```
R version 3.6.1 (2019-07-05) -- "Action of the Toes"
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Platform: x86_64-apple-darwin15.6.0 (64-bit)

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[R.app GUI 1.70 (7684) x86_64-apple-darwin15.6.0]

2020-01-28 12:34:42.538 R[4383:560696] Antidote - Texteurs: Module texteur installé dans /Applications/R.app
(org.R-project.R)
> ########################
> #JF GODBOUT MANUSCRIPT##
> #CHAPTER 5##############
> #August 17, 2018########
> ########################
> #FIGURE 5.1#############
> ########################
>
> ##########################################################
> #Figure 5.1 The Influence of Franchise on Party Loyalty#
> ##########################################################
>
> rm(list=ls())
>
> titirve1 <- read.csv(file="~/Dropbox/Canada-Manuscript/Analysis/data1.csv",header =TRUE)
> titirve2 <- read.csv("~/Dropbox/Canada-Manuscript/Data-Final/census-info.csv",header=TRUE)
>
> #Merge census data with data1
>
> dat <- merge(titirve1,titirve2,by.x=c('el.riding.code','el.term'), by.y=c('Riding.code','Term'))
>
> #drop <1930; drop other parties
>
> dat <- subset(dat,dat$Parliament.no<18)
> data1 <- subset(dat,dat$conservative==1 | dat$liberal==1)
>
> #keep turnout >.10
> data1 <- subset(data1,data1$turnout>.10)
>
> #drop total vote <10
> #Note that 31st Parliament is dropped
> data1 <- subset(data1,data1$total.vote>10)
>
> #drop total election votes = 0 for non-liberal + non-conservative parties
> data1 <- subset(data1,data1$el.total.vote.mean>0)
>
> #clean population
> data1$pop.census <- as.numeric(as.character(data1$Population))
Warning message:
NAs introduced by coercion
>
> #express in thousands
> data1$pop.census <- data1$pop.census/1000
>
> ##########
> #Analysis#
> ##########
>
```

```
> m1.1 <- loyalty ~ government + cabinet + pop.census + maritime + quebec + west
>
> m1 <- lm(m1.1,data=data1[data1$parl1==1,])
> m2 <- lm(m1.1,data=data1[data1$parl2==1,])
> m3 <- lm(m1.1,data=data1[data1$parl3==1,])
> m4 <- lm(m1.1,data=data1[data1$parl4==1,])
> m5 <- lm(m1.1,data=data1[data1$parl5==1,])
> m6 <- lm(m1.1,data=data1[data1$parl6==1,])
> m7 <- lm(m1.1,data=data1[data1$parl7==1,])
> m8 <- lm(m1.1,data=data1[data1$parl8==1,])
> m9 <- lm(m1.1,data=data1[data1$parl9==1,])
> m10 <- lm(m1.1,data=data1[data1$parl10==1,])
> m11 <- lm(m1.1,data=data1[data1$parl11==1,])
> m12 <- lm(m1.1,data=data1[data1$parl12==1,])
> m13 <- lm(m1.1,data=data1[data1$parl13==1,])
> m14 <- lm(m1.1,data=data1[data1$parl14==1,])
> m15 <- lm(m1.1,data=data1[data1$parl15==1,])
> m16 <- lm(m1.1,data=data1[data1$parl16==1,])
> m17 <- lm(m1.1,data=data1[data1$parl17==1,])
>
> #robust standard errors
> library(mfx)
Loading required package: sandwich
Loading required package: lmtest
Loading required package: zoo

Attaching package: ‘zoo’

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

    as.Date, as.Date.numeric

Loading required package: MASS
Loading required package: betareg
>
> mm1 <- coeftest(m1, vcov = vcovHAC(m1))
> mm2 <- coeftest(m2, vcov = vcovHAC(m2))
> mm3 <- coeftest(m3, vcov = vcovHAC(m3))
> mm4 <- coeftest(m4, vcov = vcovHAC(m4))
> mm5 <- coeftest(m5, vcov = vcovHAC(m5))
> mm6 <- coeftest(m6, vcov = vcovHAC(m6))
> mm7 <- coeftest(m7, vcov = vcovHAC(m7))
> mm8 <- coeftest(m8, vcov = vcovHAC(m8))
> mm9 <- coeftest(m9, vcov = vcovHAC(m9))
