```
R version 3.4.1 (2017-06-30) -- "Single Candle"
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Platform: x86_64-apple-darwin15.6.0 (64-bit)

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[R.app GUI 1.70 (7375) x86_64-apple-darwin15.6.0]

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> ############################################################################
> # Keeping Vigil: The Emergence of Vigilance Committees in Pre-Civil War America.  #
> # Jonathan Obert & Eleonora Mattiacci                                      #
> # Last modified: January 31, 2018                                          #
> ############################################################################
>
> ## This R file contains the code necessary to replicate the analysis in the main text.
> ## The analysis was carried out using R version 3.4.1 on a 3.5 GHz Intel Core i7 running OS Sierra 10.12.6
>
>
> rm(list=ls())
>
> #loading packages (function from Huff and Kertzer 2017)
> ipak <- function(pkg){  new.pkg <- pkg[!(pkg %in% installed.packages()[, "Package"])]
+                         if(length(new.pkg)) install.packages(new.pkg, dependencies = TRUE)
+                         sapply(pkg, require, character.only = TRUE)
+ }
>
> packages <- c("foreign","survival", "simPH", "extrafont", "RColorBrewer", "MASS")
> ipak(packages)
Loading required package: foreign
Loading required package: survival
Loading required package: simPH
Loading required package: extrafont
Registering fonts with R
Loading required package: RColorBrewer
Loading required package: MASS
     foreign     survival        simPH    extrafont RColorBrewer         MASS
        TRUE         TRUE         TRUE         TRUE         TRUE         TRUE
>
> #####
> # Setting working directory
> #####
>
> setwd("~/Dropbox/Vigilantism Paper/")
> dat<-read.dta("data_replication.dta")
> dat1<-subset(dat,dat$multiple==0);
> dat1$slat<-dat1$sla_i*log(dat1$stop + 1)
>
>
> #####
> # Code to reproduce Model 1, Table 1
> #####
>
> model1m<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ ef_i_bre +cluster(fips),data=dat1,method="efron");summary(model1m);cox.zph(model1m);
Call:
coxph(formula = Surv(start, stop, committee) ~ ef_i + bre + ef_i_bre +
    cluster(fips), data = dat1, method = "efron")

  n= 17434, number of events= 33
   (2453 observations deleted due to missingness)

            coef exp(coef) se(coef) robust se     z Pr(>|z|)
ef_i     0.02963   1.03007  0.01403   0.01410 2.102   0.0356 *
bre      0.74857   2.11397  0.67144   0.55323 1.353   0.1760
ef_i_bre 0.03517   1.03579  0.02158   0.01843 1.908   0.0564 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
ef_i         1.030     0.9708    1.0020     1.059
bre          2.114     0.4730    0.7148     6.252
ef_i_bre     1.036     0.9654    0.9990     1.074

Concordance= 0.739  (se = 0.05 )
Rsquare= 0.002   (max possible= 0.028 )
Likelihood ratio test= 39.55  on 3 df,   p=1.328e-08
Wald test            = 80.08  on 3 df,   p=0
Score (logrank) test = 111.9  on 3 df,   p=0,   Robust = 12.66  p=0.00543

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
            rho  chisq      p
ef_i     -0.0482 0.0795 0.7779
bre      -0.4307 3.6024 0.0577
ef_i_bre  0.1224 0.3572 0.5500
GLOBAL        NA 5.8754 0.1178
> AIC(model1m);BIC(model1m);logLik(model1m)
```

```
[1] 452.8076
[1] 457.2971
'log Lik.' -223.4038 (df=3)
>
> #####
> # Code to estimate effects:
> #####
>
> x<-(exp(model1m$coef[1])-1)*100;x
    ef_i
3.007349
> y<-(exp(model1m$coef[1]+model1m$coef[3])-1)*100;y
    ef_i
6.694076
>
> A<-((y-x)/y)*100;A
    ef_i
55.07448
>
> #####
> # Code to reproduce Figure 1 in the Text
> #####
>
> lightgray<-"#d9d9d9";darkgray<-"#525252";gray<-"#666666"
> col_seq<-c(as.vector(c(gray,darkgray,darkgray)),as.vector(c("black",lightgray,lightgray)))
> line_seq<-c(as.vector(c(2,1,1)),as.vector(c(2,1,1)))
>
> dat2m<-data.frame(ef_i=c(quantile(dat1$ef_i,probs=c(.25),na.rm=TRUE),quantile(dat1$ef_i,probs=c(.
