```
R version 4.1.2 (2021-11-01) -- "Bird Hippie"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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  Natural language support but running in an English locale

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'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

[Workspace loaded from ~/.RData]

>   #load libraries
>   library(data.table)
data.table 1.14.2 using 4 threads (see ?getDTthreads).  Latest news: r-datatable.com
>   library(dplyr)

Attaching package: ‘dplyr’

The following objects are masked from ‘package:data.table’:

    between, first, last

The following objects are masked from ‘package:stats’:

    filter, lag

The following objects are masked from ‘package:base’:

    intersect, setdiff, setequal, union

>   library(rdrobust)
>   library(lmtest)
Loading required package: zoo
```

```
Attaching package: ‘zoo’

The following objects are masked from ‘package:base’:

    as.Date, as.Date.numeric

>   library(ggplot2)
Warning message:
In (function (kind = NULL, normal.kind = NULL, sample.kind = NULL)  :
  non-uniform 'Rounding' sampler used
>   library(AER)
Loading required package: car
Loading required package: carData

Attaching package: ‘car’

The following object is masked from ‘package:dplyr’:

    recode

Loading required package: sandwich
Loading required package: survival
>   library(gridExtra)

Attaching package: ‘gridExtra’

The following object is masked from ‘package:dplyr’:

    combine

>   library(sandwich)
>   library(dummies)
dummies-1.5.6 provided by Decision Patterns

>   library(stringr)
>
>
>
################################################################################
#####################################################################
>
>
> ##### Functions (Always RUN before proceeding to Tables and Plots)
#########################################################################
```

```
>
>   .Weighting <- function(xx,kernel,zz){
+
+     if(kernel > 0){
+       if(kernel == 1){xx$wght <- zz - abs(xx$run)}
+       if(kernel == 2){xx$wght <- 0.75*(1 - ((xx$run/zz)**2))}
+       if(kernel == 3){xx$wght <- (1/((2*pi)**2))*exp(-0.5*((abs(xx$run/zz)**2)))}
+       xx$wght[xx$t == 1] <- xx$wght[xx$t == 1] / sum(xx$wght[xx$t == 1])
+       xx$wght[xx$t == 0] <- xx$wght[xx$t == 0] / sum(xx$wght[xx$t == 0])
+     }else{xx$wght <- 1/nrow(xx)}
+     return(xx)
+   }
>
>   .RDplot <- function(data,cut,band,bins,degree,x.title,y.title,title,con,sz,brk) {
+
+     if(degree == 1){mm <- (var ~ Score2 )}
+     if(degree == 2){mm <- (var ~ Score2 + I(Score2**2) )}
+     if(degree == 3){mm <- (var ~ Score2 + I(Score2**2) + I(Score2**3) )}
+
+     data <- subset(data, !is.na(var))
+
+     data$Score2 <- data$run - cut
+     data <- subset(data, abs(Score2) <= band)
+     vec <- seq(cut, band, length.out =  (bins+1))
+     vec_mid <- vec[-length(vec)] + diff(vec)/2
+     data$count <- 1 ;     i <- 0
+
+
+     for (iii in 0:1){
+       cc <- iii
+       if(iii == 0) cc <- -1
+       aux <- subset(data, t == iii)
+       aux$groups <- as.factor(cut(cc*aux$Score2,breaks=vec, include.lowest = TRUE))
+       R <- group_by(aux,groups) %>% summarise (var = mean(var), count = sum(count) )
#%>% complete(groups)
+       #R <- subset(R, !is.na(Var))
+       R$t <- iii
+       R$Score2 <- cc*vec_mid
+
+       mdl <- lm(mm , data = aux)
+       pred <- predict(mdl, R, interval = "confidence", level = con, na.action = na.pass)
+       PRE <- pred[,1] ; R$pre <- PRE
+       predSE <- predict(mdl, R, interval = "confidence", level =con, na.action = na.pass,
se=TRUE)$se.fit
```

```
+      t <- ((pred[1,1]-pred[1,2])/predSE[1])
+      V <- as.matrix(vcov(mdl) )
+
+      if(degree == 1){X <- data.frame(1,R$Score2)}
+      if(degree == 2){X <- data.frame(1,R$Score2,(R$Score2^2))}
+      if(degree == 3){X <- data.frame(1,R$Score2,(R$Score2^2),(R$Score2^3))}
+
+      X <- as.matrix(X) ; se_robust <- sqrt(diag(X %*% V %*% t(X)))
+      LOW <- pred[,1] - t*se_robust ; HIGH <- pred[,1] + t*se_robust
+      R$low <- LOW ;    R$high <- HIGH
+
+      if(iii == 0){R0 <- R ; plot_data <- R}else{R1 <- R ;plot_data <- rbind(plot_data,R)}
+    }
+
+    plot_data <- data.frame(plot_data)
+    plot_data <- filter(plot_data, !is.na(count))
+    plot_data$count2 <- plot_data$count/sum(plot_data$count)
+    if(sz==0)  plot_data$count2 <- 1
+    ymx <- max(plot_data$var)
+    ymn <- min(plot_data$var)
+
+    ggplot(data=plot_data, aes(x=Score2, y=var, ymax = ymx, ymin = ymn))   +   theme_bw() +
+      theme(panel.grid.major = element_blank(), panel.grid.minor = element_blank())+
+      geom_point( data=R0, aes(x=Score2, y=var, size=count), shape=16,  color = "gray35",
bg="gray95") + #aes(size = count2/4)
+      geom_point( data=R1, aes(x=Score2, y=var,size=count), shape=16, color = "gray65",
bg="gray95") +
+      geom_vline(xintercept = 0, colour="gray25", linetype = "longdash") +
+      geom_line(data=R1, aes(x=Score2, y=pre),colour="gray65",  size=1.5, alpha=.75) +
+      geom_line(data=R0, aes(x=Score2, y=pre),colour="gray35",  size=1.5, alpha=.75) +
+      ggtitle(title) +
+      theme(plot.title = element_text(family = "A", size=12))+
+      xlab(x.title) + ylab(y.title) +
+      theme(axis.text = element_text(colour="black", size=12, family="A")) +
+      theme(axis.title = element_text(colour="black", size=12, family="A")) +
+      geom_ribbon(data=R0, aes(ymin=low,ymax=high),alpha=0.10) +
+      geom_ribbon(data=R1, aes(ymin=low,ymax=high),alpha=0.10) +
+      scale_x_continuous(breaks=brk) +
+      theme(legend.position="none")
+
+
+  }
>
```

```
>   .Newplot <-
function(data,r,v,xvar,minD,maxD,bins1,bins2,shift,bb,x.title,y.title,degree,multi,oneside,bb3){
+
+
+     Di <- matrix(0,(bins1),3)
+     Di[,1] <- seq(from=minD, to=maxD, length.out=(bins1))