> mm10 <- coeftest(m10, vcov = vcovHAC(m10))
> mm11 <- coeftest(m11, vcov = vcovHAC(m11))
> mm12 <- coeftest(m12, vcov = vcovHAC(m12))
> mm13 <- coeftest(m13, vcov = vcovHAC(m13))
> mm14 <- coeftest(m14, vcov = vcovHAC(m14))
> mm15 <- coeftest(m15, vcov = vcovHAC(m15))
> mm16 <- coeftest(m16, vcov = vcovHAC(m16))
> mm17 <- coeftest(m17, vcov = vcovHAC(m17))
>
> #Gragphic 5.1
>
> coef <- mm1[4,1]
> se <- mm1[4,2]
> conf1 <- coef + c(-1,1)*se*qt(0.975, m1$df.residual)
> conf1 <- c(conf1,coef,"1st (1867-1872)")
> coef <- mm2[4,1]
> se <- mm2[4,2]
> conf2 <- coef + c(-1,1)*se*qt(0.975, m2$df.residual)
> conf2 <- c(conf2,coef,"2nd (1872-1874)")
> coef <- mm3[4,1]
> se <- mm3[4,2]
> conf3 <- coef + c(-1,1)*se*qt(0.975, m3$df.residual)
> conf3 <- c(conf3,coef,"3rd (1874-1878)")
> coef <- mm4[4,1]
> se <- mm4[4,2]
> conf4 <- coef + c(-1,1)*se*qt(0.975, m4$df.residual)
> conf4 <- c(conf4,coef,"4th (1879-1882)")
```

```
> coef <- mm5[4,1]
> se <- mm5[4,2]
> conf5 <- coef + c(-1,1)*se*qt(0.975, m5$df.residual)
> conf5 <- c(conf5,coef,"5th (1883-1887)")
> coef <- mm6[4,1]
> se <- mm6[4,2]
> conf6 <- coef + c(-1,1)*se*qt(0.975, m6$df.residual)
> conf6 <- c(conf6,coef,"6th (1887-1891)")
> coef <- mm7[4,1]
> se <- mm7[4,2]
> conf7 <- coef + c(-1,1)*se*qt(0.975, m7$df.residual)
> conf7 <- c(conf7,coef,"7th (1891-1896)")
> coef <- mm8[4,1]
> se <- mm8[4,2]
> conf8 <- coef + c(-1,1)*se*qt(0.975, m8$df.residual)
> conf8 <- c(conf8,coef,"8th (1896-1900)")
> coef <- mm9[4,1]
> se <- mm9[4,2]
> conf9 <- coef + c(-1,1)*se*qt(0.975, m9$df.residual)
> conf9 <- c(conf9,coef,"9th (1901-1904)")
> coef <- mm10[4,1]
> se <- mm10[4,2]
> conf10 <- coef + c(-1,1)*se*qt(0.975, m10$df.residual)
> conf10 <- c(conf10,coef,"10th (1905-1908)")
> coef <- mm11[4,1]
> se <- mm11[4,2]
> conf11 <- coef + c(-1,1)*se*qt(0.975, m11$df.residual)
> conf11 <- c(conf11,coef,"11th (1909-1911)")
> coef <- mm12[4,1]
> se <- mm12[4,2]
> conf12 <- coef + c(-1,1)*se*qt(0.975, m12$df.residual)
> conf12 <- c(conf12,coef,"12th (1911-1917)")
> coef <- mm13[4,1]
> se <- mm13[4,2]
> conf13 <- coef + c(-1,1)*se*qt(0.975, m13$df.residual)
> conf13 <- c(conf13,coef,"13th (1917-1921)")
> coef <- mm14[4,1]
> se <- mm14[4,2]
> conf14 <- coef + c(-1,1)*se*qt(0.975, m14$df.residual)
> conf14 <- c(conf14,coef,"14th (1921-1925)")
> coef <- mm15[4,1]
> se <- mm15[4,2]
> conf15 <- coef + c(-1,1)*se*qt(0.975, m15$df.residual)
> conf15 <- c(conf15,coef,"15th (1926)")
> coef <- mm16[4,1]
> se <- mm16[4,2]
> conf16 <- coef + c(-1,1)*se*qt(0.975, m16$df.residual)
> conf16 <- c(conf16,coef,"16th (1926-1930)")
> coef <- mm17[4,1]
> se <- mm17[4,2]
> conf17 <- coef + c(-1,1)*se*qt(0.975, m17$df.residual)
> conf17 <- c(conf17,coef,"17th (1930-1935)")
>
> all <-
rbind(conf17,conf16,conf15,conf14,conf13,conf12,conf11,conf10,conf9,conf8,conf7,conf6,conf5,conf4,conf3,conf2,c
onf1)
> colnames(all) <- c("low","high","coef","V1")
> all <- data.frame(all)
> all$low <- as.numeric(as.character(all$low))
> all$high <- as.numeric(as.character(all$high))
> all$coef <- as.numeric(as.character(all$coef))
>
> #Figure 5.1
>
> #library(ggplot2)
> #tiff(file = "~/Dropbox/Canada-Manuscript/Figures-Final/Figure-5.1.jpg", width = 8, height = 8, units = 'in',
res = 200)
> #ggplot(all, aes(V1,xx, ymin = low,ymax = high))+
> #  scale_x_discrete('Parliaments (1867-1935)',limits=all$V1) +
