```
R version 3.6.1 (2019-07-05) -- "Action of the Toes"
Copyright (C) 2019 The R Foundation for Statistical Computing
Platform: x86_64-apple-darwin15.6.0 (64-bit)

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  Natural language support but running in an English locale

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

2020-01-28 13:10:47.568 R[5232:632975] Antidote - Texteurs: Module texteur installé dans /Applications/R.app
(org.R-project.R)
> ########################
> #JF GODBOUT MANUSCRIPT##
> #CHAPTER 8##############
> #September 11, 2018#####
> ########################
> #Figure 8.4##############
> ########################
>
> ###############################################################################
> #Figure 8.4: The Influence of French Speaking/Prairie MPs on Party Loyalty#
> ###############################################################################
>
> rm(list=ls())
> library(car);library(mfx);library(ggplot2)
Loading required package: carData
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
Want to understand how all the pieces fit together? See the R for Data Science book:
http://r4ds.had.co.nz/
>
> dat <- read.csv(file="~/Dropbox/Canada-Manuscript/Analysis/data1.csv",header =TRUE)
>
> dataC <- subset(dat,dat$conservative==1)
> dataL <- subset(dat,dat$liberal==1)
>
> ###################
> #Language Analysis#
> ###################
>
> #Conservative Language
>
> dataC1 <- subset(dataC, dataC$parliament < 11)
> dataC2 <- subset(dataC, dataC$parliament > 10)
>
> dat <- dataC1
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,ifelse(dat$province=="Northwest Territories",1,0))))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Nunavut",
```

```
1,ifelse(dat$province=="Yukon",1,0)))
> dat1 <- dat
>
> dat <- dataC2
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,0)))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Northwest Territories",
1,ifelse(dat$province=="Nunavut",1,ifelse(dat$province=="Yukon",1,0))))
> dat2 <- dat
>
> data1 <- rbind(dat1,dat2)
>
> #Model 8.4 for Conservative Language
>
> m8.4 <- loyalty ~ french + cabinet + maritime + quebec + west + prairie
>
> m1 <- lm(m8.4,data=data1[data1$parl1==1,])
> m2 <- lm(m8.4,data=data1[data1$parl2==1,])
> m3 <- lm(m8.4,data=data1[data1$parl3==1,])
> m4 <- lm(m8.4,data=data1[data1$parl4==1,])
> m5 <- lm(m8.4,data=data1[data1$parl5==1,])
> m6 <- lm(m8.4,data=data1[data1$parl6==1,])
> m7 <- lm(m8.4,data=data1[data1$parl7==1,])
> m8 <- lm(m8.4,data=data1[data1$parl8==1,])
> m9 <- lm(m8.4,data=data1[data1$parl9==1,])
> m10 <- lm(m8.4,data=data1[data1$parl10==1,])
> m11 <- lm(m8.4,data=data1[data1$parl11==1,])
> m12 <- lm(m8.4,data=data1[data1$parl12==1,])
> m13 <- lm(m8.4,data=data1[data1$parl13==1,])
> m14 <- lm(m8.4,data=data1[data1$parl14==1,])
> m15 <- lm(m8.4,data=data1[data1$parl15==1,])
> m16 <- lm(m8.4,data=data1[data1$parl16==1,])
> m17 <- lm(m8.4,data=data1[data1$parl17==1,])
> m18 <- lm(m8.4,data=data1[data1$parl18==1,])
> m19 <- lm(m8.4,data=data1[data1$parl19==1,])
> m20 <- lm(m8.4,data=data1[data1$parl20==1,])
> m21 <- lm(m8.4,data=data1[data1$parl21==1,])
> m22 <- lm(m8.4,data=data1[data1$parl22==1,])
> m23 <- lm(m8.4,data=data1[data1$parl23==1,])
> m24 <- lm(m8.4,data=data1[data1$parl24==1,])
> #m25 <- lm(m8.4,data=data1[data1$parl25==1,])
> m26 <- lm(m8.4,data=data1[data1$parl26==1,])
> m27 <- lm(m8.4,data=data1[data1$parl27==1,])
> m28 <- lm(m8.4,data=data1[data1$parl28==1,])
> m29 <- lm(m8.4,data=data1[data1$parl29==1,])
> m30 <- lm(m8.4,data=data1[data1$parl30==1,])
> m31 <- lm(m8.4,data=data1[data1$parl31==1,])
> m32 <- lm(m8.4,data=data1[data1$parl32==1,])
> m33 <- lm(m8.4,data=data1[data1$parl33==1,])
> m34 <- lm(m8.4,data=data1[data1$parl34==1,])
> #m35 <- lm(m8.4,data=data1[data1$parl35==1,])
> m36 <- lm(m8.4,data=data1[data1$parl36==1,])
> m37 <- lm(m8.4,data=data1[data1$parl37==1,])
> m38 <- lm(m8.4,data=data1[data1$parl38==1,])
> m39 <- lm(m8.4,data=data1[data1$parl39==1,])
> m40 <- lm(m8.4,data=data1[data1$parl40==1,])
>
> 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))
> mm18 <- coeftest(m18, vcov = vcovHAC(m18))
> mm19 <- coeftest(m19, vcov = vcovHAC(m19))
> mm20 <- coeftest(m20, vcov = vcovHAC(m20))
> mm21 <- coeftest(m21, vcov = vcovHAC(m21))
> mm22 <- coeftest(m22, vcov = vcovHAC(m22))
> mm23 <- coeftest(m23, vcov = vcovHAC(m23))
> mm24 <- coeftest(m24, vcov = vcovHAC(m24))
> #mm25 <- coeftest(m25, vcov = vcovHAC(m25))
> mm26 <- coeftest(m26, vcov = vcovHAC(m26))
> mm27 <- coeftest(m27, vcov = vcovHAC(m27))
> mm28 <- coeftest(m28, vcov = vcovHAC(m28))
> mm29 <- coeftest(m29, vcov = vcovHAC(m29))
> mm30 <- coeftest(m30, vcov = vcovHAC(m30))
> mm31 <- coeftest(m31, vcov = vcovHAC(m31))
> mm32 <- coeftest(m32, vcov = vcovHAC(m32))
> mm33 <- coeftest(m33, vcov = vcovHAC(m33))
> mm34 <- coeftest(m34, vcov = vcovHAC(m34))
> #mm35 <- coeftest(m35, vcov = vcovHAC(m35))
> mm36 <- coeftest(m36, vcov = vcovHAC(m36))
> mm37 <- coeftest(m37, vcov = vcovHAC(m37))
> mm38 <- coeftest(m38, vcov = vcovHAC(m38))
> mm39 <- coeftest(m39, vcov = vcovHAC(m39))
> mm40 <- coeftest(m40, vcov = vcovHAC(m40))
>
> coef <- mm1[2,1]
> se <- mm1[2,2]
> conf1 <- coef + c(-1,1)*se*qt(0.975, m1$df.residual)
> conf1 <- c(conf1,coef,"1st (1867-1872)")
> coef <- mm2[2,1]
> se <- mm2[2,2]