+     label <- paste("t",xvar,sep=":")
+
+     for (i in 1:nrow(Di)){
+       Di[i,2] <- r["t",1] + r[label,1]*Di[i,1]
+       Di[i,3] <-(  v["t","t"] + (Di[i,1]**2)*v[label,label] + 2*Di[i,1]*v["t",label] )^.5
+     }
+
+     MT <- data.frame(Di) ; names(MT) <- c("D","coeff","sd")
+     MT$h <- MT$coeff+1.96*MT$sd
+     MT$l <- MT$coeff-1.96*MT$sd
+
+     jazz <- data.frame(matrix(0,(bins2),2))
+     xx <- seq(from=min(MT$D), to=(max(MT$D)), length.out=(bins2+1))
+
+     data <- data.frame(data)
+     data$x <- data[,match(xvar,names(data))]
+
+     i <- 2
+
+     for (i in 1:nrow(jazz)){
+       top <- xx[i+1]
+       bot <- xx[i]
+       if(is.na(top))  top <- xx[i+1] + 1
+       jj <- subset(data, x >= bot & x < top )
+       if(oneside==1) jj <- subset(data, x >= bot & x < top & t == 1)
+       if(oneside==1) {datax <- subset(data,  t == 1)}else{datax <- data}
+       jazz[i,1] <- (xx[i]+xx[i+1])/2
+
+       jazz[i,2] <- nrow(jj)/nrow(datax)
+     }
+     names(jazz) <- c("D","dens")
+
+     bb2 <- bb+shift
+
+     ggplot(data=MT, aes(x=D, y=coeff, ymin=0))   +    theme_bw() +
+       theme(panel.grid.major = element_blank(), panel.grid.minor = element_blank())+
+       geom_line(data=MT, aes(x=D, y=coeff+shift),colour="gray10",  size=1, alpha=.75) +
+       theme(plot.title = element_text(family = "A", size=13))+
```

```
+       geom_hline(yintercept=(0+shift), lty=3)+
+       xlab(x.title) + ylab(y.title) +
+       theme(axis.text = element_text(colour="black", size=13, family="A")) +
+       theme(axis.title = element_text(colour="black", size=13, family="A")) +
+
+       geom_line(data=MT, aes(x=D, y=h+shift),colour="gray10",  linetype="dashed",size=.75,
alpha=.75) +
+       geom_line(data=MT, aes(x=D, y=l+shift),colour="gray10",  linetype="dashed",size=0.75,
alpha=.75) +
+       #geom_ribbon(data=MT, aes(ymin=l+shift,ymax=h+shift),alpha=0.2, fill) +
+
+       geom_bar(data=jazz, aes(x=D, y=dens*multi, group = 1), stat="identity", position="dodge",
+               size =0.1,color="gray35",fill="gray85", alpha=0.3) +
+       scale_y_continuous(breaks=bb2, labels=bb )+
+       scale_x_continuous(breaks=bb3)+
+       coord_cartesian(ylim=c(bb2[1],bb2[length(bb2)]))
+   }
>
>
>
################################################################################
#####################################################################
>
>
> ##### Setup (Always RUN before proceeding to Tables and Plots)
################################################################################
##
>
>   # set active R directory here with setwd() function
>   setwd("C:/Users/afrey4/Dropbox/Papers/Legsize/replication1")
>
>   # set fonts for plots
>   windowsFonts( A=windowsFont("Liberation Sans")) ; par(family="A") ; sz <- 11
>
>   # Set sortcuts for regression formulas
>   base_for <- "var ~  vari + run + trun + factor(cut) "
>   base_for2 <- "var ~  vari + run + trun  + factor(cut) + factor(sta)"
>   base_for2a <- "var ~  vari + run + I(run^2) + trun  + (trun^2) + factor(cut) + factor(sta)"
>   base_for2b <- "var ~  vari + run + I(run^2)+I(run^3) + trun  + (trun^2) +(trun^3)+ factor(cut) +
factor(sta)"
>   cov1 <- "+ men + urb  + p_budget +hepc+ poor1 + poor2 + desert + able + gdp + metr  + liter
"
>   cov2 <- "  + base.p + p11 + p12 + p13 + p15 + p40 + p45 + p55  "
>   iv <- "| .-vari  + t"
```

```
>
>   maindata <- fread("data_main.csv")
>   olddata <- read.csv("data_old.csv")
>   maindata$trun <- maindata$t * maindata$run
>
>   # Creates dummies for the mayor's party
>   mainparties <- c(11,12,13,15,40,45,55)
>   for (i in 1:length(mainparties)){
+     newvar <- paste0("p",mainparties[i])
+     maindata$newvar <- ifelse(maindata$m.party == mainparties[i],1,0)
+     names(maindata)[ncol(maindata)] <- newvar
+   }
>
>   aux <- maindata %>% select(ibge, seats, cut, t, run, trun,
sta,men,urb,poor1,poor2,desert,metr,liter  )
>   olddata <- merge(olddata,aux,by="ibge")
>
>   mainparties <- c(11,12,13,15,40,45)
>   for (i in 1:length(mainparties)){
+     newvar <- paste0("p",mainparties[i])
+     olddata$newvar <- ifelse(olddata$m.party == mainparties[i],1,0)
+     names(olddata)[ncol(olddata)] <- newvar
+   }
>
>   covars1 <- dummy(maindata$cut, sep = ".")
Warning message:
In model.matrix.default(~x - 1, model.frame(~x - 1), contrasts = FALSE) :
  non-list contrasts argument ignored
>   covars <- covars1[,2:(ncol(covars1))]
>
>   b1 <- rdbwselect(maindata$seats, maindata$run, c = 0, p=1, q=2,  kernel = "tri", bwselect =
"cerrd" , covs=covars)$bws ; b1
[1] "Mass points detected in the running variable."
      h (left) h (right) b (left) b (right)
cerrd 3.524792  3.524792 10.63984  10.63984
>   b2 <- rdbwselect(maindata$seats, maindata$run, c = 0, p=2, q=4,  kernel = "tri", bwselect =
"cerrd" , covs=covars)$bws ; b2
[1] "Mass points detected in the running variable."
      h (left) h (right) b (left) b (right)
cerrd 3.897134  3.897134 24.43029  24.43029
>   b3 <- rdbwselect(maindata$seats, maindata$run, c = 0, p=3, q=5,  kernel = "tri", bwselect =
"cerrd" , covs=covars)$bws ; b3
[1] "Mass points detected in the running variable."
      h (left) h (right) b (left) b (right)
```

```
cerrd 5.114849  5.114849 21.92818  21.92818
>
##### Table A1: Maximum number of council members, by population
################################################################################
>
>
>   cut <-
c(15,30,50,80,120,160,300,450,600,750,900,1050,1200,1350,1500,1800,2400,3000,4000,5000,
6000,7000,8000)
>   cuts2 <- c(11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55)
>
>   jazz <- data.frame(cut,cuts2)
>
>   data_aux <- maindata
>
>   data_aux$x <- 1
>   dataz <- subset(data_aux, abs(run) <= 7.5  )
>   d <- group_by(dataz,cut,t) %>% summarise(count=sum(x))
`summarise()` has grouped output by 'cut'. You can override using the `.groups` argument.