> #  scale_y_continuous('95% Confidence Intervals for the Population Size Coefficients (per
1,000)',limits=c(-0.006,0.006)) +
```

```
> #  theme_bw() +
> #  geom_errorbar(aes(x = V1, y = coef),size=.3,width=.2) +
> #  geom_point(aes(x = V1, y = coef)) +
> #  geom_hline(yintercept=0) +
> #  coord_flip() +
> #  theme(plot.title = element_text(hjust = .5))
> #dev.off()
> #  ggtitle("The Influence of Franchise on Party Loyalty") +
>
> #Print results
> summary(m1)

Call:
lm(formula = m1.1, data = data1[data1$parl1 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.42205 -0.04328  0.02157  0.08967  0.24192

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.7617524  0.0329858  23.093  < 2e-16 ***
government   0.0817197  0.0211329   3.867 0.000152 ***
cabinet      0.0730428  0.0352752   2.071 0.039757 *
pop.census   0.0002053  0.0013215   0.155 0.876697
maritime    -0.1249945  0.0275606  -4.535 1.02e-05 ***
quebec      -0.0049998  0.0212144  -0.236 0.813938
west                NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1323 on 188 degrees of freedom
  (9 observations deleted due to missingness)
Multiple R-squared:  0.2353,
  Adjusted R-squared:  0.215
F-statistic: 11.57 on 5 and 188 DF,  p-value: 9.372e-10

> nobs(m1)
[1] 194
> mm1

t test of coefficients:

               Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.76175241  0.04573509 16.6558 < 2.2e-16 ***
government   0.08171970  0.02320274  3.5220 0.0005376 ***
cabinet      0.07304281  0.03667576  1.9916 0.0478646 *
pop.census   0.00020532  0.00182320  0.1126 0.9104535
maritime    -0.12499449  0.03492299 -3.5791 0.0004386 ***
quebec      -0.00499980  0.01917450 -0.2608 0.7945686
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m2)

Call:
lm(formula = m1.1, data = data1[data1$parl2 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.63759 -0.06750  0.01102  0.08040  0.28648

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.911480   0.031219  29.196  < 2e-16 ***
government   0.083125   0.022395   3.712  0.00028 ***
cabinet      0.049457   0.052900   0.935  0.35118
pop.census  -0.001331   0.001318  -1.010  0.31413
maritime    -0.238344   0.030779  -7.744 8.65e-13 ***
quebec      -0.148073   0.024214  -6.115 6.54e-09 ***
west               NA         NA      NA       NA
```

```
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1419 on 168 degrees of freedom
  (8 observations deleted due to missingness)
Multiple R-squared:  0.3546,
  Adjusted R-squared:  0.3354
F-statistic: 18.46 on 5 and 168 DF,  p-value: 1.374e-14

> nobs(m2)
[1] 174
> mm2

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9114805  0.0394881 23.0824 < 2.2e-16 ***
government   0.0831252  0.0222053  3.7435 0.0002489 ***
cabinet      0.0494566  0.0301482  1.6404 0.1027830
pop.census  -0.0013308  0.0019386 -0.6865 0.4933599
maritime    -0.2383442  0.0447574 -5.3252 3.196e-07 ***
quebec      -0.1480729  0.0205345 -7.2110 1.806e-11 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m3)

Call:
lm(formula = m1.1, data = data1[data1$parl3 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.59284 -0.03879  0.02267  0.07631  0.19705

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.843189   0.029214  28.863  < 2e-16 ***
government   0.071301   0.019530   3.651 0.000339 ***
cabinet      0.058186   0.033920   1.715 0.087920 .