> conf2 <- coef + c(-1,1)*se*qt(0.975, m2$df.residual)
> conf2 <- c(conf2,coef,"2nd (1872-1874)")
> coef <- mm3[2,1]
> se <- mm3[2,2]
> conf3 <- coef + c(-1,1)*se*qt(0.975, m3$df.residual)
> conf3 <- c(conf3,coef,"3rd (1874-1878)")
> coef <- mm4[2,1]
> se <- mm4[2,2]
> conf4 <- coef + c(-1,1)*se*qt(0.975, m4$df.residual)
> conf4 <- c(conf4,coef,"4th (1879-1882)")
> coef <- mm5[2,1]
> se <- mm5[2,2]
> conf5 <- coef + c(-1,1)*se*qt(0.975, m5$df.residual)
> conf5 <- c(conf5,coef,"5th (1883-1887)")
> coef <- mm6[2,1]
> se <- mm6[2,2]
> conf6 <- coef + c(-1,1)*se*qt(0.975, m6$df.residual)
> conf6 <- c(conf6,coef,"6th (1887-1891)")
> coef <- mm7[2,1]
> se <- mm7[2,2]
> conf7 <- coef + c(-1,1)*se*qt(0.975, m7$df.residual)
> conf7 <- c(conf7,coef,"7th (1891-1896)")
> coef <- mm8[2,1]
> se <- mm8[2,2]
> conf8 <- coef + c(-1,1)*se*qt(0.975, m8$df.residual)
> conf8 <- c(conf8,coef,"8th (1896-1900)")
> coef <- mm9[2,1]
> se <- mm9[2,2]
> conf9 <- coef + c(-1,1)*se*qt(0.975, m9$df.residual)
> conf9 <- c(conf9,coef,"9th (1901-1904)")
> coef <- mm10[2,1]
> se <- mm10[2,2]
> conf10 <- coef + c(-1,1)*se*qt(0.975, m10$df.residual)
> conf10 <- c(conf10,coef,"10th (1905-1908)")
> coef <- mm11[2,1]
> se <- mm11[2,2]
> conf11 <- coef + c(-1,1)*se*qt(0.975, m11$df.residual)
> conf11 <- c(conf11,coef,"11th (1909-1911)")
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```
> coef <- mm12[2,1]
> se <- mm12[2,2]
> conf12 <- coef + c(-1,1)*se*qt(0.975, m12$df.residual)
> conf12 <- c(conf12,coef,"12th (1911-1917)")
> coef <- mm13[2,1]
> se <- mm13[2,2]
> conf13 <- coef + c(-1,1)*se*qt(0.975, m13$df.residual)
> conf13 <- c(conf13,coef,"13th (1917-1921)")
> coef <- mm14[2,1]
> se <- mm14[2,2]
> conf14 <- coef + c(-1,1)*se*qt(0.975, m14$df.residual)
> conf14 <- c(conf14,coef,"14th (1921-1925)")
> coef <- mm16[2,1]
> se <- mm16[2,2]
> conf16 <- coef + c(-1,1)*se*qt(0.975, m16$df.residual)
> conf16 <- c(conf16,coef,"16th (1926-1930)")
> coef <- mm17[2,1]
> se <- mm17[2,2]
> conf17 <- coef + c(-1,1)*se*qt(0.975, m17$df.residual)
> conf17 <- c(conf17,coef,"17th (1930-1935)")
> coef <- mm18[2,1]
> se <- mm18[2,2]
> conf18 <- coef + c(-1,1)*se*qt(0.975, m18$df.residual)
> conf18 <- c(conf18,coef,"18th (1935-1940)")
> coef <- mm19[2,1]
> se <- mm19[2,2]
> conf19 <- coef + c(-1,1)*se*qt(0.975, m19$df.residual)
> conf19 <- c(conf19,coef,"19th (1940-1945)")
> coef <- mm20[2,1]
> se <- mm20[2,2]
> conf20 <- coef + c(-1,1)*se*qt(0.975, m20$df.residual)
> conf20 <- c(conf20,coef,"20th (1945-1949)")
> coef <- mm21[2,1]
> se <- mm21[2,2]
> conf21 <- coef + c(-1,1)*se*qt(0.975, m21$df.residual)
> conf21 <- c(conf21,coef,"21st (1949-1953)")
> coef <- mm22[2,1]
> se <- mm22[2,2]
> conf22 <- coef + c(-1,1)*se*qt(0.975, m22$df.residual)
> conf22 <- c(conf22,coef,"22nd (1953-1957)")
> coef <- mm24[2,1]
> se <- mm24[2,2]
> conf24 <- coef + c(-1,1)*se*qt(0.975, m24$df.residual)
> conf24 <- c(conf24,coef,"24th (1958-1962)")
> coef <- mm26[2,1]
> se <- mm26[2,2]
> conf26 <- coef + c(-1,1)*se*qt(0.975, m26$df.residual)
> conf26 <- c(conf26,coef,"26th (1963-1965)")
> coef <- mm27[2,1]
> se <- mm27[2,2]
> conf27 <- coef + c(-1,1)*se*qt(0.975, m27$df.residual)
> conf27 <- c(conf27,coef,"27th (1965-1968)")
> coef <- mm28[2,1]
> se <- mm28[2,2]
> conf28 <- coef + c(-1,1)*se*qt(0.975, m28$df.residual)
> conf28 <- c(conf28,coef,"28th (1968-1972)")
> coef <- mm29[2,1]
> se <- mm29[2,2]
> conf29 <- coef + c(-1,1)*se*qt(0.975, m29$df.residual)
> conf29 <- c(conf29,coef,"29th (1972-1974)")
> coef <- mm30[2,1]
> se <- mm30[2,2]
> conf30 <- coef + c(-1,1)*se*qt(0.975, m30$df.residual)
> conf30 <- c(conf30,coef,"30th (1974-1979)")
> coef <- mm32[2,1]
> se <- mm32[2,2]
> conf32 <- coef + c(-1,1)*se*qt(0.975, m32$df.residual)
> conf32 <- c(conf32,coef,"32nd (1980-1984)")
> coef <- mm33[2,1]
> se <- mm33[2,2]
> conf33 <- coef + c(-1,1)*se*qt(0.975, m33$df.residual)
```

```
> conf33 <- c(conf33,coef,"33rd (1984-1988)")
> coef <- mm34[2,1]
> se <- mm34[2,2]
> conf34 <- coef + c(-1,1)*se*qt(0.975, m34$df.residual)
> conf34 <- c(conf34,coef,"34th (1988-1993)")
> coef <- mm36[2,1]
> se <- mm36[2,2]
> conf36 <- coef + c(-1,1)*se*qt(0.975, m36$df.residual)
> conf36 <- c(conf36,coef,"36th (1997-2000)")
> coef <- mm37[2,1]
> se <- mm37[2,2]
> conf37 <- coef + c(-1,1)*se*qt(0.975, m37$df.residual)
> conf37 <- c(conf37,coef,"37th (2001-2004)")
> coef <- mm38[2,1]
> se <- mm38[2,2]
> conf38 <- coef + c(-1,1)*se*qt(0.975, m38$df.residual)
> conf38 <- c(conf38,coef,"38th (2004-2005)")
> coef <- mm39[2,1]
> se <- mm39[2,2]
> conf39 <- coef + c(-1,1)*se*qt(0.975, m39$df.residual)
> conf39 <- c(conf39,coef,"39th (2006-2008)")
> coef <- mm40[2,1]
> se <- mm40[2,2]
> conf40 <- coef + c(-1,1)*se*qt(0.975, m40$df.residual)
> conf40 <- c(conf40,coef,"40th (2008-2011)")
>
> #Print results Conservative Language
>
> summary(m1)

Call:
lm(formula = m8.4, data = data1[data1$parl1 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.46274 -0.02086  0.02033  0.06551  0.19225

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.807748   0.014900  54.211   <2e-16 ***
french       0.036426   0.028725   1.268    0.207
cabinet      0.060098   0.027366   2.196    0.030 *
maritime     0.040326   0.030500   1.322    0.189
quebec       0.018564   0.027001   0.688    0.493
