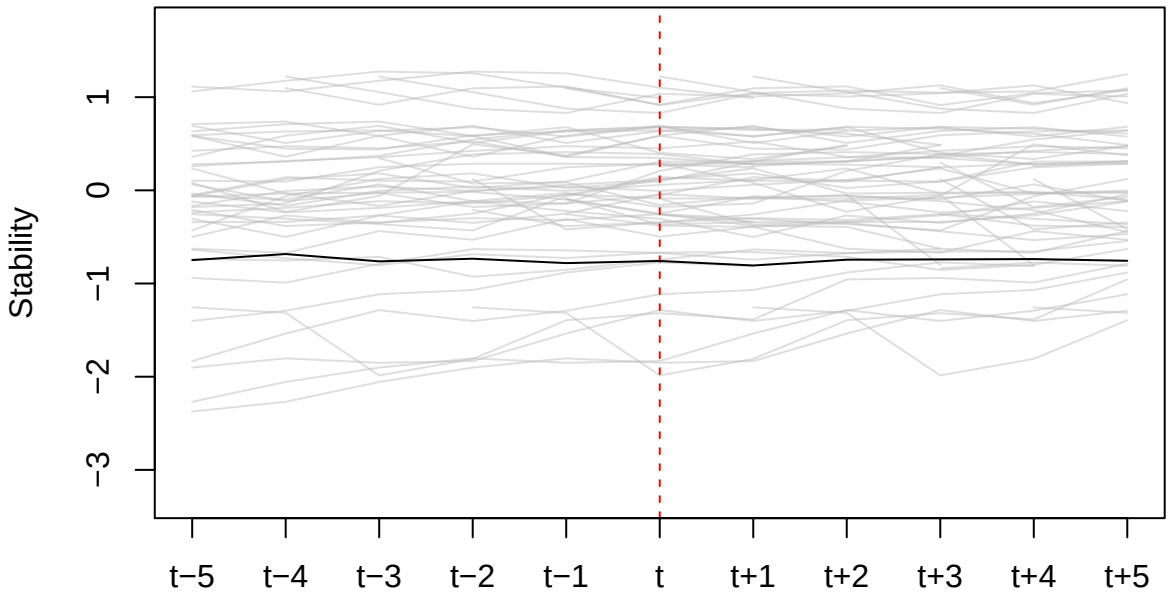
```
## ---------------------------------------------------------
## Observations              395      395      554      554
## Log Likelihood         -220.196 -217.347 -314.964 -310.127
## Akaike Inf. Crit.      480.392  476.695  685.928  678.253
## =========================================================
## Note:                           *p<0.1; **p<0.05; ***p<0.01
```

```
### Replication Stability Trend

rm(list=ls())

### Reload Dataset
data = read.csv('Yu, Whang, and Lee_dataset.csv')

## Threat Variable
threat = data %>%
  select(ccode1,styear) %>%
  distinct() %>%
  mutate(threat = 1)

## Reciprocation Variable
recip = data %>%
  filter(recip == 1) %>%
  select(ccode1,endyear) %>%
  distinct() %>%
  mutate(recip = 1)

## Stability Variable (need to install vdemdata package)
stab = vdemdata::vdem %>%
  select(COWcode,year,e_wbgi_pve) %>%
  drop_na() %>%
  distinct()

## Dataset including Observations without Conflict
trend = data.frame() %>%
  expand(ccode = unique(stab$COWcode),
         year = max(stab$year):min(stab$year)) %>%
  left_join(stab,by=c('ccode'='COWcode','year')) %>%
  left_join(threat,by=c('ccode'='ccode1','year'='styear')) %>%
  left_join(recip,by=c('ccode'='ccode1','year'='endyear')) %>%
  mutate(threat = ifelse(is.na(threat),0,threat)) %>%
  mutate(recip = ifelse(is.na(recip),0,recip)) %>%
  mutate(s = e_wbgi_pve) %>%
  arrange(ccode,year) %>%
  group_by(ccode) %>%
  ## Stability from t-5 to t+5
  mutate(sb1 = lag(e_wbgi_pve,1)) %>%
  mutate(sb2 = lag(e_wbgi_pve,2)) %>%
  mutate(sb3 = lag(e_wbgi_pve,3)) %>%
  mutate(sb4 = lag(e_wbgi_pve,4)) %>%
  mutate(sb5 = lag(e_wbgi_pve,5)) %>%
  mutate(sa1 = lead(e_wbgi_pve,1)) %>%
  mutate(sa2 = lead(e_wbgi_pve,2)) %>%
  mutate(sa3 = lead(e_wbgi_pve,3)) %>%
```

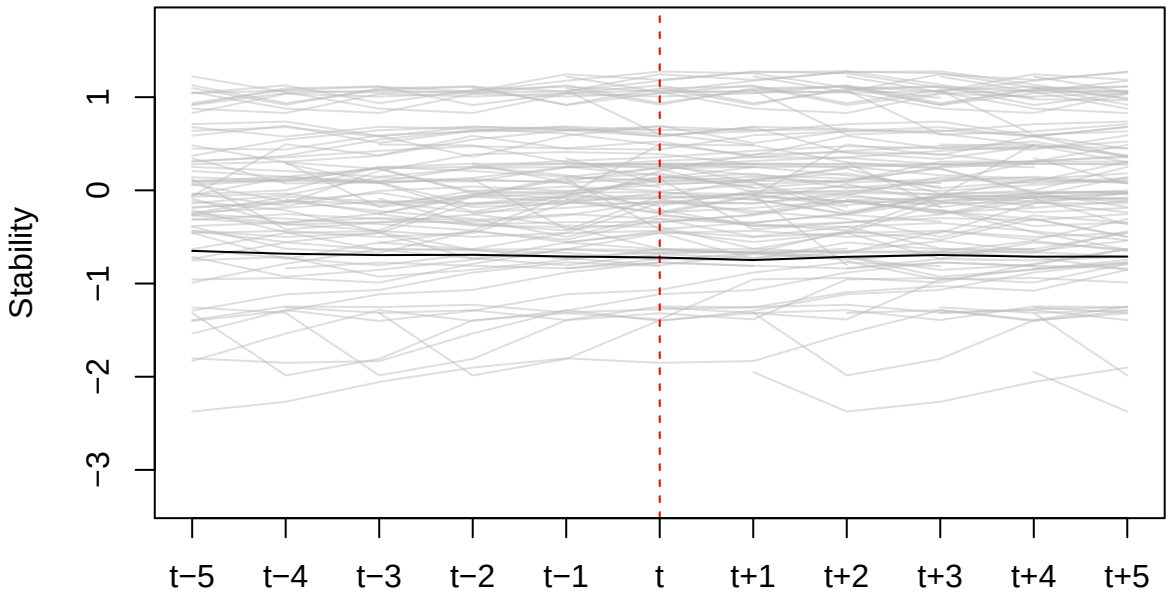
```
  mutate(sa4 = lead(e_wbgi_pve,4)) %>%
  mutate(sa5 = lead(e_wbgi_pve,5)) %>%
  ungroup()

s = seq(min(trend$s,na.rm=T),max(trend$s,na.rm=T),len=11)
t = 1:11

## Mean of Stability before/after Threat (Reciprocation)
threat.agg = apply(apply(trend[trend$threat==1,],1,
                         function(x) x[c(11:6,12:16)]),1,mean,na.rm=T)
recip.agg = apply(apply(trend[trend$recip==1,],1,
                        function(x) x[c(11:6,12:16)]),1,mean,na.rm=T)

### Figure OA1

### Panel A: Variation of Stability Before/After Threat (N=75)

plot(s~t,type='n',
     ylab='Stability',
     xlab='',xaxt='n',
     main='A. Before/After Threat (N=75)')
for(i in sample(1:nrow(trend[trend$threat==1,]),75,replace=F)){
  ss = trend[i,c(paste('sb',5:1,sep=''),
                 's',
                 paste('sa',1:5,sep=''))]
  lines(as.vector(as.matrix(ss))~t,
        col=adjust_transparency('gray',alpha=0.5))
}
abline(v=6,col='red',lty='dashed')
lines(threat.agg)
axis(side=1,
     at=1:11,
     labels=c('t-5',
              't-4',
              't-3',
              't-2',
              't-1',
              't',
              't+1',
              't+2',
              't+3',
              't+4',
              't+5'))
```



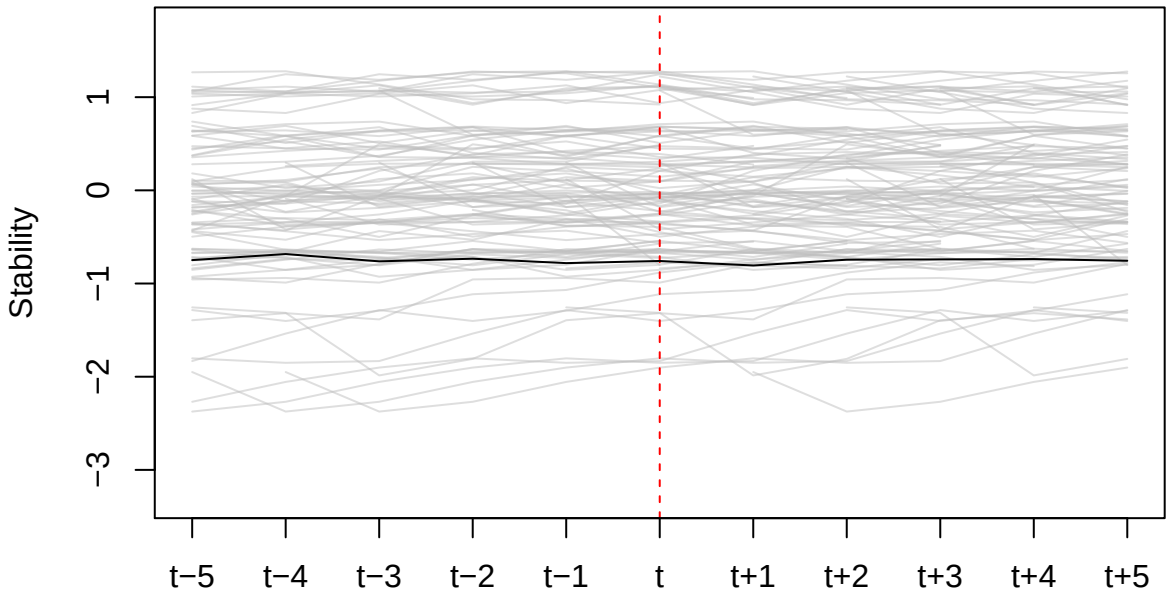

```
### Panel B: Variation of Stability Before/After Reciprocation (N=75)

plot(s~t,type='n',
     ylab='Stability',
     xlab='',xaxt='n',
     main='B. Before/After Reciprocation (N=75)')
for(i in sample(1:nrow(trend[trend$recip==1,]),75,replace=F)){
  ss = trend[i,c(paste('sb',5:1,sep=''),
                 's',
                 paste('sa',1:5,sep=''))]
  lines(as.vector(as.matrix(ss))~t,
        col=adjust_transparency('gray',alpha=0.5))
}
abline(v=6,col='red',lty='dashed')
lines(recip.agg)
axis(side=1,
     at=1:11,
     labels=c('t-5',
              't-4',
              't-3',
              't-2',
              't-1',
              't',
              't+1',
              't+2',
              't+3',
              't+4',
              't+5'))
```




```