pop.census  -0.001134   0.001234  -0.918 0.359547
maritime    -0.016544   0.026142  -0.633 0.527594
quebec      -0.051526   0.020097  -2.564 0.011134 *
west              NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1249 on 188 degrees of freedom
  (16 observations deleted due to missingness)
Multiple R-squared:  0.1376,
  Adjusted R-squared:  0.1146
F-statistic: 5.998 on 5 and 188 DF,  p-value: 3.571e-05

> nobs(m3)
[1] 194
> mm3

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.8431886  0.0369078 22.8458 < 2.2e-16 ***
government   0.0713010  0.0223964  3.1836  0.001703 **
cabinet      0.0581861  0.0205752  2.8280  0.005192 **
pop.census  -0.0011336  0.0015644 -0.7246  0.469572
maritime    -0.0165440  0.0254764 -0.6494  0.516881
quebec      -0.0515258  0.0229469 -2.2454  0.025905 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m4)

Call:
```

```
lm(formula = m1.1, data = data1[data1$parl4 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.75748 -0.01904  0.00730  0.03914  0.23674

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9000190  0.0231133  38.939  < 2e-16 ***
government   0.0433913  0.0171994   2.523   0.0124 *
cabinet      0.0166500  0.0327967   0.508   0.6122
pop.census  -0.0001494  0.0008096  -0.185   0.8537
maritime    -0.0035500  0.0211858  -0.168   0.8671
quebec      -0.0032583  0.0178517  -0.183   0.8553
west        -0.1784364  0.0357099  -4.997 1.22e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1116 on 212 degrees of freedom
Multiple R-squared:  0.1401,
  Adjusted R-squared:  0.1158
F-statistic: 5.759 on 6 and 212 DF,  p-value: 1.425e-05

> nobs(m4)
[1] 219
> mm4

t test of coefficients:

               Estimate  Std. Error t value Pr(>|t|)
(Intercept)  0.90001895  0.02207126 40.7779  < 2e-16 ***
government   0.04339133  0.02242431  1.9350  0.05432 .
cabinet      0.01665003  0.01753216  0.9497  0.34335
pop.census  -0.00014943  0.00062317 -0.2398  0.81072
maritime    -0.00354999  0.01560790 -0.2274  0.82029
quebec      -0.00325834  0.01405710 -0.2318  0.81692
west        -0.17843642  0.09848581 -1.8118  0.07143 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m5)

Call:
lm(formula = m1.1, data = data1[data1$parl5 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.67232 -0.01239  0.02093  0.04451  0.09379

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9129917  0.0200924  45.440   <2e-16 ***
government  -0.0083408  0.0156987  -0.531   0.5958
cabinet      0.0212692  0.0289343   0.735   0.4632
pop.census   0.0004943  0.0007128   0.693   0.4889
maritime    -0.0318159  0.0184327  -1.726   0.0859 .
quebec      -0.0329492  0.0167435  -1.968   0.0505 .
west        -0.0536620  0.0341279  -1.572   0.1175
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09738 on 194 degrees of freedom
  (26 observations deleted due to missingness)
Multiple R-squared:  0.03826,
  Adjusted R-squared:  0.008515
F-statistic: 1.286 on 6 and 194 DF,  p-value: 0.2652

> nobs(m5)
[1] 201
> mm5
```

```
t test of coefficients:

              Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.91299175  0.02343943 38.9511 < 2.2e-16 ***
government  -0.00834083  0.01877763 -0.4442  0.657401
cabinet      0.02126920  0.01368376  1.5543  0.121733
pop.census   0.00049429  0.00061847  0.7992  0.425146
maritime    -0.03181585  0.02460706 -1.2930  0.197564
quebec      -0.03294924  0.01253974 -2.6276  0.009287 **
west        -0.05366199  0.04029312 -1.3318  0.184492
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m6)

Call:
lm(formula = m1.1, data = data1[data1$parl6 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.68869 -0.02050  0.01290  0.04457  0.13915

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9213976  0.0183545  50.200  < 2e-16 ***
government  -0.0129123  0.0141278  -0.914   0.3618
cabinet      0.0502808  0.0256752   1.958   0.0515 .