west         0.096600   0.062429   1.547    0.124
prairie     -0.006399   0.077025  -0.083    0.934
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.105 on 121 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.09408,
  Adjusted R-squared:  0.04916
F-statistic: 2.094 on 6 and 121 DF,  p-value: 0.05869

> nobs(m1)
[1] 128
> mm1

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.8077477  0.0184061 43.8848 < 2.2e-16 ***
french       0.0364259  0.0234619  1.5526   0.12314
cabinet      0.0600980  0.0289788  2.0739   0.04021 *
maritime     0.0403257  0.0274593  1.4686   0.14455
quebec       0.0185644  0.0260253  0.7133   0.47702
west         0.0966001  0.0193731  4.9863 2.079e-06 ***
prairie     -0.0063985  0.0230404 -0.2777   0.78171
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m2)

Call:
lm(formula = m8.4, data = data1[data1$parl2 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.38532 -0.03148  0.01672  0.05422  0.16315

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.93792    0.01429  65.619  < 2e-16 ***
french      -0.07406    0.02957  -2.504 0.014178 *
cabinet      0.04343    0.02901   1.497 0.137999
maritime    -0.05261    0.02585  -2.035 0.044978 *
quebec      -0.10107    0.02735  -3.695 0.000388 ***
west         0.06208    0.04461   1.391 0.167743
prairie     -0.08078    0.08573  -0.942 0.348693
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08453 on 85 degrees of freedom
  (11 observations deleted due to missingness)
Multiple R-squared:  0.4601,
  Adjusted R-squared:  0.4219
F-statistic: 12.07 on 6 and 85 DF,  p-value: 9.117e-10

> nobs(m2)
[1] 92
> mm2

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.937925   0.010257 91.4464 < 2.2e-16 ***
french      -0.074058   0.026103 -2.8372 0.0056893 **
cabinet      0.043434   0.030458  1.4261 0.1575161
maritime    -0.052608   0.040858 -1.2876 0.2013848
quebec      -0.101073   0.025908 -3.9013 0.0001908 ***
west         0.062075   0.010257  6.0523 3.730e-08 ***
prairie     -0.080782   0.010257 -7.8761 1.004e-11 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m3)

Call:
lm(formula = m8.4, data = data1[data1$parl3 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.53927 -0.02702  0.02876  0.07618  0.24133

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.73454    0.02677  27.444   <2e-16 ***
french       0.04495    0.05400   0.832    0.408
cabinet           NA         NA      NA       NA
maritime    -0.06678    0.05353  -1.248    0.216
quebec       0.07407    0.05183   1.429    0.157
west         0.02398    0.11197   0.214    0.831
prairie     -0.18615    0.15607  -1.193    0.237
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1538 on 78 degrees of freedom
Multiple R-squared:  0.1776,
  Adjusted R-squared:  0.1249
F-statistic:  3.37 on 5 and 78 DF,  p-value: 0.008284
```

```
> nobs(m3)
[1] 84
> mm3

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.734541   0.028279 25.9744 < 2.2e-16 ***
french       0.044947   0.044243  1.0159    0.3128
maritime    -0.066785   0.066113 -1.0102    0.3155
quebec       0.074071   0.048385  1.5309    0.1298
west         0.023981   0.035778  0.6703    0.5047
prairie     -0.186154   0.028279 -6.5827 4.847e-09 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m4)

Call:
lm(formula = m8.4, data = data1[data1$parl4 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.73428 -0.01272  0.00831  0.02632  0.08238

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.917618   0.008677 105.758   <2e-16 ***
french      0.013638   0.018109   0.753    0.453
cabinet     0.006577   0.020888   0.315    0.753
maritime    0.005750   0.016609   0.346    0.730
quebec      0.013002   0.018174   0.715    0.475
west        0.045282   0.030069   1.506    0.134
prairie     0.015221   0.037141   0.410    0.683
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07018 on 148 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.03586,
  Adjusted R-squared:  -0.003228
F-statistic: 0.9174 on 6 and 148 DF,  p-value: 0.4842

> nobs(m4)
[1] 155
> mm4

t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.9176183  0.0122963 74.6256  < 2e-16 ***
french      0.0136382  0.0090039  1.5147  0.13198
cabinet     0.0065774  0.0074760  0.8798  0.38040
maritime    0.0057498  0.0143310  0.4012  0.68884
quebec      0.0130020  0.0136531  0.9523  0.34249
west        0.0452820  0.0154023  2.9400  0.00381 **
prairie     0.0152212  0.0306183  0.4971  0.61984
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m5)

Call:
lm(formula = m8.4, data = data1[data1$parl5 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.230388 -0.024444  0.006867  0.033917  0.075140

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
```

```
(Intercept)  0.910231   0.007072 128.706  < 2e-16 ***
french      -0.043302   0.012922  -3.351  0.00103 **
cabinet      0.017251   0.015112   1.141  0.25556
maritime    -0.005075   0.011334  -0.448  0.65501
quebec      -0.004963   0.013412  -0.370  0.71192
west        -0.030185   0.022066  -1.368  0.17346
prairie      0.029323   0.030631   0.957  0.34002
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0512 on 144 degrees of freedom
  (5 observations deleted due to missingness)
Multiple R-squared:  0.1662,
  Adjusted R-squared:  0.1314
F-statistic: 4.783 on 6 and 144 DF,  p-value: 0.0001776