75),na.rm=TRUE)),bre=c(0,1),ef_i_bre=c((quantile(dat1$ef_i,probs=c(.25),na.rm=TRUE)*0),(quantile(dat1$ef_i,probs=c(.75),na.rm=TRUE)*1)))
>
> plot(survfit(model1m,newdata=dat2m),ylim=c(0.85,1) ,conf.int=T,lty=c(as.vector(c(1,2,2)),as.vector(c(1,2,2))),lwd=line_seq,col= col_seq,ylab="Proportion of
Counties With No Committee",xlab="Years till Committee Formation",xlim=c(0,11))
> legend("bottomleft",c("No Social Frontier Conditions","95%C.I.","" ,"Social Frontier
Conditions","95%CI"),lty=c(1,2,0,1,2),col=c(gray,darkgray,"","black",lightgray),lwd=c(3,3),border=lightgray,cex = .85,bty="o",box.col=lightgray)
>
> ######
> # Code to reproduce Model 2, Table 1
> #######
>
> # We first ran the simplest model. A Ph test indicates the need to add an interaction of Slavery with Time
> #model2<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ef_i_bre
+gini_i+manu_i+urb_i+sla_i+cluster(fips),data=dat1,method="efron");summary(model2);cox.zph(model2);
>
> model2m<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ef_i_bre +gini_i+manu_i+urb_i+sla_i+slat+cluster(fips),data=dat1,method="efron");summary(model2m);
Call:
coxph(formula = Surv(start, stop, committee) ~ ef_i + bre + ef_i_bre +
    gini_i + manu_i + urb_i + sla_i + slat + cluster(fips), data = dat1,
    method = "efron")

  n= 9365, number of events= 23
   (10522 observations deleted due to missingness)

             coef exp(coef) se(coef) robust se      z Pr(>|z|)
ef_i      0.02538   1.02571  0.01978   0.02477  1.025  0.30559
bre      -0.68656   0.50330  1.05803   0.61773 -1.111  0.26639
ef_i_bre  0.06438   1.06650  0.03115   0.02007  3.208  0.00134 **
gini_i   -0.02517   0.97515  0.01335   0.01417 -1.776  0.07575 .
manu_i    0.01774   1.01790  0.01979   0.01441  1.231  0.21840
urb_i     0.02095   1.02117  0.01113   0.01705  1.228  0.21940
sla_i    -0.48991   0.61268  0.25704   0.38938 -1.258  0.20832
slat      0.20363   1.22585  0.11078   0.16592  1.227  0.21972
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

         exp(coef) exp(-coef) lower .95 upper .95
ef_i        1.0257     0.9749    0.9771     1.077
bre         0.5033     1.9869    0.1500     1.689
ef_i_bre    1.0665     0.9376    1.0254     1.109
gini_i      0.9751     1.0255    0.9484     1.003
manu_i      1.0179     0.9824    0.9895     1.047
urb_i       1.0212     0.9793    0.9876     1.056
sla_i       0.6127     1.6322    0.2856     1.314
slat        1.2258     0.8158    0.8855     1.697

Concordance= 0.85  (se = 0.062 )
Rsquare= 0.006   (max possible= 0.032 )
Likelihood ratio test= 54.33  on 8 df,   p=5.945e-09
Wald test            = 111.8  on 8 df,   p=0
Score (logrank) test = 176.3  on 8 df,   p=0,   Robust = 18.26  p=0.01935

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
> AIC(model2m);BIC(model2m);logLik(model2m)
[1] 270.7159
[1] 279.7998
'log Lik.' -127.3579 (df=8)
> ################################################################################
> # Keeping Vigil: The Emergence of Vigilance Committees in Pre-Civil War America.  #
> # Jonathan Obert & Eleonora Mattiacci                                              #
> # Last modified: January 31, 2018                                                  #
> ################################################################################
>
> ## This R file contains the code necessary to replicate the analysis in the Appendix, except Tables 3 and 5 (see separate Stata do files).