pop.census  -0.0006977  0.0005694  -1.225   0.2218
maritime    -0.0081276  0.0174942  -0.465   0.6427
quebec      -0.0743872  0.0158963  -4.680 5.14e-06 ***
west         0.0159646  0.0240281   0.664   0.5072
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09538 on 211 degrees of freedom
Multiple R-squared:  0.1281,
  Adjusted R-squared:  0.1034
F-statistic: 5.169 on 6 and 211 DF,  p-value: 5.563e-05

> nobs(m6)
[1] 218
> mm6

t test of coefficients:

              Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.92139764  0.02152034 42.8152 < 2.2e-16 ***
government  -0.01291229  0.01486476 -0.8687 0.3860250
cabinet      0.05028078  0.01385023  3.6303 0.0003553 ***
pop.census  -0.00069774  0.00070867 -0.9846 0.3259659
maritime    -0.00812762  0.02379072 -0.3416 0.7329694
quebec      -0.07438715  0.01526481 -4.8731 2.156e-06 ***
west         0.01596457  0.01251454  1.2757 0.2034709
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m7)

Call:
lm(formula = m1.1, data = data1[data1$parl7 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.85938 -0.01342  0.01564  0.04068  0.10272

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9407699  0.0167699  56.099  < 2e-16 ***
government   0.0211377  0.0135203   1.563  0.11932
cabinet      0.0161678  0.0214246   0.755  0.45123
pop.census   0.0003163  0.0005378   0.588  0.55701
```

```
maritime    -0.0249008  0.0169988  -1.465  0.14431
quebec      -0.0471886  0.0148494  -3.178  0.00169 **
west        -0.0011869  0.0243182  -0.049  0.96111
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09558 on 232 degrees of freedom
Multiple R-squared:  0.06664,
  Adjusted R-squared:  0.0425
F-statistic: 2.761 on 6 and 232 DF,  p-value: 0.01304

> nobs(m7)
[1] 239
> mm7

t test of coefficients:

               Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.94076990  0.01153151 81.5825 < 2.2e-16 ***
government   0.02113767  0.01673861  1.2628  0.207926
cabinet      0.01616779  0.00970659  1.6657  0.097133 .
pop.census   0.00031632  0.00038495  0.8217  0.412078
maritime    -0.02490077  0.02295948 -1.0846  0.279246
quebec      -0.04718859  0.01458212 -3.2361  0.001389 **
west        -0.00118694  0.01096453 -0.1083  0.913889
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m8)

Call:
lm(formula = m1.1, data = data1[data1$parl8 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.55742 -0.01986  0.01073  0.04252  0.18228

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9053627  0.0174214  51.968  < 2e-16 ***
government   0.0096517  0.0134394   0.718   0.4736
cabinet      0.0470224  0.0277057   1.697   0.0914 .
pop.census   0.0009651  0.0005290   1.824   0.0698 .
maritime    -0.0321872  0.0172949  -1.861   0.0644 .
quebec      -0.0069239  0.0149882  -0.462   0.6447
west        -0.1055287  0.0241897  -4.363 2.17e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08347 on 179 degrees of freedom
  (21 observations deleted due to missingness)
Multiple R-squared:  0.1364,
  Adjusted R-squared:  0.1075
F-statistic: 4.712 on 6 and 179 DF,  p-value: 0.0001765

> nobs(m8)
[1] 186
> mm8

t test of coefficients:

               Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.90536268  0.02088145 43.3573 < 2.2e-16 ***
government   0.00965170  0.01412801  0.6832  0.495389
cabinet      0.04702241  0.00867615  5.4197 1.909e-07 ***
pop.census   0.00096507  0.00056274  1.7150  0.088083 .