> nobs(m5)
[1] 151
> mm5

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9102315  0.0064050 142.1136 < 2.2e-16 ***
french      -0.0433020  0.0107276  -4.0365 8.779e-05 ***
cabinet      0.0172506  0.0146994   1.1736   0.24251
maritime    -0.0050746  0.0097317  -0.5215   0.60285
quebec      -0.0049627  0.0105572  -0.4701   0.63901
west        -0.0301845  0.0115328  -2.6173   0.00981 **
prairie      0.0293233  0.0139823   2.0972   0.03773 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m6)

Call:
lm(formula = m8.4, data = data1[data1$parl6 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.49905 -0.02394  0.00570  0.04249  0.13163

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.901521   0.010119  89.092  < 2e-16 ***
french      -0.072086   0.023349  -3.087  0.00246 **
cabinet      0.048780   0.020641   2.363  0.01955 *
maritime     0.008289   0.017762   0.467  0.64150
quebec      -0.071126   0.022141  -3.212  0.00165 **
west         0.011636   0.027432   0.424  0.67212
prairie      0.017026   0.026233   0.649  0.51742
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07649 on 134 degrees of freedom
  (7 observations deleted due to missingness)
Multiple R-squared:  0.3792,
  Adjusted R-squared:  0.3515
F-statistic: 13.64 on 6 and 134 DF,  p-value: 4.727e-12

> nobs(m6)
[1] 141
> mm6

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9015210  0.0080828 111.5362 < 2.2e-16 ***
french      -0.0720855  0.0247730  -2.9098 0.0042355 **
cabinet      0.0487802  0.0139371   3.5000 0.0006322 ***
maritime     0.0082890  0.0127447   0.6504 0.5165581
```

```
quebec      -0.0711256  0.0153966  -4.6196 8.922e-06 ***
west         0.0116362  0.0206738   0.5628 0.5744783
prairie      0.0170264  0.0115004   1.4805 0.1410855
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m7)

Call:
lm(formula = m8.4, data = data1[data1$parl7 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.50059 -0.01089  0.01612  0.03482  0.07084

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.945952   0.009649  98.040   <2e-16 ***
french      -0.023889   0.022171  -1.077    0.283
cabinet      0.018019   0.015965   1.129    0.261
maritime     0.019908   0.015328   1.299    0.196
quebec       0.007095   0.022050   0.322    0.748
west         0.030928   0.029371   1.053    0.294
prairie      0.017725   0.025300   0.701    0.485
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07366 on 146 degrees of freedom
Multiple R-squared:  0.04487,
  Adjusted R-squared:  0.005614
F-statistic: 1.143 on 6 and 146 DF,  p-value: 0.3404

> nobs(m7)
[1] 153
> mm7

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9459522  0.0106677 88.6743 < 2.2e-16 ***
french      -0.0238886  0.0176758 -1.3515  0.178629
cabinet      0.0180192  0.0094478  1.9072  0.058453 .
maritime     0.0199083  0.0120192  1.6564  0.099793 .
quebec       0.0070946  0.0145442  0.4878  0.626426
west         0.0309276  0.0117127  2.6405  0.009178 **
prairie      0.0177246  0.0160539  1.1041  0.271380
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m8)

Call:
lm(formula = m8.4, data = data1[data1$parl8 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.70824 -0.02092  0.01984  0.06158  0.29176

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.938421   0.023207  40.436  < 2e-16 ***
french       0.082916   0.060570   1.369  0.17485
cabinet            NA         NA      NA       NA
maritime    -0.046503   0.039056  -1.191  0.23731
quebec      -0.106710   0.055455  -1.924  0.05788 .
west         0.007231   0.106349   0.068  0.94596
prairie     -0.230179   0.070668  -3.257  0.00165 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1468 on 80 degrees of freedom
```

```
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1323,
  Adjusted R-squared:  0.07802
F-statistic: 2.439 on 5 and 80 DF,  p-value: 0.04139

> nobs(m8)
[1] 86
> mm8

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9384212  0.0099599 94.2199  < 2e-16 ***
french       0.0829158  0.0619885  1.3376  0.18482
maritime    -0.0465025  0.0544458 -0.8541  0.39560
quebec      -0.1067103  0.0591500 -1.8041  0.07499 .
west         0.0072309  0.0346930  0.2084  0.83543
prairie     -0.2301794  0.1750070 -1.3153  0.19218
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m9)

Call:
lm(formula = m8.4, data = data1[data1$parl9 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.63106 -0.01685  0.01519  0.03511  0.16041

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.94941    0.01307  72.649   <2e-16 ***
french      -0.12428    0.05805  -2.141   0.0354 *
cabinet           NA         NA      NA       NA
maritime     0.01548    0.03033   0.511   0.6111
quebec      -0.03618    0.04788  -0.756   0.4521
west         0.04334    0.07098   0.611   0.5432
prairie      0.05928    0.06156   0.963   0.3385
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09867 on 78 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.1629,
  Adjusted R-squared:  0.1092
F-statistic: 3.035 on 5 and 78 DF,  p-value: 0.01482

> nobs(m9)
[1] 84
> mm9

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9494128  0.0085605 110.9062 < 2.2e-16 ***
french      -0.1242785  0.1147996  -1.0826    0.2823
maritime     0.0154816  0.0175256   0.8834    0.3798
quebec      -0.0361804  0.0333901  -1.0836    0.2819