> ## The analysis was carried out using R version 3.4.1 on a 3.5 GHz Intel Core i7 running OS Sierra 10.12.6
>
> rm(list=ls())
> #loading packages (function from Huff and Kertzer 2017)
> ipak <- function(pkg){  new.pkg <- pkg[!(pkg %in% installed.packages()[, "Package"])]
+                         if(length(new.pkg)) install.packages(new.pkg, dependencies = TRUE)
+                         sapply(pkg, require, character.only = TRUE)
+ }
```

```
>
> packages <- c("foreign","survival", "simPH", "extrafont", "RColorBrewer", "MASS")
> ipak(packages)
     foreign     survival        simPH    extrafont RColorBrewer         MASS
        TRUE         TRUE         TRUE         TRUE         TRUE         TRUE
>
> #####
> # Setting working directory
> #####
>
> setwd("~/Dropbox/Vigilantism Paper/")
> dat<-read.dta("data_replication.dta")
> dat1<-subset(dat,dat$multiple==0)
> dat1$bret<-dat1$bre*log(dat1$stop + 1)
>
>
> #####
> # Code to reproduce Table 1
> #####
>
> # We first ran the simplest model. A Ph test indicates the need to add an interaction of Borders with Time
> #model0m<-coxph(Surv(start, stop, committee)~  ef_i+ bre +cluster(fips),data=dat1,method="efron");summary(model0m);cox.zph(model0m)
>
> model0mt<-coxph(Surv(start, stop, committee)~  ef_i+ bre + bret +cluster(fips),data=dat1,method="efron");summary(model0mt)
Call:
coxph(formula = Surv(start, stop, committee) ~ ef_i + bre + bret +
    cluster(fips), data = dat1, method = "efron")

  n= 17434, number of events= 33
   (2453 observations deleted due to missingness)

          coef  exp(coef)   se(coef)  robust se      z Pr(>|z|)
ef_i  4.310e-02  1.044e+00  1.016e-02  9.262e-03  4.653 3.27e-06 ***
bre   9.514e+00  1.355e+04  3.732e+00  2.636e+00  3.609 0.000308 ***
bret -4.003e+00  1.827e-02  1.757e+00  1.392e+00 -2.875 0.004044 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

     exp(coef) exp(-coef) lower .95 upper .95
ef_i 1.044e+00  9.578e-01  1.025255 1.063e+00
bre  1.355e+04  7.382e-05 77.240730 2.376e+06
bret 1.827e-02  5.474e+01  0.001193 2.798e-01

Concordance= 0.75  (se = 0.05 )
Rsquare= 0.003   (max possible= 0.028 )
Likelihood ratio test= 51.46  on 3 df,   p=3.908e-11
Wald test            = 49.33  on 3 df,   p=1.111e-10
Score (logrank) test = 74.18  on 3 df,   p=5.551e-16,   Robust = 13.58  p=0.003535

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
> AIC(model0mt);BIC(model0mt);logLik(model0mt)
[1] 440.8983
[1] 445.3879
'log Lik.' -217.4492 (df=3)
>
> #####
> # Code to reproduce Figure 1
> #####
>
> #Simulations
>  sims<-1000
>  set.seed(031415)
>  sim.betas<-mvrnorm(sims,mu= model0mt$coef,Sigma= model0mt$var)
>
> #Plot
>  b1<-sim.betas[,2]
>  b2<-sim.betas[,3]
>
> t.sim<-seq(1, 10, by=1)
> out<-matrix(0, nrow=length(t.sim), ncol=3)
>
>  for(i in 1:length(t.sim)){
+    simfit<- ((b1+(b2*log(t.sim[i]))))
+    out[i,]<-c(median(simfit), quantile(simfit, c(.025, .975)))
+    }
>
>  #Plotting the Simulation
>  plot(t.sim, out[,3], type="n", xlab=list("Time (years)",cex=.9), ylab=list("Combined Coefficient", cex=.9), main="", xlim=c(0,10),ylim=c(-14,14))
>  lines(t.sim, out[,1], lty=1)
>  lines(t.sim, out[,2], lty=2)
>  lines(t.sim, out[,3], lty=2)
>  abline(h=0, lwd=2)
>  abline(v=8.2, lwd=1, col = "grey")
>
> #####
> # Code to reproduce Model 1 in  Table 2
> #####
> dat$bret<-dat$bre*log(dat$stop+1)
>