### Panel C: Variation of Stability Before/After Threat (N=150)

plot(s~t,type='n',
     ylab='Stability',
     xlab='',xaxt='n',
     main='C. Before/After Threat (N=150)')
for(i in sample(1:nrow(trend[trend$threat==1,]),150,replace=F)){
  ss = trend[i,c(paste('sb',5:1,sep=''),
                 's',
                 paste('sa',1:5,sep=''))]
  lines(as.vector(as.matrix(ss))~t,
        col=adjust_transparency('gray',alpha=0.5))
}
abline(v=6,col='red',lty='dashed')
lines(threat.agg)
axis(side=1,
     at=1:11,
     labels=c('t-5',
              't-4',
              't-3',
              't-2',
              't-1',
              't',
              't+1',
              't+2',
              't+3',
              't+4',
              't+5'))
```




```
### Panel D: Variation of Stability Before/After Reciprocation (N=150)

plot(s~t,type='n',
     ylab='Stability',
     xlab='',xaxt='n',
     main='D. Before/After Reciprocation (N=150)')
for(i in sample(1:nrow(trend[trend$recip==1,]),150,replace=F)){
  ss = trend[i,c(paste('sb',5:1,sep=''),
                 's',
                 paste('sa',1:5,sep=''))]
  lines(as.vector(as.matrix(ss))~t,
        col=adjust_transparency('gray',alpha=0.5))
}
abline(v=6,col='red',lty='dashed')
lines(recip.agg)
axis(side=1,
     at=1:11,
     labels=c('t-5',
              't-4',
              't-3',
              't-2',
              't-1',
              't',
              't+1',
              't+2',
              't+3',
              't+4',
              't+5'))
```




```
### Replication Democracy Variables

rm(list=ls())

### Reload Dataset
data = read.csv('Yu, Whang, and Lee_dataset.csv')

### Polity IV source

## democracy (Polity2 >= 7)

m11 = glm(recip~poly(stability.1,2)+democracy+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m12 = glm(recip~poly(sfirev.1,2)+democracy+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m11.c = coeftest(m11,vcov=cluster.vcov(m11, ~ ccode1+ccode2,use_white = T))
m12.c = coeftest(m12,vcov=cluster.vcov(m12, ~ ccode1+ccode2,use_white = T))

## exrec (Executive Recruitment)
```

```
m13 = glm(recip~poly(stability.1,2)+exrec+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m14 = glm(recip~poly(sfirev.1,2)+exrec+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m13.c = coeftest(m13,vcov=cluster.vcov(m13, ~ ccode1+ccode2,use_white = T))
m14.c = coeftest(m14,vcov=cluster.vcov(m14, ~ ccode1+ccode2,use_white = T))

## exconst (Executive Constraints)

m15 = glm(recip~poly(stability.1,2)+exconst+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m16 = glm(recip~poly(sfirev.1,2)+exconst+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m15.c = coeftest(m15,vcov=cluster.vcov(m15, ~ ccode1+ccode2,use_white = T))
m16.c = coeftest(m16,vcov=cluster.vcov(m16, ~ ccode1+ccode2,use_white = T))

## polcomp (Political Competition and Opposition)

m17 = glm(recip~poly(stability.1,2)+polcomp+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m18 = glm(recip~poly(sfirev.1,2)+polcomp+cinc.ratio+affinity+dist.log+alliance
```

```
        +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
        +log(gdppc)+history-1
        +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
        +styear_2000+styear_2001+styear_2002+styear_2003
        +styear_2004+styear_2005+styear_2006+styear_2007
        +styear_2008+styear_2009+styear_2010
        ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m17.c = coeftest(m17,vcov=cluster.vcov(m17, ~ ccode1+ccode2,use_white = T))
m18.c = coeftest(m18,vcov=cluster.vcov(m18, ~ ccode1+ccode2,use_white = T))

### V-Dem source

## v2x_polyarchy (Electoral)

m21 = glm(recip~poly(stability.1,2)+v2x_polyarchy+cinc.ratio+affinity+dist.log+alliance
        +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
        +log(gdppc)+history-1
        +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