west         0.0433408  0.0100775   4.3007 4.881e-05 ***
prairie      0.0592831  0.0537571   1.1028    0.2735
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m10)

Call:
lm(formula = m8.4, data = data1[data1$parl10 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
```

```
-0.56230 -0.00387  0.00867  0.02866  0.25913

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.971340   0.016304  59.576  < 2e-16 ***
french      -0.383982   0.068178  -5.632 3.04e-07 ***
cabinet            NA         NA      NA       NA
maritime     0.002929   0.040268   0.073   0.9422
quebec      -0.025059   0.054564  -0.459   0.6474
west        -0.304673   0.117571  -2.591   0.0115 *
prairie      0.014566   0.050253   0.290   0.7727
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1164 on 74 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.5324,
  Adjusted R-squared:  0.5008
F-statistic: 16.85 on 5 and 74 DF,  p-value: 4.355e-11

> nobs(m10)
[1] 80
> mm10

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9713398  0.0098884  98.2304  < 2e-16 ***
french      -0.3839817  0.1176793  -3.2630  0.00167 **
maritime     0.0029286  0.0155508   0.1883  0.85114
quebec      -0.0250595  0.0158383  -1.5822  0.11787
west        -0.3046732  0.0098884 -30.8112  < 2e-16 ***
prairie      0.0145659  0.0112048   1.3000  0.19764
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m11)

Call:
lm(formula = m8.4, data = data1[data1$parl11 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.59925 -0.01681  0.00755  0.02942  0.23142

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.970584   0.012528  77.472  < 2e-16 ***
french      -0.254767   0.050632  -5.032 2.87e-06 ***
cabinet            NA         NA      NA       NA
maritime     0.005940   0.031804   0.187    0.852
quebec      -0.055345   0.037931  -1.459    0.148
west         0.021869   0.041172   0.531    0.597
prairie     -0.002879   0.028247  -0.102    0.919
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0877 on 81 degrees of freedom
Multiple R-squared:  0.4685,
  Adjusted R-squared:  0.4357
F-statistic: 14.28 on 5 and 81 DF,  p-value: 5.16e-10

> nobs(m11)
[1] 87
> mm11

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9705843  0.0048678 199.3869  < 2e-16 ***
french      -0.2547665  0.1276287  -1.9962  0.04928 *
```

```
maritime     0.0059398  0.0085132   0.6977  0.48735
quebec      -0.0553447  0.0294925  -1.8766  0.06418 .
west         0.0218685  0.0084188   2.5976  0.01115 *
prairie     -0.0028786  0.0092202  -0.3122  0.75568
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m12)

Call:
lm(formula = m8.4, data = data1[data1$parl12 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.76763 -0.01068  0.01015  0.01015  0.15156

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9898474  0.0098709 100.279  < 2e-16 ***
french      -0.1041496  0.0303812  -3.428 0.000802 ***
cabinet      0.0416818  0.0192356   2.167 0.031958 *
maritime     0.0014258  0.0227917   0.063 0.950208
quebec      -0.0372592  0.0289913  -1.285 0.200881
west        -0.0003983  0.0298465  -0.013 0.989371
prairie     -0.0108985  0.0264429  -0.412 0.680867
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08472 on 138 degrees of freedom
  (5 observations deleted due to missingness)
Multiple R-squared:  0.2738,
  Adjusted R-squared:  0.2422
F-statistic:  8.67 on 6 and 138 DF,  p-value: 5.216e-08
```

```
> nobs(m12)
[1] 145
> mm12

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.98984741  0.00303787 325.8363 < 2.2e-16 ***
french      -0.10414963  0.03922083  -2.6555  0.008852 **
cabinet      0.04168182  0.01948373   2.1393  0.034170 *
maritime     0.00142582  0.00821569   0.1735  0.862474
quebec      -0.03725918  0.02251407  -1.6549  0.100212
west        -0.00039833  0.00545379  -0.0730  0.941883
prairie     -0.01089852  0.00674686  -1.6153  0.108519
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m13)

Call:
lm(formula = m8.4, data = data1[data1$parl13 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.69857 -0.01394  0.02802  0.05310  0.10356

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.946898   0.014231  66.537   <2e-16 ***
french       0.053102   0.113622   0.467   0.6409
cabinet      0.025085   0.022962   1.092   0.2764
maritime    -0.020258   0.028549  -0.710   0.4791
quebec      -0.001748   0.067204  -0.026   0.9793
west         0.011885   0.031999   0.371   0.7109
prairie     -0.050458   0.022175  -2.275   0.0243 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.1127 on 145 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:  0.05479,
  Adjusted R-squared:  0.01567
F-statistic: 1.401 on 6 and 145 DF,  p-value: 0.2182

> nobs(m13)
[1] 152
> mm13

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9468983  0.0122954 77.0125 < 2.2e-16 ***
french       0.0531017  0.0122954  4.3188 2.893e-05 ***
cabinet      0.0250852  0.0180447  1.3902   0.16661
maritime    -0.0202581  0.0392865 -0.5157   0.60688
quebec      -0.0017481  0.0173679 -0.1007   0.91996
west         0.0118853  0.0133898  0.8876   0.37621
prairie     -0.0504581  0.0227669 -2.2163   0.02823 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m14)

Call:
lm(formula = m8.4, data = data1[data1$parl14 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.108793 -0.020848 -0.000015  0.036169  0.108793