>   d1 <- subset(d, t == 1) ; d0 <- subset(d, t == 0)
>   jazz <- left_join(jazz,d0,by="cut")
>   jazz <- left_join(jazz,d1,by="cut")
>   jazz[is.na(jazz)] <- 0
>   jazz$t.x <- jazz$t.y <- NULL
>
>   jazz$perc <- paste0( format(round((jazz$cuts2 / (jazz$cuts2-2)-1)*100,1),nsmall=1  ), "%")
>   jazz <- jazz[,c(1,2,5,3,4)]
>
>   #### For pasting in latex
>   for (i in 1:ncol(jazz)){
+     fake <- data.frame(matrix("&",nrow(jazz),1))
+     x <- cbind(fake,jazz[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   #row.names(xx) <- c("RD Effect","","Pre-Treatment Mean","Bandwidth","Observations")
>   xx[,ncol(xx)+1] <-
c("\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline",
+
"\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline",
+
"\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline",
+
"\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline","\tabularnewline",
+                       "\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
```

```
>   names(xx) <- NULL
>   xx <- xx[,-c(1,2)]
>   row.names(xx) <- cut
>   print(xx)

15   & 11 & 22.2% & 1269 & 702         \tabularnewline
30   & 13 & 18.2% &  381 & 231         \tabularnewline
50   & 15 & 15.4% &  105 &  85         \tabularnewline
80   & 17 & 13.3% &   52 &  34         \tabularnewline
120  & 19 & 11.8% &   20 &  10         \tabularnewline
160  & 21 & 10.5% &    9 &   7         \tabularnewline
300  & 23 &  9.5% &    6 &   1         \tabularnewline
450  & 25 &  8.7% &    0 &   0         \tabularnewline
600  & 27 &  8.0% &    0 &   0         \tabularnewline
750  & 29 &  7.4% &    0 &   0         \tabularnewline
900  & 31 &  6.9% &    0 &   0         \tabularnewline
1050 & 33 &  6.5% &    0 &   0         \tabularnewline
1200 & 35 &  6.1% &    0 &   0         \tabularnewline
1350 & 37 &  5.7% &    0 &   0         \tabularnewline
1500 & 39 &  5.4% &    0 &   0         \tabularnewline
1800 & 41 &  5.1% &    0 &   0         \tabularnewline
2400 & 43 &  4.9% &    0 &   0         \tabularnewline
3000 & 45 &  4.7% &    0 &   0         \tabularnewline
4000 & 47 &  4.4% &    0 &   0         \tabularnewline
5000 & 49 &  4.3% &    0 &   0         \tabularnewline
6000 & 51 &  4.1% &    0 &   0         \tabularnewline
7000 & 53 &  3.9% &    0 &   0         \tabularnewline
8000 & 55 &  3.8% &    0 &   0 \tabularnewline[0.25cm]
>
>
>
>
################################################################################
#########################################################################
>
>
> ##### Table A2: RD effects in the first stage
################################################################################
###################
>
>   data_aux <- maindata
>   data_aux$var <- (data_aux$seats)
>
>   res <- data.frame(matrix(0,5,5))
```

```
>
>  for (i in 1:5){
+
+    formul <- as.formula("var ~  t*run+factor(cut)")
+
+    if(i <= 2) band <- b1[1]
+    if(i == 2) formul <- as.formula(paste("var ~  t*run +factor(cut)+factor(sta)",cov1,sep=""))
+    if(i == 3) band <- b1[2]*.5
+
+    if(i == 4) band <- min(7.5,b2[2]*1)
+    if(i == 5) band <- min(7.5,b3[2]*1)
+
+
+    datax <- subset(data_aux, abs(run) < band & cut <= 300  )
+    datax <- .Weighting(datax,1,band) ; datax0 <- subset(datax, t == 0)
+
+    reg <- lm(formul  , weights=wght  ,data=datax)
+    r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))
+    reg <- lm(var ~  run  , weights=wght  ,data=datax0)
+    r2 <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))
+
+    if(i == 4){
+      reg <- lm(var ~  t*run + t*I(run^2)+factor(cut), weights=wght  ,data=datax)
+      r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))
+      reg <- lm(var ~  run + I(run^2) , weights=wght  ,data=datax0)
+      r2 <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))
+    }
+    if(i == 5){
+      reg <- lm("var ~  t*run+ t*I(run^2)+ t*I(run^3) +factor(cut)", weights=wght  ,data=datax)
+      r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))
+      reg <- lm(var ~  run + I(run^2)+ I(run^3) , weights=wght  ,data=datax0)
+      r2 <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))
+    }
+
+    tv <- abs(r[2,3])
+    stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+    coeff <- round(r[2,1],3) ; sd <- round(r[2,2],3) ; baseline <- round(r2[1,1],3)
+
+    res[1,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+    res[2,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+    res[3,i] <- paste(format(baseline,nsmall=3),sep="")
+    res[4,i] <- format(round(band,2),nsmall=2)
+    res[5,i] <- nrow(datax)
+  }
```

```
>
>   #### For pasting in LatEx
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   row.names(xx) <- c("RD Effect","","Pre-Treatment Mean","Bandwidth","Observations")
>   xx[,ncol(xx)+1] <-
c("\tabularnewline","\tabularnewline[0.25cm]","\tabularnewline[0.25cm]","\tabularnewline","\tabul
arnewline[0.25cm]")
>   names(xx) <- NULL
>   print(xx)

RD Effect          &  1.169* &  1.135* &  0.919* &  0.923* &  0.799*         \tabularnewline
                  & (0.138) & (0.136) & (0.201) & (0.198) & (0.232) \tabularnewline[0.25cm]
Pre-Treatment Mean &   9.920 &   9.920 &  10.221 &  10.149 &  10.266 \tabularnewline[0.25cm]
Bandwidth          &    3.52 &    3.52 &    1.76 &    3.90 &    5.11         \tabularnewline
Observations       &    1308 &    1308 &     622 &    1453 &    2008 \tabularnewline[0.25cm]
>
>
##############################################################################
##############################################################
>
>
> ##### Table A3: Balance of covariates
##############################################################################
############################
>
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>
>   band <- round(b1[1],2)
>
>   vec <- str_replace_all(cov1," ","")
>   vec <- unlist(str_split(vec,"[+]"))
>   vec <- vec[2:length(vec)]
>
>   res <- data.frame(matrix(0,length(vec)*2,3))
>
>   for (i in 1:3){
+     for(j in 1:length(vec)){
+       band <- round(b1[1],2)
```

```
+
+      vecc <- vec[-j]
+      cov3 <- paste(" + ",vecc, sep="", collapse="")
+
+      if(i == 1)  formul <- as.formula(paste(base_for,iv,sep=""))
+      if(i == 2)  formul <- as.formula(paste(base_for2,iv,sep=""))
+      if(i == 3)  formul <- as.formula(paste(base_for2,cov3,iv,sep=""))
+
+      num <- match(vec[j],names(data_aux))
+      data_aux$var <- data_aux[[num]]
+
+      datax <- subset(data_aux, abs(run) <= band & cut <= 300    )
+      datax <- .Weighting(datax,1,band)
+
+      reg <- ivreg(formul  , weights=wght, data=datax)
+      r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2,]
+
+      tv <- abs(r[3])
+      stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+      coeff <- round(r[1],3) ; sd <- round(r[2],3)
+
+      res[j*2-1,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+      res[j*2-0,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+    }
+  }
>
>   #### For pasting in LaTeX
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>
>   xx[,ncol(xx)+1] <- "\tabularnewline"
>   xx[nrow(xx),ncol(xx)] <- "\tabularnewline[0.25cm]"
>   row.names(xx) <-  c("Gender share","(2010 census)","Urban share","(2010 census) ","Past
pc budget ",
+                       "(log)  ","Health and Education spending","(past share of budget)","Garbage
collection","(2010 census)   ",
+                       "Piped Water","(2010 census)    ","Semi-arid location","(binary, 1=semi-arid)
","2012 pc GDP","(log)       ",
+                       "Number of voters","(log)        ",
+                       "Metropolitan area","(binary, 1=metropolitan)           ",
```

```
+                     "Literacy rate","(2010 census)        ")
>   names(xx) <- NULL
>   print(xx)

Gender share                      &  -0.148 &  -0.212 &  -0.193        \tabularnewline
(2010 census)                     & (0.156) & (0.136) & (0.126)        \tabularnewline
Urban share                       &  -0.133 &   1.014 &   0.212        \tabularnewline
(2010 census)                     & (2.307) & (1.861) & (1.134)        \tabularnewline
Past pc budget                    &  -0.033 &  -0.015 &  -0.022        \tabularnewline