        +styear_2000+styear_2001+styear_2002+styear_2003
        +styear_2004+styear_2005+styear_2006+styear_2007
        +styear_2008+styear_2009+styear_2010
        ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m22 = glm(recip~poly(sfirev.1,2)+v2x_polyarchy+cinc.ratio+affinity+dist.log+alliance
        +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
        +log(gdppc)+history-1
        +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
        +styear_2000+styear_2001+styear_2002+styear_2003
        +styear_2004+styear_2005+styear_2006+styear_2007
        +styear_2008+styear_2009+styear_2010
        ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m21.c = coeftest(m21,vcov=cluster.vcov(m21, ~ ccode1+ccode2,use_white = T))
m22.c = coeftest(m22,vcov=cluster.vcov(m22, ~ ccode1+ccode2,use_white = T))

## v2x_libdem (Liberal)

m23 = glm(recip~poly(stability.1,2)+v2x_libdem+cinc.ratio+affinity+dist.log+alliance
        +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
        +log(gdppc)+history-1
        +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
        +styear_2000+styear_2001+styear_2002+styear_2003
        +styear_2004+styear_2005+styear_2006+styear_2007
        +styear_2008+styear_2009+styear_2010
        ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m24 = glm(recip~poly(sfirev.1,2)+v2x_libdem+cinc.ratio+affinity+dist.log+alliance
        +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
        +log(gdppc)+history-1
        +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
        +styear_2000+styear_2001+styear_2002+styear_2003
        +styear_2004+styear_2005+styear_2006+styear_2007
        +styear_2008+styear_2009+styear_2010
        ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))
```

```
m23.c = coeftest(m23,vcov=cluster.vcov(m23, ~ ccode1+ccode2,use_white = T))
m24.c = coeftest(m24,vcov=cluster.vcov(m24, ~ ccode1+ccode2,use_white = T))

## v2x_partipdem (Participatory)

m25 = glm(recip~poly(stability.1,2)+v2x_partipdem+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m26 = glm(recip~poly(sfirev.1,2)+v2x_partipdem+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m25.c = coeftest(m25,vcov=cluster.vcov(m25, ~ ccode1+ccode2,use_white = T))
m26.c = coeftest(m26,vcov=cluster.vcov(m26, ~ ccode1+ccode2,use_white = T))

## v2x_delibdem (Deliberate)

m27 = glm(recip~poly(stability.1,2)+v2x_delibdem+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m28 = glm(recip~poly(sfirev.1,2)+v2x_delibdem+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
          +styear_2000+styear_2001+styear_2002+styear_2003
          +styear_2004+styear_2005+styear_2006+styear_2007
          +styear_2008+styear_2009+styear_2010
          ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m27.c = coeftest(m27,vcov=cluster.vcov(m27, ~ ccode1+ccode2,use_white = T))
m28.c = coeftest(m28,vcov=cluster.vcov(m28, ~ ccode1+ccode2,use_white = T))

## v2x_egaldem (Egalitarian)

m29 = glm(recip~poly(stability.1,2)+v2x_egaldem+cinc.ratio+affinity+dist.log+alliance
          +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
          +log(gdppc)+history-1
          +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
```

```
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m30 = glm(recip~poly(sfirev.1,2)+v2x_egaldem+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m29.c = coeftest(m29,vcov=cluster.vcov(m29, ~ ccode1+ccode2,use_white = T))
m30.c = coeftest(m30,vcov=cluster.vcov(m30, ~ ccode1+ccode2,use_white = T))

### Boix et al. (e_boix_regime)

m31 = glm(recip~poly(stability.1,2)+e_boix_regime+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$stability.1),],family=binomial(link='probit'))
m32 = glm(recip~poly(sfirev.1,2)+e_boix_regime+cinc.ratio+affinity+dist.log+alliance
         +sqevaluation.1+sqevaluation.2+territory+gdpgrowth
         +log(gdppc)+history-1