maritime    -0.03218723  0.03316323 -0.9706  0.333072
quebec      -0.00692393  0.00838477 -0.8258  0.410032
west        -0.10552874  0.03445988 -3.0624  0.002535 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m9)

Call:
lm(formula = m1.1, data = data1[data1$parl9 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.75275 -0.01056  0.01042  0.02491  0.05697

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.497e-01  9.212e-03 103.091  < 2e-16 ***
government   4.098e-02  1.053e-02   3.891 0.000133 ***
cabinet      8.266e-04  1.657e-02   0.050 0.960265
pop.census  -5.885e-05  1.767e-04  -0.333 0.739402
maritime     4.223e-03  1.303e-02   0.324 0.746175
quebec      -3.618e-02  1.151e-02  -3.145 0.001900 **
west        -5.251e-03  1.768e-02  -0.297 0.766689
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06561 on 213 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.09884,
  Adjusted R-squared:  0.07346
F-statistic: 3.894 on 6 and 213 DF,  p-value: 0.001036

> nobs(m9)
[1] 220
> mm9

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  9.4967e-01  7.8246e-03 121.3701  < 2e-16 ***
government   4.0983e-02  1.8143e-02   2.2589  0.02490 *
cabinet      8.2661e-04  7.7117e-03   0.1072  0.91474
pop.census  -5.8847e-05  1.6620e-04  -0.3541  0.72363
maritime     4.2230e-03  8.8848e-03   0.4753  0.63506
quebec      -3.6182e-02  1.9788e-02  -1.8285  0.06887 .
west        -5.2513e-03  1.3420e-02  -0.3913  0.69597
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m10)

Call:
lm(formula = m1.1, data = data1[data1$parl10 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.79232 -0.01446  0.01868  0.03530  0.07905

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.480e-01  1.514e-02  62.603  < 2e-16 ***
government   6.648e-02  1.565e-02   4.248 3.56e-05 ***
cabinet      7.892e-03  2.309e-02   0.342  0.73292
pop.census  -7.266e-07  2.373e-04  -0.003  0.99756
maritime    -1.628e-02  1.938e-02  -0.840  0.40205
quebec      -4.977e-02  1.595e-02  -3.120  0.00213 **
west        -2.068e-02  2.344e-02  -0.882  0.37887
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08393 on 168 degrees of freedom
  (57 observations deleted due to missingness)
Multiple R-squared:  0.1276,
  Adjusted R-squared:  0.09646
F-statistic: 4.096 on 6 and 168 DF,  p-value: 0.0007304
```

```
> nobs(m10)
[1] 175
> mm10

t test of coefficients:

               Estimate  Std. Error t value Pr(>|t|)
(Intercept)  9.4800e-01  1.3247e-02 71.5654  < 2e-16 ***
government   6.6484e-02  2.7293e-02  2.4359  0.01590 *
cabinet      7.8923e-03  1.1137e-02  0.7086  0.47953
pop.census  -7.2657e-07  1.7497e-04 -0.0042  0.99669
maritime    -1.6280e-02  1.1640e-02 -1.3987  0.16375
quebec      -4.9767e-02  2.2038e-02 -2.2582  0.02522 *
west        -2.0678e-02  1.3225e-02 -1.5636  0.11980
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m11)

Call:
lm(formula = m1.1, data = data1[data1$parl11 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.83361 -0.01163  0.00129  0.02724  0.09656

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9769994  0.0116388  83.943  < 2e-16 ***
government   0.0458583  0.0101030   4.539 9.55e-06 ***
cabinet      0.0003116  0.0174757   0.018 0.985793
pop.census  -0.0005851  0.0002755  -2.124 0.034879 *
maritime    -0.0017330  0.0137097  -0.126 0.899533
quebec      -0.0451029  0.0115795  -3.895 0.000132 ***
west         0.0127162  0.0145724   0.873 0.383873
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0654 on 208 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1588,
  Adjusted R-squared:  0.1345
F-statistic: 6.543 on 6 and 208 DF,  p-value: 2.409e-06

> nobs(m11)
[1] 215
> mm11

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.97699939  0.00962346 101.5227 < 2.2e-16 ***
government   0.04585834  0.01483383   3.0915  0.002264 **
cabinet      0.00031156  0.00662566   0.0470  0.962540
pop.census  -0.00058512  0.00051000  -1.1473  0.252578
maritime    -0.00173298  0.00633321  -0.2736  0.784638
quebec      -0.04510291  0.01984329  -2.2730  0.024051 *
west         0.01271624  0.01147353   1.1083  0.269007
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m12)

Call:
lm(formula = m1.1, data = data1[data1$parl12 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.85629 -0.00190  0.01776  0.03402  0.07124
```

```
Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9833137  0.0176565  55.691  < 2e-16 ***
government   0.0028836  0.0134833   0.214  0.83086
cabinet      0.0198540  0.0197019   1.008  0.31471
pop.census  -0.0001601  0.0003428  -0.467  0.64097
maritime    -0.0073432  0.0178423  -0.412  0.68106
quebec      -0.0457641  0.0154159  -2.969  0.00333 **
west        -0.0243092  0.0183220  -1.327  0.18597
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08625 on 218 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.05516,
  Adjusted R-squared:  0.02916
F-statistic: 2.121 on 6 and 218 DF,  p-value: 0.05203

> nobs(m12)
[1] 225
> mm12

t test of coefficients:

               Estimate  Std. Error t value Pr(>|t|)
(Intercept)  0.98331368  0.01845430 53.2837  < 2e-16 ***
government   0.00288356  0.01941433  0.1485  0.88206
cabinet      0.01985399  0.01947930  1.0192  0.30922
pop.census  -0.00016011  0.00023837 -0.6717  0.50250
maritime    -0.00734323  0.01302394 -0.5638  0.57345
quebec      -0.04576413  0.02611036 -1.7527  0.08106 .