(log)                             & (0.027) & (0.022) & (0.017)        \tabularnewline
Health and Education spending     &  -0.002 &  -0.002 &  -0.002        \tabularnewline
(past share of budget)            & (0.009) & (0.008) & (0.007)        \tabularnewline
Garbage collection                &  -0.938 &   0.519 &  -0.354        \tabularnewline
(2010 census)                     & (2.409) & (1.584) & (0.944)        \tabularnewline
Piped Water                       &  -0.018 &   1.172 &   0.460        \tabularnewline
(2010 census)                     & (2.077) & (1.796) & (1.385)        \tabularnewline
Semi-arid location                &   0.018 &   0.011 &   0.010        \tabularnewline
(binary, 1=semi-arid)             & (0.047) & (0.033) & (0.030)        \tabularnewline
2012 pc GDP                       &  -0.019 &  -0.017 &  -0.020        \tabularnewline
(log)                             & (0.015) & (0.013) & (0.013)        \tabularnewline
Number of voters                  &   0.005 &   0.028 &   0.057        \tabularnewline
(log)                             & (0.081) & (0.055) & (0.037)        \tabularnewline
Metropolitan area                 &   0.053 &   0.032 &   0.034        \tabularnewline
(binary, 1=metropolitan)          & (0.048) & (0.040) & (0.040)        \tabularnewline
Literacy rate                     &  -0.005 &  -0.003 &  -0.005        \tabularnewline
(2010 census)                     & (0.010) & (0.005) & (0.004) \tabularnewline[0.25cm]
>
>
>
>
##############################################################################
#####################################################################
>
>
> ##### Table A4: Correlation between council size and mayors partisanship at the discontinuity
################################################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   vec <- c("base.p","p13","p15","p45","p55","p40","p11","p12")
>
>   res <- data.frame(matrix(0,length(vec)*2,3))
```

```
>   for (i in 1:3){
+     for(j in 1:length(vec)){
+       band <- round(b1[1],2)
+
+       vecc <- vec[-j]
+       cov3 <- paste(" + ",vecc, sep="", collapse="")
+
+       if(i == 1)  formul <- as.formula(paste(base_for,iv,sep=""))
+       if(i == 2)  formul <- as.formula(paste(base_for2,cov1,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(base_for2,cov1,cov3,iv,sep=""))
+
+       num <- match(vec[j],names(data_aux))
+       data_aux$var <- data_aux[[num]]
+
+       datax <- subset(data_aux, abs(run) <= band & cut <= 300   )
+       datax <- .Weighting(datax,1,band)
+
+       reg <- ivreg(formul  , weights=wght, data=datax)
+       r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2,]
+
+       tv <- abs(r[3])
+       stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+       coeff <- round(r[1],3) ; sd <- round(r[2],3)
+
+       res[j*2-1,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+       res[j*2-0,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+     }
+   }
>
>
>   #### For pasting in latex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>
>   xx[,ncol(xx)+1] <- "\tabularnewline"
>   xx[nrow(xx),ncol(xx)] <- "\tabularnewline[0.25cm]"
>   row.names(xx) <-  c("PT's federal coalition","","PT mayor"," ","PMDB mayor","  ","PSDB
mayor","    ",
+                       "PSD mayor","    ","PSB mayor","     ","PP mayor","      ","PDT mayor","       ")
>   names(xx) <- NULL
```

```
>   print(xx)

PT's federal coalition &   0.032 &   0.001 &   0.019        \tabularnewline
                    & (0.052) & (0.052) & (0.026)        \tabularnewline
PT mayor                &   0.014 &   0.014 &  -0.007        \tabularnewline
                    & (0.038) & (0.041) & (0.025)        \tabularnewline
PMDB mayor              &   0.012 &   0.005 &  -0.011        \tabularnewline
                    & (0.042) & (0.043) & (0.025)        \tabularnewline
PSDB mayor              &   0.013 &   0.022 &   0.022        \tabularnewline
                    & (0.036) & (0.037) & (0.032)        \tabularnewline
PSD mayor               &  -0.015 &  -0.014 &  -0.017        \tabularnewline
                    & (0.029) & (0.029) & (0.022)        \tabularnewline
PSB mayor               &  -0.003 &   0.001 &   0.007        \tabularnewline
                    & (0.025) & (0.026) & (0.023)        \tabularnewline
PP mayor                &  -0.011 &  -0.019 &  -0.019        \tabularnewline
                    & (0.031) & (0.030) & (0.021)        \tabularnewline
PDT mayor               &   0.007 &  -0.003 &  -0.010        \tabularnewline
                    & (0.026) & (0.027) & (0.021) \tabularnewline[0.25cm]
>
>
>
>
##################################################################################
#################################################################
>
>
> ##### Table A5: Loss of electoral strength by the local incumbent party (excludes: 50, 300
pop) ##############################################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   res <- data.frame(matrix(0,12,3))
>
>   for (i in 1:3){
+     for(j in 1:4){
+
+       if(i == 1)  formul <- as.formula(paste(base_for2,cov1,cov2,iv,sep=""))
+       if(i == 2)  formul <- as.formula(paste(base_for2,cov1,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(base_for2,iv,sep=""))
+
+       if(j == 1) {data_aux$s <- data_aux$g.support*data_aux$p.support*data_aux$f.support
+                          data_aux$var <- data_aux$indx*100 ; min_fcand <- 1}
```

```
+       if(j == 2) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100 ;
min_fcand <- 0}
+       if(j == 3) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100 ;
min_fcand <- 0}
+       if(j == 4) {data_aux$s <- data_aux$f.support ; data_aux$var <- data_aux$f.pc*100 ;
min_fcand <- 1}
+
+       datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > min_fcand & cut <= 300
& !cut %in% c(50,300) )
+       datax <- .Weighting(datax,1,band)
+
+       reg <- ivreg(formul  , weights=wght, data=datax)
+       r <- coeftest(reg,  vcov = vcovHC(reg), type="HC3")[2,]
+
+       tv <- abs(r[3])
+       stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+       coeff <- round(r[1],3) ; sd <- round(r[2],3)
+
+       res[j*3-2,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+       res[j*3-1,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+       res[j*3,i] <- nrow(datax)
+
+     }
+   }
>
>
>   #### For pasting in LaTex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   last <-  c("\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
>   xx[,ncol(xx)+1] <- c(last,last,last,last)
>   row.names(xx) <- c("Vote Share Index","(aggregates the elections below) ","Observations
","Gubernatorial ","(2014)","Observations","Presidential ","(2014) ","Observations ",
+                      "Mayoral","(2016)","Observations   ") ;  names(xx) <- NULL
>   print(xx)

Vote Share Index                  & -4.479* & -4.393* & -3.843*         \tabularnewline
(aggregates the elections below)  & (1.473) & (1.529) & (1.480)         \tabularnewline
Observations                      &    1032 &    1032 &    1032 \tabularnewline[0.25cm]
Gubernatorial                     & -4.769* & -4.511† & -4.143†         \tabularnewline
```

```
(2014)                    & (2.248) & (2.302) & (2.248)        \tabularnewline
Observations                 &    1207 &    1207 &    1207 \tabularnewline[0.25cm]
Presidential                  & -4.928* &  -3.785 &  -3.649        \tabularnewline
(2014)                    & (1.999) & (2.439) & (2.416)        \tabularnewline
Observations                 &    1209 &    1209 &    1209 \tabularnewline[0.25cm]
Mayoral                   & -3.367† & -3.297† &  -2.700        \tabularnewline
(2016)                    & (1.761) & (1.789) & (1.750)        \tabularnewline
Observations                 &    1034 &    1034 &    1034 \tabularnewline[0.25cm]
>
>
>
################################################################################
#####################################################################
>
>
> ##### Table A6: Loss of electoral strength by the local incumbent party (includes: 15 pop)