> # We first ran the simplest model. A Ph test indicates the need to add an interaction of Borders with Time
> # model1<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ ef_i_bre +cluster(fips),data=dat,method="efron");summary(model1);cox.zph(model1);cox.zph(model1)
>
> model1t<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ ef_i_bre +bret +cluster(fips),data=dat,method="efron");summary(model1t)
Call:
coxph(formula = Surv(start, stop, committee) ~ ef_i + bre + ef_i_bre +
    bret + cluster(fips), data = dat, method = "efron")

  n= 17465, number of events= 42
   (2457 observations deleted due to missingness)
```

```
              coef exp(coef)  se(coef) robust se      z Pr(>|z|)
ef_i       0.02961   1.03005   0.01279   0.01225  2.417  0.01565 *
bre        6.18605 485.92369   1.97726   1.94980  3.173  0.00151 **
ef_i_bre   0.03534   1.03597   0.01934   0.01662  2.127  0.03342 *
bret      -2.98148   0.05072   0.97793   1.00060 -2.980  0.00289 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
ef_i        1.03005   0.970828  1.005614 1.055e+00
bre       485.92369   0.002058 10.638963 2.219e+04
ef_i_bre    1.03597   0.965276  1.002778 1.070e+00
bret        0.05072  19.716940  0.007136 3.605e-01

Concordance= 0.783  (se = 0.045 )
Rsquare= 0.004   (max possible= 0.035 )
Likelihood ratio test= 74.11  on 4 df,   p=3.109e-15
Wald test            = 76.39  on 4 df,   p=9.992e-16
Score (logrank) test = 178.3  on 4 df,   p=0,   Robust = 19.28  p=0.0006928

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
> AIC(model1t);BIC(model1t);logLik(model1t)
[1] 553.0159
[1] 559.9666
'log Lik.' -272.508 (df=4)
>
> #####
> # Code to reproduce Model 1 in  Table 2
> #####
> # We first ran the simplest model. A Ph test indicates the need to add an interaction of Time with Ethnic Fractionalization, Urbanization, and Slavery. When we
add them, none of the interactions are significant, nor do the patterns of significance change in the model when adding them, so we don't include these
insignificant terms in the model.
> #dat$ef_it<-dat$ef_i*log(dat$stop + 1)
> #dat$urb_it<-dat$urb_i*log(dat$stop + 1)
> #dat$sla_it<-dat$sla_i*log(dat$stop + 1)
> #model2t<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ ef_i_bre +gini_i+manu_i+urb_i+sla_i+sla_it+ urb_it
+ef_it+cluster(fips),data=dat,method="efron");summary(model2t);
>
> model2<-coxph(Surv(start, stop, committee)~  ef_i+ bre+ ef_i_bre
+gini_i+manu_i+urb_i+sla_i+cluster(fips),data=dat,method="efron");summary(model2);cox.zph(model2)
Call:
coxph(formula = Surv(start, stop, committee) ~ ef_i + bre + ef_i_bre +
    gini_i + manu_i + urb_i + sla_i + cluster(fips), data = dat,
    method = "efron")

  n= 9395, number of events= 31
   (10527 observations deleted due to missingness)

              coef exp(coef)  se(coef) robust se      z Pr(>|z|)
ef_i      0.039883  1.040689  0.015650  0.016880  2.363  0.01814 *
bre      -0.382535  0.682130  0.815599  0.535674 -0.714  0.47515
ef_i_bre  0.053517  1.054975  0.023928  0.018173  2.945  0.00323 **
gini_i   -0.025423  0.974898  0.011061  0.012346 -2.059  0.03948 *
manu_i    0.016326  1.016460  0.018434  0.011874  1.375  0.16915
urb_i     0.009684  1.009731  0.009843  0.013939  0.695  0.48722
sla_i    -0.037947  0.962764  0.014174  0.015723 -2.414  0.01580 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

          exp(coef) exp(-coef) lower .95 upper .95
ef_i         1.0407     0.9609    1.0068    1.0757