         +styear_1995+styear_1996+styear_1997+styear_1998+styear_1999
         +styear_2000+styear_2001+styear_2002+styear_2003
         +styear_2004+styear_2005+styear_2006+styear_2007
         +styear_2008+styear_2009+styear_2010
         ,data=data[!is.na(data$sfirev.1),],family=binomial(link='probit'))

m31.c = coeftest(m31,vcov=cluster.vcov(m31, ~ ccode1+ccode2,use_white = T))
m32.c = coeftest(m32,vcov=cluster.vcov(m32, ~ ccode1+ccode2,use_white = T))

### Table OA4
stargazer(m11,m13,m15,m17,m31,omit='styear',
          se=list(m11.c[,2],
                  m13.c[,2],
                  m15.c[,2],
                  m17.c[,2],
                  m31.c[,2]),
          type='text',
          no.space = T)
```

```
##
## ===================================================================
##                                   Dependent variable:
##                        --------------------------------------------
##                                          recip
##                          (1)      (2)      (3)      (4)      (5)
```

```
## ------------------------------------------------------------------
## poly(stability.1, 2)1  -4.352   -4.254   -4.277   -4.300   -4.451
##                       (3.362)  (3.505)  (3.507)  (3.460)  (2.996)
## poly(stability.1, 2)2 5.365**  6.278**  6.288**  6.112**  6.436***
##                       (2.539)  (2.906)  (2.899)  (2.983)  (2.320)
## democracy              0.241
##                       (0.232)
## exrec                           0.007
##                                (0.059)
## exconst                                  0.012
##                                         (0.066)
## polcomp                                           0.031
##                                                  (0.036)
## e_boix_regime                                              0.111
##                                                           (0.219)
## cinc.ratio             -0.054   -0.054   -0.054   -0.053   -0.066
##                       (0.076)  (0.078)  (0.079)  (0.073)  (0.085)
## affinity              -0.634** -0.599*  -0.605** -0.668** -0.601**
##                       (0.307)  (0.311)  (0.307)  (0.289)  (0.281)
## dist.log               -0.116   -0.084   -0.084   -0.103   -0.098
##                       (0.102)  (0.097)  (0.099)  (0.100)  (0.093)
## alliance               0.147    0.140    0.143    0.128    0.216
##                       (0.290)  (0.288)  (0.286)  (0.289)  (0.275)
## sqevaluation.1        -0.699*   -0.613   -0.631   -0.703*   -0.670
##                       (0.411)  (0.435)  (0.459)  (0.390)  (0.411)
## sqevaluation.2         0.197    0.306    0.302    0.292    0.209
##                       (0.271)  (0.306)  (0.308)  (0.291)  (0.270)
## territory             0.782*** 0.766*** 0.765*** 0.788*** 0.761***
##                       (0.199)  (0.213)  (0.214)  (0.197)  (0.181)
## gdpgrowth              0.014    0.012    0.012    0.014    0.015
##                       (0.020)  (0.020)  (0.020)  (0.020)  (0.018)
## log(gdppc)             -0.019   -0.028   -0.029   -0.039   -0.013
##                       (0.099)  (0.105)  (0.105)  (0.102)  (0.099)
## history                0.004    0.004    0.004    0.004    0.003
##                       (0.008)  (0.009)  (0.009)  (0.008)  (0.008)
## ------------------------------------------------------------------
## Observations            395      388      388      388      427
## Log Likelihood        -216.611 -213.084 -213.066 -212.534 -226.034
## Akaike Inf. Crit.     475.222  468.168  468.131  467.068  494.068
## ==================================================================
## Note:                                  *p<0.1; **p<0.05; ***p<0.01
```

```
### Table OA5
stargazer(m12,m14,m16,m18,m32,omit='styear',
          se=list(m12.c[,2],
                  m14.c[,2],
                  m16.c[,2],
                  m18.c[,2],