#####################################################
>
>   xbase_for2 <- "var ~  vari + run + trun  + factor(sta)"
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   res <- data.frame(matrix(0,12,3))
>
>   for (i in 1:3){
+     for(j in 1:4){
+
+       if(i == 1)  formul <- as.formula(paste(xbase_for2,cov1,cov2,iv,sep=""))
+       if(i == 2)  formul <- as.formula(paste(xbase_for2,cov1,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(xbase_for2,iv,sep=""))
+
+       if(j == 1) {data_aux$s <- data_aux$g.support*data_aux$p.support*data_aux$f.support
+       data_aux$var <- data_aux$indx*100 ; min_fcand <- 1}
+       if(j == 2) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100 ;
min_fcand <- 0}
+       if(j == 3) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100 ;
min_fcand <- 0}
+       if(j == 4) {data_aux$s <- data_aux$f.support ; data_aux$var <- data_aux$f.pc*100 ;
min_fcand <- 1}
+
+       datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > min_fcand & cut == 15 )
+       datax <- .Weighting(datax,1,band)
```

```
+
+      reg <- ivreg(formul  , weights=wght, data=datax)
+      r <- coeftest(reg,  vcov = vcovHC(reg), type="HC3")[2,]
+
+      tv <- abs(r[3])
+      stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+      coeff <- round(r[1],3) ; sd <- round(r[2],3)
+
+      res[j*3-2,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+      res[j*3-1,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+      res[j*3,i] <- nrow(datax)
+
+    }
+  }
>
>
>   #### For pasting in LaTex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   last <-  c("\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
>   xx[,ncol(xx)+1] <- c(last,last,last,last)
>   row.names(xx) <- c("Vote Share Index","(aggregates the elections below) ","Observations
","Gubernatorial ","(2014)","Observations","Presidential ","(2014) ","Observations ",
+                      "Mayoral","(2016)","Observations   ") ;  names(xx) <- NULL
>   print(xx)

Vote Share Index                 & -5.624* & -5.715* & -5.184*         \tabularnewline
(aggregates the elections below)  & (1.836) & (1.945) & (1.939)        \tabularnewline
Observations                     &     735 &     735 &     735 \tabularnewline[0.25cm]
Gubernatorial                    & -5.471† & -5.415† & -5.281†         \tabularnewline
(2014)                          & (2.982) & (3.105) & (3.085)         \tabularnewline
Observations                     &     873 &     873 &     873 \tabularnewline[0.25cm]
Presidential                     & -5.297* &  -3.817 &  -3.703         \tabularnewline
(2014)                          & (2.610) & (3.249) & (3.299)         \tabularnewline
Observations                     &     875 &     875 &     875 \tabularnewline[0.25cm]
Mayoral                          & -4.327* & -4.562* & -3.700†         \tabularnewline
(2016)                          & (2.194) & (2.255) & (2.242)         \tabularnewline
Observations                     &     737 &     737 &     737 \tabularnewline[0.25cm]
>
>
```

```
>
>
>
################################################################################
#####################################################################
>
##### Table A7: Loss of electoral strength by the local incumbent party (placebo)
#############################################################
>
>
>   data_aux <- olddata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   res <- data.frame(matrix(0,12,3))
>   cov2x <- "  + base.p + p12 + p13 + p15 + p40 + p45 "
>
>   for (i in 1:3){
+     for(j in 1:4){
+
+       if(i == 1)  formul <- as.formula(paste(base_for2,cov1,cov2x,iv,sep=""))
+       if(i == 2)  formul <- as.formula(paste(base_for2,cov1,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(base_for2,iv,sep=""))
+
+       if(j == 1) {data_aux$s <- data_aux$g.support*data_aux$p.support*data_aux$f.support
+                         data_aux$var <- data_aux$indx*100 ; min_fcand <- 1}
+       if(j == 2) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100 ;
min_fcand <- 0}
+       if(j == 3) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100 ;
min_fcand <- 0}
+       if(j == 4) {data_aux$s <- data_aux$f.support ; data_aux$var <- data_aux$f.pc*100 ;
min_fcand <- 1}
+
+       datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > min_fcand & cut <= 300 )
+       datax <- .Weighting(datax,1,band)
+
+       reg <- ivreg(formul  , weights=wght, data=datax)
+       r <- coeftest(reg,  vcov = vcovHC(reg), type="HC3")[2,]
+
+       summary(reg)
+
+       tv <- abs(r[3])
+       stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+       coeff <- round(r[1],3) ; sd <- round(r[2],3)
```

```
+
+      res[j*3-2,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+      res[j*3-1,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+
+      res[j*3,i] <- nrow(datax)
+
+
+    }
+  }
>
>  #### For pasting in latex
>  for (i in 1:ncol(res)){
+    fake <- data.frame(matrix("&",nrow(res),1))
+    x <- cbind(fake,res[,i])
+    if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+  }
>  last <-  c("\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
>  xx[,ncol(xx)+1] <- c(last,last,last,last)
>  row.names(xx) <- c("Vote Share Index","(aggregates the elections below) ","Observations
",
+                   "Gubernatorial ","(2010)","Observations",
+                   "Presidential ","(2010) ","Observations ",
+                   "Mayoral","(2012)","Observations   ") ;  names(xx) <- NULL
>  names(xx) <- NULL
>  print(xx)

Vote Share Index                &  -0.072 &  -0.155 &  -0.101        \tabularnewline
(aggregates the elections below)  & (1.561) & (1.664) & (1.676)        \tabularnewline
Observations                    &     883 &     883 &     883 \tabularnewline[0.25cm]
Gubernatorial                   &   0.645 &   0.688 &   0.808        \tabularnewline
(2010)                          & (2.465) & (2.488) & (2.431)        \tabularnewline
Observations                    &    1102 &    1102 &    1102 \tabularnewline[0.25cm]
Presidential                    &   0.310 &   0.396 &   0.300        \tabularnewline
(2010)                          & (2.512) & (2.874) & (2.906)        \tabularnewline
Observations                    &    1146 &    1146 &    1146 \tabularnewline[0.25cm]
Mayoral                         &  -0.294 &  -0.319 &   0.042        \tabularnewline
(2012)                          & (1.806) & (1.842) & (1.823)        \tabularnewline
Observations                    &    1144 &    1144 &    1144 \tabularnewline[0.25cm]
>
>
>
################################################################################
#################################################################
```

```
>
>
> ##### Table A8: Other Political Outcomes
################################################################################
########################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   data_aux$major.g <- data_aux$mg.team/data_aux$m.team
>   data_aux$major.p <- data_aux$mp.team/data_aux$m.team
>   data_aux$rerun2 <- data_aux$rerun/data_aux$seats
>   data_aux$coal.reelec <- data_aux$mre.team/data_aux$mr.team
>   data_aux$all.reelec <- data_aux$re.team/data_aux$rerun
>
>   vec <-
c("cand","m.pc","size","major.g","major.p","cand16","pc16","size16","rerun2","all.reelec","coal.ree
lec","f.support")
>
>   res <- data.frame(matrix(0,length(vec)*2,3))
>
>   for (i in 1:3){
+     for(j in 1:length(vec)){
+
+       vecc <- vec[-j]
+       cov3 <- paste(" + ",vecc, sep="", collapse="")
+
+       if(i == 1)  formul <- as.formula(paste(base_for,iv,sep=""))
+       if(i == 2)  formul <- as.formula(paste(base_for2,cov1,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(base_for2,cov1,cov3,iv,sep=""))
+
+       num <- match(vec[j],names(data_aux))
+       data_aux$var <- data_aux[[num]]
+
+       datax <- subset(data_aux, abs(run) <= band & cut <= 300   )
+       datax <- .Weighting(datax,1,band)
+
+       reg <- ivreg(formul  , weights=wght, data=datax)
+       r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2,]
+
+       tv <- abs(r[3])