west        -0.02430924  0.01270299 -1.9137  0.05697 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m13)

Call:
lm(formula = m1.1, data = data1[data1$parl13 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.71352 -0.00812  0.01822  0.03910  0.09605

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9591839  0.0248496  38.600   <2e-16 ***
government  -0.0045008  0.0222770  -0.202   0.8401
cabinet      0.0256284  0.0191449   1.339   0.1820
pop.census  -0.0003124  0.0003490  -0.895   0.3717
maritime    -0.0057737  0.0207610  -0.278   0.7812
quebec       0.0284569  0.0242115   1.175   0.2411
west        -0.0321035  0.0166915  -1.923   0.0557 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09375 on 224 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.06955,
  Adjusted R-squared:  0.04463
F-statistic: 2.791 on 6 and 224 DF,  p-value: 0.01228

> nobs(m13)
[1] 231
> mm13

t test of coefficients:

               Estimate  Std. Error t value Pr(>|t|)
(Intercept)  0.95918395  0.01561328 61.4339  < 2e-16 ***
government  -0.00450082  0.02110963 -0.2132  0.83136
```

```
cabinet      0.02562842  0.01784483  1.4362  0.15235
pop.census  -0.00031241  0.00027159 -1.1503  0.25125
maritime    -0.00577372  0.03091747 -0.1867  0.85203
quebec       0.02845690  0.01866198  1.5249  0.12870
west        -0.03210349  0.01866896 -1.7196  0.08688 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m14)

Call:
lm(formula = m1.1, data = data1[data1$parl14 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.312905 -0.019491  0.005883  0.039698  0.081018

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9182616  0.0134882  68.079  < 2e-16 ***
government  -0.0155232  0.0131552  -1.180  0.23988
cabinet      0.0226394  0.0145544   1.556  0.12195
pop.census   0.0004746  0.0002479   1.915  0.05744 .
maritime     0.0033833  0.0142477   0.237  0.81263
quebec       0.0437730  0.0134271   3.260  0.00138 **
west        -0.0317411  0.0170074  -1.866  0.06396 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05655 on 149 degrees of freedom
  (23 observations deleted due to missingness)
Multiple R-squared:  0.1534,
  Adjusted R-squared:  0.1193
F-statistic: 4.501 on 6 and 149 DF,  p-value: 0.0003209

> nobs(m14)
[1] 156
> mm14

t test of coefficients:

               Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.91826158  0.01086576 84.5097 < 2.2e-16 ***
government  -0.01552323  0.01466589 -1.0585  0.291560
cabinet      0.02263945  0.01069249  2.1173  0.035893 *
pop.census   0.00047459  0.00020809  2.2807  0.023983 *
maritime     0.00338326  0.01341298  0.2522  0.801205
quebec       0.04377303  0.01379275  3.1736  0.001829 **
west        -0.03174113  0.02379319 -1.3340  0.184225
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m15)

Call:
lm(formula = m1.1, data = data1[data1$parl15 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.036481 -0.000015  0.000079  0.000494  0.000586

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept) 9.994e-01  5.081e-04 1966.783   <2e-16 ***
government  2.336e-04  5.010e-04    0.466    0.642
cabinet     2.042e-04  5.656e-04    0.361    0.718
pop.census  1.991e-06  1.052e-05    0.189    0.850
maritime    4.640e-04  5.793e-04    0.801    0.424
quebec      3.074e-04  6.086e-04    0.505    0.614
west        3.818e-04  5.520e-04    0.692    0.490
---
```

```
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002626 on 196 degrees of freedom