                  m32.c[,2]),
          type='text',
          no.space = T)
```

```
##
## ==================================================================
##                                  Dependent variable:
```

```
##                    ------------------------------------------------
##                                        recip
##                       (1)      (2)       (3)       (4)       (5)
## ------------------------------------------------------------------
## poly(sfirev.1, 2)1  -5.884    -5.572   -6.394    -5.786    -8.116*
##                     (4.352)  (4.107)   (4.316)   (4.127)   (4.288)
## poly(sfirev.1, 2)2  8.702**  8.931**   9.228**   8.893**  10.372***
##                     (4.046)  (3.920)   (4.105)   (3.981)   (3.835)
## democracy            0.083
##                     (0.198)
## exrec                         0.009
##                              (0.058)
## exconst                                 0.047
##                                        (0.063)
## polcomp                                           0.009
##                                                  (0.031)
## e_boix_regime                                                0.123
##                                                             (0.192)
## cinc.ratio          -0.078    -0.080   -0.071    -0.081    -0.071
##                     (0.065)  (0.061)   (0.065)   (0.062)   (0.060)
## affinity           -0.531**  -0.530** -0.573**  -0.537**  -0.525**
##                     (0.209)  (0.262)   (0.237)   (0.240)   (0.214)
## dist.log            -0.043    -0.041   -0.041    -0.044    -0.039
##                     (0.096)  (0.096)   (0.094)   (0.101)   (0.094)
## alliance             0.215    0.220     0.225     0.219     0.218
##                     (0.234)  (0.229)   (0.236)   (0.235)   (0.231)
## sqevaluation.1     -0.752*** -0.758** -0.849*** -0.762*** -0.788***
##                     (0.251)  (0.354)   (0.310)   (0.286)   (0.295)
## sqevaluation.2      -0.015    -0.030   -0.023    -0.032    -0.003
##                     (0.221)  (0.254)   (0.232)   (0.245)   (0.227)
## territory          0.857***  0.856*** 0.847***  0.857***  0.844***
##                     (0.214)  (0.218)   (0.220)   (0.214)   (0.218)
## gdpgrowth            0.004    0.004     0.003     0.004     0.008
##                     (0.011)  (0.010)   (0.009)   (0.011)   (0.009)
## log(gdppc)           0.004    0.005    -0.005     0.005     0.017
##                     (0.098)  (0.096)   (0.102)   (0.098)   (0.100)
## history              0.005    0.005     0.004     0.005     0.005
##                     (0.008)  (0.008)   (0.008)   (0.008)   (0.008)
## ------------------------------------------------------------------
## Observations          554      554       554       554       571
## Log Likelihood     -310.356  -310.476 -309.799  -310.442  -311.555
## Akaike Inf. Crit.   678.711  678.952   677.598   678.885   681.110
## ==================================================================
## Note:                                   *p<0.1; **p<0.05; ***p<0.01
```

```r
### Table OA6
stargazer(m21,m23,m25,m27,m29,omit='styear',
          se=list(m21.c[,2],
                  m23.c[,2],
                  m25.c[,2],
                  m27.c[,2],
                  m29.c[,2]),
          type='text',
          no.space = T)
```

```