+       stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+       coeff <- round(r[1],3) ; sd <- round(r[2],3)
```

```
+
+       res[j*2-1,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+       res[j*2-0,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+     }
+   }
>   res
       X1      X2      X3
1    0.014   0.048   0.073
2  (0.104) (0.107) (0.087)
3   -0.009  -0.010  -0.008
4  (0.014) (0.014) (0.012)
5    0.218   0.376   0.266
6  (0.318) (0.326) (0.295)
7  -0.061* -0.062†  -0.045
8  (0.031) (0.032) (0.028)
9   -0.040  -0.049  -0.018
10 (0.031) (0.032) (0.028)
11  -0.054  -0.012  -0.074
12 (0.117) (0.115) (0.096)
13  -0.006  -0.006  -0.008
14 (0.013) (0.013) (0.012)
15  -0.062   0.017  -0.103
16 (0.349) (0.363) (0.344)
17  -0.022  -0.016  -0.014
18 (0.019) (0.019) (0.018)
19   0.020   0.018   0.024
20 (0.023) (0.022) (0.017)
21   0.003   0.006  -0.019
22 (0.032) (0.033) (0.027)
23   0.008   0.001  -0.003
24 (0.031) (0.033) (0.032)
>
>   #### For pasting in latex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>
>   xx[,ncol(xx)+1] <- "\tabularnewline"
>   xx[c(nrow(xx)-14, nrow(xx)),ncol(xx)] <- "\tabularnewline[0.25cm]"
>   row.names(xx) <-  c("Mayoral candidates","(number)","Mayor's vote ","(pct)",
```

```
+                 "Parties in the winning coalition","(log)  ","Share of elected coalition councilors
aligned ","(with mayor's 2014 gubernatorial coalition) ",
+                 "Share of elected coalition councilors aligned","(with mayor's 2014 presidential
coalition) ",
+                 "Mayoral candidates ","(number)       ","Mayor's vote","(pct)         ",
+                 "Parties in the winning coalition "," (log)    ",
+                 "Share of councilors that run again in 2016","(of all elected)",
+                 "Share of reelected councilors","(of the ones that run in 2016)",
+                 "Share of reelected coalition councilors","(of the ones that run in 2016) ",
+                 "Incumbent Party does not participate ","(binary variable, 1=does not
participate)")
>   names(xx) <- NULL
>   print(xx)

Mayoral candidates                      &   0.014 &   0.048 &   0.073        \tabularnewline
(number)                                & (0.104) & (0.107) & (0.087)        \tabularnewline
Mayor's vote                            &  -0.009 &  -0.010 &  -0.008        \tabularnewline
(pct)                                   & (0.014) & (0.014) & (0.012)        \tabularnewline
Parties in the winning coalition        &   0.218 &   0.376 &   0.266        \tabularnewline
(log)                                   & (0.318) & (0.326) & (0.295)        \tabularnewline
Share of elected coalition councilors aligned  & -0.061* & -0.062† &  -0.045        \tabularnewline
(with mayor's 2014 gubernatorial coalition)    & (0.031) & (0.032) & (0.028)        \tabularnewline
Share of elected coalition councilors aligned  &  -0.040 &  -0.049 &  -0.018        \tabularnewline
(with mayor's 2014 presidential coalition)     & (0.031) & (0.032) & (0.028)
\tabularnewline[0.25cm]
Mayoral candidates                      &  -0.054 &  -0.012 &  -0.074        \tabularnewline
(number)                                & (0.117) & (0.115) & (0.096)        \tabularnewline
Mayor's vote                            &  -0.006 &  -0.006 &  -0.008        \tabularnewline
(pct)                                   & (0.013) & (0.013) & (0.012)        \tabularnewline
Parties in the winning coalition        &  -0.062 &   0.017 &  -0.103        \tabularnewline
 (log)                                  & (0.349) & (0.363) & (0.344)        \tabularnewline
Share of councilors that run again in 2016     &  -0.022 &  -0.016 &  -0.014        \tabularnewline
(of all elected)                        & (0.019) & (0.019) & (0.018)        \tabularnewline
Share of reelected councilors           &   0.020 &   0.018 &   0.024        \tabularnewline
(of the ones that run in 2016)          & (0.023) & (0.022) & (0.017)        \tabularnewline
Share of reelected coalition councilors        &   0.003 &   0.006 &  -0.019        \tabularnewline
(of the ones that run in 2016)          & (0.032) & (0.033) & (0.027)        \tabularnewline
Incumbent Party does not participate           &   0.008 &   0.001 &  -0.003        \tabularnewline
(binary variable, 1=does not participate)      & (0.031) & (0.033) & (0.032)
\tabularnewline[0.25cm]
>
>
>
>
```

```
>
>
################################################################################
#####################################################################
>
>
> ##### Table A9: Loss of electoral strength by the local incumbent party (robustness)
###########################################################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>
>   res <- data.frame(matrix(0,12,4))
>
>   for (i in 1:4){
+     for(j in 1:4){
+
+       if(i == 3)  band <- round(b2[1],3)
+       if(i == 4)  band <- min(round(b3[1],2),7.5)
+
+       if(i == 2)  formul <- as.formula(paste(base_for2,cov1,cov2,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(base_for2a,cov1,cov2,iv,sep=""))
+       if(i == 4)  formul <- as.formula(paste(base_for2b,cov1,cov2,iv,sep=""))
+       if(i == 1)  formul <- as.formula(paste("var ~  t + run + trun  + factor(cut) +
factor(sta)",cov1,cov2,sep=""))
+
+       if(j == 1) {data_aux$s <- data_aux$g.support*data_aux$p.support*data_aux$f.support ;
data_aux$var <- data_aux$indx*100 ; min_fcand <- 1}
+       if(j == 2) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100 ;
min_fcand <- 0}
+       if(j == 3) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100 ;
min_fcand <- 0}
+       if(j == 4) {data_aux$s <- data_aux$f.support ; data_aux$var <- data_aux$f.pc*100 ;
min_fcand <- 1}
+
+       datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > min_fcand & cut <= 300
& !is.na(var)   )
+       datax <- .Weighting(datax,1,band)
+
+       if(i == 1) reg <- lm(formul  , weights=wght, data=datax)
+       if(i > 1)  reg <- ivreg(formul  , weights=wght, data=datax)
+
```

```
+       r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2,]
+
+       tv <- abs(r[3])
+       stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+       coeff <- round(r[1],3) ; sd <- round(r[2],3)
+
+       res[j*3-2,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+       res[j*3-1,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+       res[j*3,i] <- nrow(datax)
+
+     }
+   }
Warning messages:
1: In residuals^2/(1 - diaghat)^2 :
  longer object length is not a multiple of shorter object length
2: In residuals^2/(1 - diaghat)^2 :
  longer object length is not a multiple of shorter object length
3: In residuals^2/(1 - diaghat)^2 :
  longer object length is not a multiple of shorter object length
4: In residuals^2/(1 - diaghat)^2 :
  longer object length is not a multiple of shorter object length
>
>
>   #### For pasting in latex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   last <-  c("\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
>   xx[,ncol(xx)+1] <- c(last,last,last,last)
>   row.names(xx) <- c("Vote Share Index","(aggregates the elections below) ","Observations
",
+                      "Gubernatorial ","(2014)","Observations","Presidential ","(2014) ","Observations
",
+                      "Mayoral","(2016)","Observations   ") ;  names(xx) <- NULL
>   names(xx) <- NULL
>   print(xx)

Vote Share Index                & -5.284* & -4.674* & -4.056* & -4.734*         \tabularnewline
(aggregates the elections below)  & (1.487) & (1.503) & (1.332) & (1.583)         \tabularnewline
Observations                    &    1114 &    1114 &    1241 &    1716 \tabularnewline[0.25cm]
Gubernatorial                   & -5.592* & -4.936* & -4.540* & -5.526*         \tabularnewline
```

```
(2014)                    & (2.488) & (2.266) & (2.037) & (2.405)        \tabularnewline
Observations                 &    1305 &    1305 &    1450 &    2004 \tabularnewline[0.25cm]
Presidential                & -5.274* & -4.648* & -4.016* & -4.715*        \tabularnewline
(2014)                    & (2.244) & (2.005) & (1.805) & (2.120)        \tabularnewline