Coefficients: (3 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.937515   0.007637 122.766   <2e-16 ***
french      -0.046308   0.034086  -1.359    0.181
cabinet            NA         NA      NA       NA
maritime    -0.039556   0.019412  -2.038    0.047 *
quebec             NA         NA      NA       NA
west         0.018950   0.017163   1.104    0.275
prairie            NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.04611 on 49 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1703,
  Adjusted R-squared:  0.1195
F-statistic: 3.353 on 3 and 49 DF,  p-value: 0.02626

> nobs(m14)
[1] 53
> mm14

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9375147  0.0063158 148.4387   <2e-16 ***
french      -0.0463080  0.0803290  -0.5765   0.5669
maritime    -0.0395564  0.0236043  -1.6758   0.1001
west         0.0189495  0.0119032   1.5920   0.1178
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m15)

Call:
lm(formula = m8.4, data = data1[data1$parl15 == 1, ])

Residuals:
```

```
      Min        1Q    Median        3Q       Max
-0.036350  0.000165  0.000687  0.000687  0.010698

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9993132  0.0006314 1582.726  < 2e-16 ***
french       0.0004260  0.0035667    0.119 0.905159
cabinet      0.0011239  0.0013862    0.811 0.419279
maritime     0.0005217  0.0012068    0.432 0.666396
quebec      -0.0100108  0.0025643   -3.904 0.000166 ***
west         0.0004825  0.0016208    0.298 0.766525
prairie      0.0004620  0.0016902    0.273 0.785100
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.004964 on 107 degrees of freedom
Multiple R-squared:  0.1365,
  Adjusted R-squared:  0.08809
F-statistic: 2.819 on 6 and 107 DF,  p-value: 0.01379

> nobs(m15)
[1] 114
> mm15

t test of coefficients:

               Estimate  Std. Error   t value Pr(>|t|)
(Intercept)  0.99931317  0.00062125 1608.5470   <2e-16 ***
french       0.00042597  0.00040184    1.0601   0.2915
cabinet      0.00112394  0.00097539    1.1523   0.2518
maritime     0.00052171  0.00056380    0.9253   0.3569
quebec      -0.01001082  0.00931964   -1.0742   0.2852
west         0.00048247  0.00057465    0.8396   0.4030
prairie      0.00046204  0.00057389    0.8051   0.4226
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m16)

Call:
lm(formula = m8.4, data = data1[data1$parl16 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.19527 -0.01920  0.02028  0.04156  0.10125

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.938124   0.008027 116.871   <2e-16 ***
french             NA         NA      NA       NA
cabinet            NA         NA      NA       NA
maritime     0.020315   0.016275   1.248   0.2153
quebec      -0.039373   0.031089  -1.266   0.2087
west         0.040244   0.017949   2.242   0.0275 *
prairie      0.061876   0.060603   1.021   0.3101
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06007 on 88 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.09327,
  Adjusted R-squared:  0.05206
F-statistic: 2.263 on 4 and 88 DF,  p-value: 0.06869

> nobs(m16)
[1] 93
> mm16

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
```

```
(Intercept)  0.938124   0.009065 103.4888 < 2.2e-16 ***
maritime     0.020315   0.014765   1.3759  0.172334
quebec      -0.039373   0.046614  -0.8447  0.400590
west         0.040244   0.010875   3.7007  0.000374 ***
prairie      0.061876   0.009065   6.8258 1.073e-09 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m17)

Call:
lm(formula = m8.4, data = data1[data1$parl17 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.066736 -0.005531  0.003967  0.008581  0.026163

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.991419   0.001976 501.619   <2e-16 ***
french      -0.012899   0.005563  -2.319   0.0220 *
cabinet      0.008431   0.003582   2.354   0.0201 *
maritime    -0.002578   0.003709  -0.695   0.4883
quebec      -0.004684   0.005219  -0.897   0.3711
west        -0.004371   0.006007  -0.728   0.4681
prairie     -0.003817   0.003670  -1.040   0.3002
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01496 on 131 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.1578,
  Adjusted R-squared:  0.1192
F-statistic: 4.091 on 6 and 131 DF,  p-value: 0.000854

> nobs(m17)
[1] 138
> mm17

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9914193  0.0013931 711.6653  < 2e-16 ***
french      -0.0128988  0.0058493  -2.2052  0.02919 *
cabinet      0.0084309  0.0027065   3.1151  0.00226 **
maritime    -0.0025775  0.0029086  -0.8862  0.37715
quebec      -0.0046836  0.0086275  -0.5429  0.58814
west        -0.0043712  0.0029625  -1.4755  0.14248
prairie     -0.0038173  0.0037631  -1.0144  0.31225
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m18)

Call:
lm(formula = m8.4, data = data1[data1$parl18 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.08446 -0.01138  0.01231  0.01231  0.06353

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.987686   0.005018 196.832  < 2e-16 ***
french             NA         NA      NA       NA
cabinet            NA         NA      NA       NA
maritime    -0.017989   0.027022  -0.666 0.509507
quebec      -0.051219   0.012891  -3.973 0.000297 ***
west        -0.001972   0.011220  -0.176 0.861394
prairie      0.012314   0.016130   0.763 0.449828
---
```