##
## ==================================================================
##                                   Dependent variable:
##                        ---------------------------------------------
##                                          recip
##                          (1)      (2)      (3)      (4)      (5)
## ------------------------------------------------------------------
## poly(stability.1, 2)1  -4.371   -4.526   -4.419   -4.449   -4.182
##                       (2.972)  (3.039)  (3.006)  (3.044)  (3.071)
## poly(stability.1, 2)2 6.220*** 6.069**  6.431*** 6.354*** 6.849***
##                       (2.404)  (2.411)  (2.326)  (2.454)  (2.439)
## v2x_polyarchy          0.222
##                       (0.375)
## v2x_libdem                      0.289
##                                (0.443)
## v2x_partipdem                            0.001
##                                         (0.470)
## v2x_delibdem                                      0.079
##                                                  (0.425)
## v2x_egaldem                                                -0.410
##                                                            (0.563)
## cinc.ratio             -0.067   -0.068   -0.071   -0.071   -0.077
##                       (0.083)  (0.084)  (0.083)  (0.081)  (0.084)
## affinity              -0.597** -0.597** -0.558*  -0.568** -0.505*
##                       (0.289)  (0.287)  (0.296)  (0.279)  (0.285)
## dist.log               -0.100   -0.102   -0.095   -0.097   -0.090
##                       (0.092)  (0.092)  (0.093)  (0.092)  (0.093)
## alliance               0.213    0.218    0.215    0.217    0.217
##                       (0.278)  (0.276)  (0.277)  (0.275)  (0.277)
## sqevaluation.1         -0.677   -0.699   -0.592   -0.616   -0.470
##                       (0.426)  (0.442)  (0.421)  (0.402)  (0.390)
## sqevaluation.2         0.206    0.208    0.217    0.214    0.238
##                       (0.273)  (0.269)  (0.270)  (0.270)  (0.275)
## territory             0.766*** 0.760*** 0.761*** 0.761*** 0.766***
##                       (0.188)  (0.187)  (0.196)  (0.193)  (0.203)
## gdpgrowth              0.015    0.016    0.014    0.015    0.012
##                       (0.017)  (0.017)  (0.018)  (0.017)  (0.018)
## log(gdppc)             -0.017   -0.018   -0.007   -0.010   0.010
##                       (0.102)  (0.100)  (0.105)  (0.102)  (0.111)
## history                0.003    0.003    0.003    0.003    0.003
##                       (0.008)  (0.008)  (0.008)  (0.008)  (0.009)
## ------------------------------------------------------------------
## Observations            427      427      427      427      427
## Log Likelihood        -226.083 -226.034 -226.233 -226.217 -225.990
## Akaike Inf. Crit.     494.165  494.068  494.466  494.434  493.980
## ==================================================================
## Note:                                  *p<0.1; **p<0.05; ***p<0.01
```

```
### Table OA7
stargazer(m22,m24,m26,m28,m30,omit='styear',
          se=list(m22.c[,2],
                  m24.c[,2],
                  m26.c[,2],
                  m28.c[,2],
```

```r
                 m30.c[,2]),
          type='text',
          no.space = T)
```

```
##
## ==============================================================
##                                Dependent variable:
##                    ---------------------------------------------
##                                       recip
##                      (1)      (2)      (3)      (4)      (5)
## --------------------------------------------------------------
## poly(sfirev.1, 2)1 -8.116*  -8.163*  -7.836*  -7.650*   -7.206
##                    (4.431)  (4.528)  (4.535)  (4.488)  (4.934)
## poly(sfirev.1, 2)2 9.941**  9.594**  9.857**  9.985**  10.214**
##                    (4.028)  (4.131)  (4.130)  (4.054)  (4.174)
## v2x_polyarchy       0.290
##                    (0.459)
## v2x_libdem                   0.325
##                             (0.429)
## v2x_partipdem                         0.218
##                                      (0.657)
## v2x_delibdem                                   0.067
##                                               (0.452)
## v2x_egaldem                                             -0.112
##                                                        (0.705)
## cinc.ratio          -0.070   -0.070   -0.075   -0.078   -0.082
##                    (0.062)  (0.062)  (0.062)  (0.064)  (0.066)
## affinity           -0.538** -0.529** -0.514** -0.500** -0.483**
##                    (0.240)  (0.220)  (0.232)  (0.226)  (0.231)
## dist.log            -0.041   -0.041   -0.041   -0.041   -0.040
##                    (0.095)  (0.094)  (0.095)  (0.096)  (0.096)
## alliance            0.213    0.220    0.216    0.224    0.224
##                    (0.230)  (0.233)  (0.226)  (0.236)  (0.236)
## sqevaluation.1     -0.817** -0.815** -0.771** -0.739** -0.703**
##                    (0.349)  (0.319)  (0.347)  (0.305)  (0.326)
## sqevaluation.2      -0.012   -0.006   -0.009   -0.011   -0.013
##                    (0.240)  (0.231)  (0.234)  (0.233)  (0.233)
## territory          0.851*** 0.852*** 0.853*** 0.852*** 0.850***
##                    (0.214)  (0.214)  (0.211)  (0.212)  (0.211)
## gdpgrowth           0.007    0.006    0.006    0.006    0.005
##                    (0.009)  (0.009)  (0.009)  (0.008)  (0.009)
## log(gdppc)          0.012    0.011    0.018    0.021    0.027
##                    (0.098)  (0.096)  (0.096)  (0.098)  (0.094)
## history             0.005    0.005    0.005    0.005    0.005
##                    (0.007)  (0.008)  (0.008)  (0.008)  (0.008)
## --------------------------------------------------------------
## Observations         571      571      571      571      571
## Log Likelihood     -311.497 -311.502 -311.738 -311.825 -311.819
## Akaike Inf. Crit.  680.994  681.004  681.476  681.651  681.638
## ==============================================================
## Note:                              *p<0.1; **p<0.05; ***p<0.01
```

```r
## Descriptive Statistics (Full)
data$gdppc = log(data$gdppc)
```

```
m.s = glm(recip~sfirev.1+stability.1+
            democracy+exrec+exconst+polcomp+e_boix_regime+
            v2x_polyarchy+v2x_libdem+v2x_partipdem+v2x_delibdem+v2x_egaldem
            +cinc.ratio+affinity+dist.log+alliance+
            sqevaluation.1+sqevaluation.2+territory+gdpgrowth+gdppc+history,
          data=data,family=binomial(link='probit'))
stargazer(data[!is.na(data$sfirev.1)|!is.na(data$stability.1),
               c('recip',names(m.s$coefficients[-1]))],type='text')
```

```
##
## ===============================================================
## Statistic       N   Mean  St. Dev.   Min   Pctl(25) Pctl(75)  Max
## ---------------------------------------------------------------
## recip          944 0.727   0.446      0       0        1       1
## sfirev.1       788 13.095  6.771    0.000   9.000    16.000  25.000
## stability.1    479 -0.903  0.994   -3.315   -1.542   -0.286  1.488
## democracy      894 0.361   0.481    0.000   0.000    1.000   1.000
## exrec          876 5.739   2.344    1.000   3.000    8.000   8.000
## exconst        876 4.232   2.266    1.000   2.000    7.000   7.000
## polcomp        876 5.685   3.485    1.000   2.000    9.000   10.000
## e_boix_regime  944 0.410   0.492      0       0        1       1
## v2x_polyarchy  944 0.425   0.278    0.018   0.165    0.681   0.913
## v2x_libdem     944 0.312   0.271    0.005   0.075    0.495   0.877
## v2x_partipdem  944 0.259   0.208    0.009   0.062    0.407   0.745
## v2x_delibdem   944 0.338   0.269    0.007   0.091    0.550   0.870
## v2x_egaldem    944 0.320   0.236    0.040   0.119    0.462   0.858
## cinc.ratio     944 1.121   1.131   0.0003   0.244    1.638   8.197
## affinity       828 0.590   0.487   -0.889   0.486    0.911   1.000
## dist.log       893 7.196   1.063    5.056   6.358    7.649   9.692
## alliance       944 0.422   0.494      0       0        1       1
## sqevaluation.1 864 -0.311  0.432   -0.889   -0.627   -0.132  1.000
## sqevaluation.2 909 -0.287  0.440   -1.000   -0.616   -0.125  1.000
## territory      944 0.097   0.297      0       0        0       1
## gdpgrowth      858 5.749   6.136   -33.101  2.792    8.021   54.158
## gdppc          805 7.791   1.601    4.778   6.547    8.784   11.483
## history        944 10.565  11.335     0       2        16      45
## ---------------------------------------------------------------
```