bre          0.6821     1.4660    0.2387    1.9491
ef_i_bre     1.0550     0.9479    1.0181    1.0932
gini_i       0.9749     1.0257    0.9516    0.9988
manu_i       1.0165     0.9838    0.9931    1.0404
urb_i        1.0097     0.9904    0.9825    1.0377
sla_i        0.9628     1.0387    0.9335    0.9929

Concordance= 0.86  (se = 0.054 )
Rsquare= 0.008   (max possible= 0.044 )
Likelihood ratio test= 76.69  on 7 df,   p=6.517e-14
Wald test            = 118.8  on 7 df,   p=0
Score (logrank) test = 269  on 7 df,   p=0,   Robust = 22.24  p=0.002306

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
             rho  chisq        p
ef_i     -0.1940  4.717 0.029873
bre      -0.3203  1.762 0.184419
ef_i_bre  0.0740  0.223 0.636858
gini_i   -0.0408  0.146 0.702043
manu_i    0.2836  2.171 0.140661
urb_i     0.1718  4.983 0.025598
sla_i     0.3741 12.642 0.000377
GLOBAL        NA 28.186 0.000203
> AIC(model2);BIC(model2);logLik(model2)
[1] 355.6914
[1] 365.7293
'log Lik.' -170.8457 (df=7)
>
> #Effect of GINI
> z<-(exp(model2$coef[4])-1)*100;z
   gini_i
-2.510212
> #Effect of Slavery
> z<-(exp(model2$coef[7])-1)*100;z
    sla_i
-3.723575
>
> #####
```

```
> # Code to reproduce Figure 2, Appendix
> #####
>
> dat2<-data.frame(ef_i=c(quantile(dat$ef_i,probs=c(.25),na.rm=TRUE),quantile(dat$ef_i,probs=c(.
75),na.rm=TRUE)),bre=c(0,1),ef_i_bre=c((quantile(dat$ef_i,probs=c(.25),na.rm=TRUE)*0),(quantile(dat$ef_i,probs=c(.75),na.rm=TRUE)*1)),bret=c(0,1))
>
> lightgray<-"#d9d9d9";darkgray<-"#525252";gray<-"#666666"
> col_seq<-c(as.vector(c(gray,darkgray,darkgray)),as.vector(c("black",lightgray,lightgray)))
> line_seq<-c(as.vector(c(2,1,1)),as.vector(c(2,1,1)))
>
> fit.mod <-summary(survfit(model1t),newdata=dat2)
>
> plot(survfit(model1t,newdata=dat2),ylim=c(0.60,1) ,conf.int=T,,lty=c(as.vector(c(1,2,2)),as.vector(c(1,2,2))),lwd=line_seq,col= col_seq,ylab="Proportion of
Counties With No Committee",xlab="Years till Committee Formation",xlim=c(0,11))
> legend("bottomleft",c("No Social Frontier Conditions","95%C.I.","" ,"Social Frontier
Conditions","95%CI"),lty=c(1,2,0,1,2),col=c(gray,darkgray,"","black",lightgray),lwd=c(3,3),border=lightgray,cex = .85,bty="o",box.col=lightgray)
>
>
> #####
> # Code to reproduce Model 1 Table 4
> #####
>
>
> model14<-coxph(Surv(start, stop, committee)~  ef+ bre+ ef_bre +cluster(fips),data=dat1,method="efron");summary(model14);cox.zph(model14)
Call:
coxph(formula = Surv(start, stop, committee) ~ ef + bre + ef_bre +
    cluster(fips), data = dat1, method = "efron")

  n= 17470, number of events= 33
   (2417 observations deleted due to missingness)

          coef exp(coef) se(coef) robust se     z Pr(>|z|)
ef     0.03536   1.03599  0.01347   0.01292 2.736  0.00623 **
bre    0.81226   2.25299  0.65852   0.53191 1.527  0.12674
ef_bre 0.03079   1.03127  0.02089   0.01722 1.788  0.07380 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

       exp(coef) exp(-coef) lower .95 upper .95
ef         1.036     0.9653    1.0101     1.063
bre        2.253     0.4439    0.7943     6.390
ef_bre     1.031     0.9697    0.9970     1.067

Concordance= 0.769  (se = 0.05 )
Rsquare= 0.002   (max possible= 0.027 )
Likelihood ratio test= 42.75  on 3 df,   p=2.786e-09
Wald test            = 89.34  on 3 df,   p=0
Score (logrank) test = 123  on 3 df,   p=0,   Robust = 14.21  p=0.002638

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