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

Residual standard error: 0.02655 on 39 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.3124,
  Adjusted R-squared:  0.2419
F-statistic: 4.429 on 4 and 39 DF,  p-value: 0.004775

> nobs(m18)
[1] 44
> mm18

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9876864  0.0045454 217.2933 < 2.2e-16 ***
maritime    -0.0179894  0.0045454  -3.9577 0.0003107 ***
quebec      -0.0512191  0.0224944  -2.2770 0.0283539 *
west        -0.0019721  0.0086795  -0.2272 0.8214477
prairie      0.0123136  0.0045454   2.7090 0.0099718 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m19)

Call:
lm(formula = m8.4, data = data1[data1$parl19 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.056581 -0.006713  0.000013  0.016146  0.048653

Coefficients: (3 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.983854   0.004148 237.184  < 2e-16 ***
french             NA         NA      NA       NA
cabinet            NA         NA      NA       NA
maritime    -0.032507   0.009429  -3.448  0.00146 **
quebec             NA         NA      NA       NA
west        -0.007971   0.010161  -0.784  0.43791
prairie     -0.011345   0.011169  -1.016  0.31651
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02074 on 36 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.2517,
  Adjusted R-squared:  0.1893
F-statistic: 4.036 on 3 and 36 DF,  p-value: 0.01424

> nobs(m19)
[1] 40
> mm19

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9838538  0.0038101 258.2198 < 2.2e-16 ***
maritime    -0.0325067  0.0105976  -3.0674  0.004085 **
west        -0.0079705  0.0130221  -0.6121  0.544333
prairie     -0.0113453  0.0032659  -3.4739  0.001354 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
```

```
-0.078857 -0.010858  0.004669  0.013818  0.033389

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977939   0.003061 319.525  < 2e-16 ***
french       0.065934   0.030606   2.154  0.03493 *
cabinet            NA         NA      NA       NA
maritime    -0.023538   0.008734  -2.695  0.00895 **
quebec      -0.043873   0.021857  -2.007  0.04888 *
west        -0.011328   0.009350  -1.212  0.23007
prairie     -0.002193   0.009350  -0.235  0.81531
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02164 on 65 degrees of freedom
Multiple R-squared:  0.1665,
  Adjusted R-squared:  0.1023
F-statistic: 2.596 on 5 and 65 DF,  p-value: 0.03343

> nobs(m20)
[1] 71
> mm20

t test of coefficients:

               Estimate  Std. Error     t value  Pr(>|t|)
(Intercept)  9.7794e-01  3.0455e-03  3.2110e+02 < 2.2e-16 ***
french       6.5934e-02  1.5842e-16  4.1621e+14 < 2.2e-16 ***
maritime    -2.3538e-02  6.1439e-03 -3.8312e+00 0.0002899 ***
quebec      -4.3873e-02  3.0455e-03 -1.4406e+01 < 2.2e-16 ***
west        -1.1328e-02  1.2736e-02 -8.8950e-01 0.3770406
prairie     -2.1930e-03  9.8580e-03 -2.2250e-01 0.8246555
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.078857 -0.010858  0.004669  0.013818  0.033389