```
# Table OA2: Stability model data
stabilitydata = data[!is.na(data$stability.1),c('recip',names(m.s$coefficients[-1]))]
stargazer(stabilitydata,omit.summary.stat=c('p25','p75'),omit='sfi'
          ,type='text',no.space = T)
```

```
##
## ================================================
## Statistic       N   Mean  St. Dev.   Min    Max
## ------------------------------------------------
## recip          479 0.716   0.451      0      1
## stability.1    479 -0.903  0.994   -3.315  1.488
## democracy      445 0.366   0.482    0.000  1.000
## exrec          429 5.876   2.313    1.000  8.000
## exconst        429 4.506   2.105    1.000  7.000
## polcomp        429 5.951   3.229    1.000  10.000
## e_boix_regime  479 0.422   0.494      0      1
```

```
## v2x_polyarchy  479 0.436   0.266    0.021  0.913
## v2x_libdem     479 0.317   0.266    0.005  0.877
## v2x_partipdem  479 0.269   0.202    0.010  0.745
## v2x_delibdem   479 0.350   0.258    0.010  0.870
## v2x_egaldem    479 0.323   0.229    0.052  0.858
## cinc.ratio     479 1.069   1.135   0.0003  8.197
## affinity       459 0.575   0.535   -0.889  1.000
## dist.log       469 7.153   1.086    5.199  9.692
## alliance       479 0.449   0.498      0      1
## sqevaluation.1 469 -0.429  0.436   -0.889  1.000
## sqevaluation.2 469 -0.411  0.461   -0.889  1.000
## territory      479 0.063   0.243      0      1
## gdpgrowth      449 5.166   5.750   -33.101 54.158
## gdppc          448 7.843   1.621    4.778  11.483
## history        479 11.317  11.642     0      45
## ---------------------------------------------------
```

```
length(unique(data[!is.na(data$stability.1),]$ccode1))
```

```
## [1] 81
```

```
length(unique(data[!is.na(data$stability.1),]$ccode2))
```

```
## [1] 82
```

```
range(data[!is.na(data$stability.1),]$styear)
```

```
## [1] 2003 2010
```

```
# Table OA3: SFI model data
sfidata = data[!is.na(data$sfirev.1),c('recip',names(m.s$coefficients[-1]))]
stargazer(sfidata,omit.summary.stat=c('p25','p75'),omit='stability'
          ,type='text',no.space = T)
```

```
##
## ================================================
## Statistic       N   Mean  St. Dev.   Min    Max
## ------------------------------------------------
## recip          788 0.730   0.444      0      1
## sfirev.1       788 13.095  6.771      0      25
## democracy      753 0.361   0.481    0.000  1.000
## exrec          742 5.673   2.377    1.000  8.000
## exconst        742 4.181   2.320    1.000  7.000
## polcomp        742 5.530   3.566    1.000  10.000
## e_boix_regime  788 0.414   0.493      0      1
## v2x_polyarchy  788 0.425   0.285    0.018  0.909
## v2x_libdem     788 0.315   0.275    0.005  0.863
## v2x_partipdem  788 0.259   0.211    0.009  0.659
## v2x_delibdem   788 0.340   0.273    0.007  0.870
## v2x_egaldem    788 0.321   0.238    0.040  0.851
## cinc.ratio     788 1.212   1.171    0.001  8.197
## affinity       681 0.550   0.511   -0.889  1.000
## dist.log       741 7.241   1.080    5.056  9.692
## alliance       788 0.431   0.496      0      1
## sqevaluation.1 716 -0.269  0.451   -0.889  1.000
## sqevaluation.2 754 -0.244  0.446   -1.000  1.000
## territory      788 0.105   0.307      0      1
```

```
## gdpgrowth      710 5.681   6.355   -33.101 54.158
## gdppc          657 7.931   1.581    5.218  11.483
## history        788 11.296  11.771     0      45
## ---------------------------------------------------
```

```
length(unique(data[!is.na(data$sfirev.1),]$ccode1))
```

```
## [1] 61
```

```
length(unique(data[!is.na(data$sfirev.1),]$ccode2))
```

```
## [1] 106
```

```
range(data[!is.na(data$sfirev.1),]$styear)
```

```
## [1] 1995 2010
```