Observations                 &    1307 &    1307 &    1453 &    2008 \tabularnewline[0.25cm]
Mayoral                   & -4.359* & -3.848* & -3.196† & -3.795†        \tabularnewline
(2016)                    & (1.972) & (1.877) & (1.674) & (1.958)        \tabularnewline
Observations                 &    1116 &    1116 &    1244 &    1720 \tabularnewline[0.25cm]
>
>
>
>
>
################################################################################
#####################################################################
>
>
> ##### Table A10: Loss of electoral strength by the local incumbent party (with congress)
#########################################################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   res <- data.frame(matrix(0,15,3))
>
>   for (i in 1:3){
+     for(j in 1:5){
+
+       if(i == 1)  formul <- as.formula(paste(base_for2,cov1,cov2,iv,sep=""))
+       if(i == 2)  formul <- as.formula(paste(base_for2,cov1,iv,sep=""))
+       if(i == 3)  formul <- as.formula(paste(base_for2,iv,sep=""))
+
+       if(j == 1) {data_aux$s <-
data_aux$g.support*data_aux$p.support*data_aux$d.support*data_aux$f.support
+                   data_aux$var <- data_aux$indx2*100 ; min_fcand <- 0}
+
+       if(j == 2) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100 ;
min_fcand <- 0}
+       if(j == 3) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100 ;
min_fcand <- 0}
+       if(j == 4) {data_aux$s <- data_aux$f.support ; data_aux$var <- data_aux$f.pc*100 ;
min_fcand <- 1}
```

```
+       if(j == 5) {data_aux$s <- data_aux$d.support ; data_aux$var <- data_aux$d.pc*100 ;
min_fcand <- 0}
+
+       datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > min_fcand & cut <= 300 )
+       datax <- .Weighting(datax,1,band)
+
+       reg <- ivreg(formul  , weights=wght, data=datax)
+       r <- coeftest(reg,  vcov = vcovHC(reg), type="HC3")[2,]
+
+       tv <- abs(r[3])
+       stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+       coeff <- round(r[1],3) ; sd <- round(r[2],3)
+
+       res[j*3-2,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+       res[j*3-1,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+
+       res[j*3,i] <- nrow(datax)
+
+     }
+   }
>
>
>   #### For pasting in latex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   last <-  c("\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
>
>   xx[,ncol(xx)+1] <- c(last,last,last,last,last)
>   row.names(xx) <- c("Vote Share Index", "(aggregates the elections below)",
+                      "Observations    ",
+                      "Gubernatorial ","(2014)","Observations","Presidential ","(2014) ","Observations
",
+                      "Mayoral","(2016)","Observations   ","Congressional ","(2014)  ","Observations
") ;  names(xx) <- NULL
>
>
>   names(xx) <- NULL
>   print(xx)

Vote Share Index                & -4.605* & -4.690* & -4.178*          \tabularnewline
```

```
(aggregates the elections below) & (1.481) & (1.545) & (1.493)        \tabularnewline
Observations                    &    1142 &    1142 &    1142 \tabularnewline[0.25cm]
Gubernatorial                   & -4.936* & -4.904* & -4.573*         \tabularnewline
(2014)                          & (2.266) & (2.324) & (2.278)         \tabularnewline
Observations                    &    1305 &    1305 &    1305 \tabularnewline[0.25cm]
Presidential                    & -4.648* & -4.181† &  -3.918         \tabularnewline
(2014)                          & (2.005) & (2.492) & (2.465)         \tabularnewline
Observations                    &    1307 &    1307 &    1307 \tabularnewline[0.25cm]
Mayoral                         & -3.848* & -3.714* & -3.089†         \tabularnewline
(2016)                          & (1.877) & (1.892) & (1.836)         \tabularnewline
Observations                    &    1116 &    1116 &    1116 \tabularnewline[0.25cm]
Congressional                   & -4.038† &  -3.690 &  -3.852         \tabularnewline
(2014)                          & (2.318) & (2.457) & (2.430)         \tabularnewline
Observations                    &    1307 &    1307 &    1307 \tabularnewline[0.25cm]
>
>
>
>
################################################################################
#####################################################################
>
>
> ##### Table A11: Heterogeneity of electoral effects, by budget
################################################################################
##
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   base_for_i <- "var ~  vari + ivari  + i + run + trun + irun + itrun + factor(cut) + factor(sta)"
>   iv_i <- "| .-vari -ivari  + t + it"
>   formul <- as.formula(paste(base_for_i,cov1,cov2,iv_i,sep=""))
>
>   res <- data.frame(matrix(0,6,4))
>
>
>   for (i in 1:4){
+
+
+     if(i %in% c(1,3))  {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100
; min_fcand <- 0}
+     if(i %in% c(2,4))  {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100
; min_fcand <- 0}
```

```
+
+     datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > min_fcand & cut <= 300 &
!is.na(var)    )
+     datax <- .Weighting(datax,1,band)
+
+     if(i %in% c(1,2)) {  datax <- subset(datax, rev >=0 & rev != Inf)
+     datax$j <- summary(lm( datax$rev ~factor(datax$cut) + log(datax$pop) +
factor(datax$sta)))$res
+     med <- round(median(datax$j[!is.na(datax$j)]),5)}
+
+     if(i %in% c(1,2)) {datax$i <- 0 ; datax$i[datax$j >= med] <- 1}
+     if(i %in% c(3,4)) {datax$i <- datax$base.g*datax$base.p }
+
+     datax$ivari <- datax$i*datax$vari
+     datax$it <- datax$i*datax$t
+     datax$itrun <- datax$i*datax$t*datax$run
+     datax$irun <- datax$i*datax$run
+
+     reg <- ivreg(formul  , weights=wght, data=datax) ;  coeftest(reg,  vcov = vcovHC(reg,
type="HC3"))
+     r <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2:3,] ; v <- vcovHC(reg, type="HC3")
+
+     tv <- abs(r[1,3])
+     stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+     coeff <- round(r[1,1],3) ; sd <- round(r[1,2],3)
+
+     res[1,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+     res[2,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+     res[3,i] <- nrow(datax)-sum(datax$i)
+
+     coeff <- r[1,1]+r[2,1]  ;  sd <- (v[2,2]  + v[3,3]  + 2*v[2,3] )^.5
+     tv <- abs(coeff/sd)
+     coeff <- round(coeff,3) ; sd <- round(sd,3)
+     stars <- "" ; if(tv >= 1.645){stars <- "†"} ; if(tv >= 1.96){stars <- "*"}
+
+     res[4,i] <- paste(format(coeff,nsmall=3),stars,sep="")
+     res[5,i] <- paste("(",format(sd,nsmall=3),")",sep="")
+
+     res[6,i] <- sum(datax$i)
+
+   }
>   res
      X1      X2      X3      X4
1 -7.450† -8.622* -7.010* -6.419*
```

```
2 (4.116) (3.566) (3.305) (3.023)
3     649     650     961     961
4  -2.509  -0.904  -1.012  -1.182
5 (3.109) (2.955) (3.146) (2.604)
6     649     650     344     346
>
>
>   #### For pasting in latex
>   for (i in 1:ncol(res)){
+     fake <- data.frame(matrix("&",nrow(res),1))
+     x <- cbind(fake,res[,i])
+     if(i == 1) {xx <- x}else{xx <- cbind(xx,x)}
+   }
>   last <-  c("\tabularnewline","\tabularnewline","\tabularnewline[0.25cm]")
>   xx[,ncol(xx)+1] <- c(last,last)
>   row.names(xx) <- c("Low Budget Sample","    ","Observations    ","High Budget
Sample","","Observations   ")
>   names(xx) <- NULL
>   print(xx)

Low Budget Sample  & -7.450† & -8.622* & -7.010* & -6.419*         \tabularnewline
                & (4.116) & (3.566) & (3.305) & (3.023)         \tabularnewline
Observations       &     649 &     650 &     961 &     961 \tabularnewline[0.25cm]
High Budget Sample &  -2.509 &  -0.904 &  -1.012 &  -1.182         \tabularnewline
                & (3.109) & (2.955) & (3.146) & (2.604)         \tabularnewline
Observations       &     649 &     650 &     344 &     346 \tabularnewline[0.25cm]
>
>
>
>
>
################################################################################
#####################################################################
>
>
> ##### Figure A1: Heterogeneity in electoral losses, by status in higher coalitions
#############################################################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>   base_for_i <- "var ~  vari + ivari  + i + run + trun + irun + itrun + factor(cut) + factor(sta)"