  (7 observations deleted due to missingness)
Multiple R-squared:  0.01014,
  Adjusted R-squared:  -0.02016
F-statistic: 0.3348 on 6 and 196 DF,  p-value: 0.918

> nobs(m15)
[1] 203
> mm15

t test of coefficients:

              Estimate Std. Error   t value Pr(>|t|)
(Intercept) 9.9938e-01 6.3023e-04 1585.7374   <2e-16 ***
government  2.3355e-04 2.3891e-04    0.9775   0.3295
cabinet     2.0423e-04 2.1338e-04    0.9571   0.3397
pop.census  1.9907e-06 2.2713e-06    0.8765   0.3818
maritime    4.6402e-04 4.6830e-04    0.9909   0.3230
quebec      3.0741e-04 3.1343e-04    0.9808   0.3279
west        3.8184e-04 3.8657e-04    0.9878   0.3245
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m16)

Call:
lm(formula = m1.1, data = data1[data1$parl16 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.24330 -0.02743  0.01418  0.04258  0.17032

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9301323  0.0140847  66.039  < 2e-16 ***
government  -0.0624711  0.0126678  -4.931 1.74e-06 ***
cabinet      0.0158642  0.0190531   0.833   0.4061
pop.census   0.0005368  0.0002825   1.900   0.0589 .
maritime     0.0088494  0.0164918   0.537   0.5922
quebec       0.0711281  0.0147989   4.806 3.05e-06 ***
west        -0.0613247  0.0145101  -4.226 3.64e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07187 on 196 degrees of freedom
  (20 observations deleted due to missingness)
Multiple R-squared:  0.3266,
  Adjusted R-squared:  0.306
F-statistic: 15.85 on 6 and 196 DF,  p-value: 8.103e-15

> nobs(m16)
[1] 203
> mm16

t test of coefficients:

               Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  0.93013230  0.01484673 62.6490 < 2.2e-16 ***
government  -0.06247113  0.01570429 -3.9780 9.777e-05 ***
cabinet      0.01586418  0.01874344  0.8464  0.398370
pop.census   0.00053679  0.00025841  2.0773  0.039079 *
maritime     0.00884939  0.01376272  0.6430  0.520977
quebec       0.07112810  0.01749070  4.0666 6.906e-05 ***
west        -0.06132471  0.01979287 -3.0983  0.002232 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m17)
```

```
Call:
lm(formula = m1.1, data = data1[data1$parl17 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.79223 -0.00967  0.00766  0.01728  0.06389

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9567043  0.0127224  75.198  < 2e-16 ***
government   0.0361563  0.0091692   3.943  0.00011 ***
cabinet      0.0074462  0.0149943   0.497  0.62000
pop.census  -0.0000199  0.0002364  -0.084  0.93299
maritime    -0.0046821  0.0134498  -0.348  0.72810
quebec       0.0009963  0.0109567   0.091  0.92764
west        -0.0195199  0.0110638  -1.764  0.07915 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06003 on 207 degrees of freedom
  (21 observations deleted due to missingness)
Multiple R-squared:  0.1068,
  Adjusted R-squared:  0.08096
F-statistic: 4.127 on 6 and 207 DF,  p-value: 0.0006149

> nobs(m17)
[1] 214
> mm17

t test of coefficients:

               Estimate  Std. Error t value  Pr(>|t|)
(Intercept)  9.5670e-01  1.1462e-02 83.4695 < 2.2e-16 ***
government   3.6156e-02  1.0380e-02  3.4832 0.0006045 ***
cabinet      7.4462e-03  3.7498e-03  1.9858 0.0483781 *
pop.census  -1.9898e-05  1.2937e-04 -0.1538 0.8779108
maritime    -4.6821e-03  4.9388e-03 -0.9480 0.3442215
quebec       9.9628e-04  5.8372e-03  0.1707 0.8646436
west        -1.9520e-02  1.5178e-02 -1.2861 0.1998585
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

>
>
```