          rho chisq      p
ef     -0.0198 0.011 0.9164
bre    -0.4467 3.454 0.0631
ef_bre  0.1047 0.219 0.6398
GLOBAL      NA 5.776 0.1230
> AIC(model14);BIC(model14);logLik(model14)
[1] 449.7458
[1] 454.2353
'log Lik.' -221.8729 (df=3)
>
> #####
> # Code to reproduce Model 2 Table 4
> #####
>
> model24<-coxph(Surv(start, stop, committee)~  ef+ bre+ ef_bre +gini+manu+urb+sla+cluster(fips),data=dat1,method="efron");summary(model24);cox.zph(model24)
Call:
coxph(formula = Surv(start, stop, committee) ~ ef + bre + ef_bre +
    gini + manu + urb + sla + cluster(fips), data = dat1, method = "efron")

  n= 15361, number of events= 23
   (4526 observations deleted due to missingness)

            coef exp(coef)  se(coef) robust se      z Pr(>|z|)
ef      0.012593  1.012672  0.019382  0.020985  0.600 0.548457
bre    -0.279192  0.756395  1.028656  0.567960 -0.492 0.623023
ef_bre  0.072160  1.074827  0.031284  0.019975  3.612 0.000303 ***
gini   -0.006453  0.993568  0.010908  0.009924 -0.650 0.515542
manu    0.028896  1.029318  0.030313  0.060521  0.477 0.633040
urb     0.019382  1.019571  0.010580  0.016026  1.209 0.226498
sla     0.004199  1.004208  0.011429  0.009419  0.446 0.655705
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

       exp(coef) exp(-coef) lower .95 upper .95
ef        1.0127     0.9875    0.9719     1.055
bre       0.7564     1.3221    0.2485     2.302
ef_bre    1.0748     0.9304    1.0336     1.118
gini      0.9936     1.0065    0.9744     1.013
manu      1.0293     0.9715    0.9142     1.159
urb       1.0196     0.9808    0.9880     1.052
sla       1.0042     0.9958    0.9858     1.023

Concordance= 0.702  (se = 0.06 )
Rsquare= 0.002   (max possible= 0.022 )
Likelihood ratio test= 28.96  on 7 df,   p=0.0001471
Wald test            = 89.61  on 7 df,   p=1.11e-16
Score (logrank) test = 98.03  on 7 df,   p=0,   Robust = 10.55  p=0.1597

  (Note: the likelihood ratio and score tests assume independence of
     observations within a cluster, the Wald and robust score tests do not).
```

```
          rho  chisq        p
ef     -0.0766  0.368 5.44e-01
bre    -0.3601  1.950 1.63e-01
ef_bre  0.1401  0.889 3.46e-01
gini    0.0957  0.577 4.48e-01
manu   -0.1755 15.898 6.68e-05
urb     0.1709  7.807 5.20e-03
sla     0.2065  1.245 2.65e-01
GLOBAL      NA 25.939 5.17e-04
> AIC(model24);BIC(model24);logLik(model24)
[1] 319.8654
[1] 327.8138
'log Lik.' -152.9327 (df=7)
>
> #####
> # Code to reproduce Model 2 Table 4
> #####
>
> lightgray<-"#d9d9d9";darkgray<-"#525252";gray<-"#666666"
> col_seq<-c(as.vector(c(gray,darkgray,darkgray)),as.vector(c("black",lightgray,lightgray)))
> line_seq<-c(as.vector(c(2,1,1)),as.vector(c(2,1,1)))
>
>
> dat2m<-data.frame(ef=c(quantile(dat1$ef,probs=c(.25),na.rm=TRUE),quantile(dat1$ef,probs=c(.75),na.rm=TRUE)),bre=c(0,1),ef_bre=c((quantile(dat1$ef,probs=c(.
25),na.rm=TRUE)*0),(quantile(dat1$ef,probs=c(.75),na.rm=TRUE)*1)))
>
> plot(survfit(model14,newdata=dat2m),ylim=c(0.85,1),conf.int=T,lty=c(as.vector(c(1,2,2)),as.vector(c(1,2,2))),lwd=line_seq,col= col_seq,ylab="Proportion of
Counties With No Committee",xlab="Years till Committee Formation",xlim=c(0,11))
> legend("bottomleft",c("No Social Frontier Conditions","95%C.I.","" ,"Social Frontier
Conditions","95%CI"),lty=c(1,2,0,1,2),col=c(gray,darkgray,"","black",lightgray),lwd=c(3,3),border=lightgray,cex = .85,bty="o",box.col=lightgray)
>
```