>   iv_i <- "| .-vari -ivari  + t + it"
```

```
>
>   formul <- as.formula(paste(base_for_i,cov1,cov2,iv_i,sep=""))
>   formulx <- as.formula(paste(base_for2,cov1,cov2,iv,sep=""))
>   max_cut <- 300
>
>
>   for (i in 1:2){
+
+     res <- data.frame(matrix(0,3,2))
+     if(i==1) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100}
+     if(i==2) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100}
+
+     datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > 0 & cut <= 300 )
+     datax <- .Weighting(datax,1,band)
+
+     if(i==1) {datax$i <- 0 ; datax$i[datax$m.party == datax$g.party | datax$m.party ==
datax$g.vice] <- 1}
+
+     if(i==2) { datax$i <- 0
+     datax$i[  datax$m.party == datax$p.party] <- 1
+     datax$i[  datax$p.party == 13 & datax$m.party == 15] <- 1}
+
+     datax$ivari <- datax$i*datax$vari
+     datax$it <- datax$i*datax$t
+     datax$itrun <- datax$i*datax$t*datax$run
+     datax$irun <- datax$i*datax$run
+
+     reg <- ivreg(formul  , weights=wght, data=datax)
+     reg2 <- ivreg(formulx  , weights=wght, data=datax)
+     results <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2:3,] ; v <- vcovHC(reg,
type="HC3")
+     results2 <-coeftest(reg2,  vcov = vcovHC(reg2), type="HC3")[2,]
+     res[1,] <- results[1,1:2]
+     res[2,1] <- results[1,1]  + results[2,1]
+     res[2,2] <- (v[2,2]  + v[3,3]  + 2*v[2,3] )^.5
+     res[3,] <- results2[1:2]
+
+
+     res$high <- res$X1+1.96*res$X2 ; res$low <- res$X1-1.96*res$X2
+     nam <- c("All observations","Lead of the ticket or Vice","Other status in coalition")
+     res$names <- c(3,2,1)
+     if(i==1) res$g <- "Gubernatorial"
+     if(i==2) res$g <- "Presidential"
+
```

```
+     if(i==1) {resx <- res}else{resx <- rbind(resx,res)}
+   }
>
>   nam <- c("All observations","Subsample: \n Lead of the ticket or Vice","Subsample: \n Other
status in coalition")
>
>   ggplot(resx, aes(x=names, y=X1, ymin=low, ymax=high, group=g, color=g)) + theme_bw() +
+     theme(panel.grid.major = element_blank(), panel.grid.minor = element_blank())+
+     geom_pointrange(aes(group=g, color=g), position = position_dodge(width = 1/2),
shape=16) +
+     scale_color_manual(values=c("gray25","gray75"), name="2014 Election") +
+     scale_y_continuous(breaks=c(-30,-15,0,15,30)) +
+     scale_x_continuous(breaks=c(1,2,3), labels=nam)+
+     geom_hline(yintercept=0, linetype=2)+
+     #coord_flip() +
+     theme(axis.title = element_text(colour="black", size=sz, family="A")) +
+     theme(axis.title.x = element_blank()) +
+     theme(axis.text = element_text(colour="black", size=sz, family="A")) +
+     theme(legend.text = element_text(colour="black", size=sz, family="A")) +
+     theme(legend.title = element_text(colour="black", size=sz, family="A")) +
+     ylab("Vote percentage")+
+     theme(legend.position = c(0.15,0.15))
>
>
>
>
>
################################################################################
#####################################################################
>
>
> ###### Figure A2: Heterogeneity in electoral losses, by status in higher coalitions
#############################################################
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
>
>
>   formul <- as.formula(paste("var ~  (t + trun + run )* inter   + factor(sta) ",cov1,cov2,sep=""))
>
>   res <- data.frame(matrix(0,3,2))
>
>   data_aux$s <- data_aux$g.support*data_aux$p.support*data_aux$f.support
```

```
>   data_aux$var <- data_aux$indx*100
>
>   datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > 1 & cut <= 300  )
>   datax <- .Weighting(datax,1,band)
>
>   datax$cutto <- 11
>   datax$cutto[datax$cut == 30] <- 13
>   datax$cutto[datax$cut == 50] <- 15
>   datax$cutto[datax$cut == 80] <- 17
>   datax$cutto[datax$cut == 120] <- 19
>   datax$cutto[datax$cut == 160] <- 21
>   datax$cutto[datax$cut == 300] <- 23
>   datax$inter <- datax$cutto-2
>
>   reg <- lm(formul  , weights=wght, data=datax)
>
>   rr <- coeftest(reg)
>   vv <- vcovHC(reg, type="HC3")
Warning message:
In residuals^2/(1 - diaghat)^2 :
  longer object length is not a multiple of shorter object length
>
>   vec <- round(seq(from= -14, to = 21,length.out=6),2)
>   vec2 <- c(9,11,13,15,17,19,21)
>
.Newplot(data=datax,r=rr,v=vv,xvar="inter",minD=9,maxD=21,bins1=12,bins2=7,shift=14,bb=vec
,degree=1,multi=8,oneside=0,
+                 x.title="Baseline number of seats",y.title="Marginal RD effect of a 2 seat
increase",bb3=vec2)
>
>
>
>
################################################################################
#################################################################
>
>
> ##### Figure A3: Heterogeneity in electoral losses, by partisanship of aligned councilors
#######################################################
>
>
>   data_aux <- maindata
>   data_aux$vari <- (data_aux$seats)
>   band <- round(b1[1],2)
```

```
>
>   base_for_i <- "var ~  vari + ivari  + i + run + trun + irun + itrun + factor(cut) + factor(sta)"
>   iv_i <- "| .-vari -ivari  + t + it"
>
>   res <- data.frame(matrix(0,6,2)) #; names(res) <- c("gov","pres")
>
>   for (i in 1:2){
+
+     if(i == 1) {data_aux$s <- data_aux$g.support ; data_aux$var <- data_aux$g.pc*100 ;
data_aux$share <- data_aux$g.share}
+     if(i == 2) {data_aux$s <- data_aux$p.support ; data_aux$var <- data_aux$p.pc*100 ;
data_aux$share <- data_aux$p.share}
+     if(i == 1) datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > 0 & cut <= 300 &
mg.team>0 )
+     if(i == 2) datax <- subset(data_aux, abs(run) <= band & s == 1 & f.cand > 0 & cut <= 300 &
mp.team>0 )
+
+     datax <- .Weighting(datax,1,band)
+
+     if(i == 1) formul <- as.formula(paste(base_for_i,cov1,"+ mg.team",cov2,iv_i,sep=""))
+     if(i == 2) formul <- as.formula(paste(base_for_i,cov1,"+ mp.team",cov2,iv_i,sep=""))
+
+     if(i == 1) datax$j <- datax$m.team.party / datax$mg.team
+     if(i == 2) datax$j <- datax$m.team.party / datax$mp.team
+
+     med <- round(median(datax$j[!is.na(datax$j)]),5)
+
+     datax$i <- 0 ; datax$i[datax$j >= med] <- 1
+
+     datax$ivari <- datax$i*datax$vari
+     datax$it <- datax$i*datax$t
+     datax$itrun <- datax$i*datax$t*datax$run
+     datax$irun <- datax$i*datax$run
+
+
+     reg <- ivreg(formul  , weights=wght, data=datax)
+
+     results <- coeftest(reg,  vcov = vcovHC(reg, type="HC3"))[2:3,] ; v <- vcovHC(reg,
type="HC3")
+     res[i*3-2,] <- results[1,1:2]
+     res[i*3,] <- results[2,1:2]
+     res[i*3-1,1] <- results[1,1]  + results[2,1]
+     res[i*3-1,2] <- (v[2,2]  + v[3,3]  + 2*v[2,3] )^.5
+
```

```
+   }
>
>   res$Coalition <- "Gubernatorial"
>   res$Coalition[4:6] <- "Presidential"
>
>   res$high <- res$X1+1.96*res$X2 ; res$low <- res$X1-1.96*res$X2
>   nam <- c("Sub-sample 1: \n Mayor's aligned partners \n are less partisan","Sub-sample 2: \n
Mayor's aligned partners \n are more partisan","Difference")
>   res$names <- c(1,2,3,1,2,3)
>
>   ggplot(res, aes(x=names, y=X1, ymin=low, ymax=high, group=Coalition)) + theme_bw() +
+     theme(panel.grid.major = element_blank(), panel.grid.minor = element_blank())+
+     geom_pointrange(aes(color=Coalition, group=Coalition), position = position_dodge(width =
1/2), shape=16) +
+     scale_color_manual(values=c("gray25","gray75"),name="2014 Election") +
+     scale_y_continuous(breaks=c(-30,-15,0,15,30)) +
+     scale_x_continuous(breaks=c(1,2,3), labels=nam)+
+     geom_hline(yintercept=0, linetype=2)+
+     #coord_flip() +
+     theme(axis.title = element_text(colour="black", size=sz, family="A")) +
+     theme(axis.title.x = element_blank()) +
+     theme(axis.text = element_text(colour="black", size=sz, family="A")) +
+     theme(legend.text = element_text(colour="black", size=sz, family="A")) +
+     theme(legend.title = element_text(colour="black", size=sz, family="A")) +
+     ylab("Vote percentage")+
+     theme(legend.position = c(0.5,0.85))
>
>
>
>
################################################################################
################################################################################
>
```