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977939   0.003061 319.525  < 2e-16 ***
french       0.065934   0.030606   2.154  0.03493 *
cabinet            NA         NA      NA       NA
maritime    -0.023538   0.008734  -2.695  0.00895 **
quebec      -0.043873   0.021857  -2.007  0.04888 *
west        -0.011328   0.009350  -1.212  0.23007
prairie     -0.002193   0.009350  -0.235  0.81531
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02164 on 65 degrees of freedom
Multiple R-squared:  0.1665,
  Adjusted R-squared:  0.1023
F-statistic: 2.596 on 5 and 65 DF,  p-value: 0.03343

> nobs(m20)
[1] 71
> mm20

t test of coefficients:

               Estimate  Std. Error     t value  Pr(>|t|)
(Intercept)  9.7794e-01  3.0455e-03  3.2110e+02 < 2.2e-16 ***
french       6.5934e-02  1.5842e-16  4.1621e+14 < 2.2e-16 ***
maritime    -2.3538e-02  6.1439e-03 -3.8312e+00 0.0002899 ***
```

```
quebec      -4.3873e-02  3.0455e-03 -1.4406e+01 < 2.2e-16 ***
west        -1.1328e-02  1.2736e-02 -8.8950e-01 0.3770406
prairie     -2.1930e-03  9.8580e-03 -2.2250e-01 0.8246555
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m21)

Call:
lm(formula = m8.4, data = data1[data1$parl21 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.059714 -0.003972  0.002785  0.009542  0.017998

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.990458   0.002940 336.844   <2e-16 ***
french       0.010325   0.012614   0.819    0.417
cabinet            NA         NA      NA       NA
maritime    -0.007667   0.005723  -1.340    0.187
quebec       0.002658   0.012765   0.208    0.836
west        -0.010615   0.009603  -1.105    0.275
prairie     -0.008456   0.006668  -1.268    0.211
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01583 on 47 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.108,
  Adjusted R-squared:  0.01308
F-statistic: 1.138 on 5 and 47 DF,  p-value: 0.3538

> nobs(m21)
[1] 53
> mm21

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9904582  0.0023420 422.9140  < 2e-16 ***
french       0.0103253  0.0068391   1.5097  0.13780
maritime    -0.0076670  0.0074494  -1.0292  0.30865
quebec       0.0026583  0.0065088   0.4084  0.68482
west        -0.0106146  0.0061315  -1.7312  0.08998 .
prairie     -0.0084559  0.0080603  -1.0491  0.29951
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m22)

Call:
lm(formula = m8.4, data = data1[data1$parl22 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.186379 -0.003217  0.004186  0.013895  0.045843

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.986105   0.005889 167.441   <2e-16 ***
french      -0.047102   0.040802  -1.154   0.2539
cabinet            NA         NA      NA       NA
maritime    -0.001470   0.015582  -0.094   0.9252
quebec       0.001550   0.035823   0.043   0.9657
west         0.007548   0.021234   0.355   0.7238
prairie     -0.040797   0.015582  -2.618   0.0117 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03534 on 49 degrees of freedom
```

```
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1858,
  Adjusted R-squared:  0.1027
F-statistic: 2.236 on 5 and 49 DF,  p-value: 0.06538

> nobs(m22)
[1] 55
> mm22

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9861048  0.0038611 255.3947 < 2.2e-16 ***
french      -0.0471018  0.0129222  -3.6450 0.0006458 ***
maritime    -0.0014703  0.0073297  -0.2006 0.8418489
quebec       0.0015495  0.0038611   0.4013 0.6899329
west         0.0075484  0.0040653   1.8568 0.0693587 .
prairie     -0.0407970  0.0366744  -1.1124 0.2713891
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m23)

Call:
lm(formula = m8.4, data = data1[data1$parl23 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.074166  0.001795  0.005030  0.009168  0.009168

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.990832   0.002681 369.549   <2e-16 ***
french      0.004808   0.008782   0.547    0.585
cabinet     0.004786   0.004000   1.197    0.234
maritime    0.004137   0.004853   0.853    0.396
quebec      0.003770   0.008950   0.421    0.674
west        0.007373   0.007211   1.022    0.309
prairie     0.001671   0.005725   0.292    0.771
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0191 on 104 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.0378,
  Adjusted R-squared:  -0.01772
F-statistic: 0.6809 on 6 and 104 DF,  p-value: 0.6654

> nobs(m23)
[1] 111
> mm23

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept) 0.9908323  0.0032310 306.6620  < 2e-16 ***
french      0.0048080  0.0024077   1.9970  0.04844 *
cabinet     0.0047862  0.0031768   1.5066  0.13495
maritime    0.0041372  0.0047014   0.8800  0.38089
quebec      0.0037696  0.0027809   1.3555  0.17819
west        0.0073728  0.0029550   2.4950  0.01417 *
prairie     0.0016710  0.0059039   0.2830  0.77772
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m24)

Call:
lm(formula = m8.4, data = data1[data1$parl24 == 1, ])

Residuals:
```

```
       Min         1Q     Median         3Q        Max
-0.0185338  0.0000071  0.0001555  0.0005976  0.0016450

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  1.000e+00  2.901e-04 3446.836  < 2e-16 ***
french       3.034e-04  5.890e-04    0.515  0.60704
cabinet     -7.810e-06  3.689e-04   -0.021  0.98313
maritime    -1.808e-06  5.043e-04   -0.004  0.99714
quebec      -1.630e-03  5.921e-04   -2.753  0.00643 **
west        -3.123e-04  5.726e-04   -0.545  0.58609
prairie     -5.905e-04  4.245e-04   -1.391  0.16566
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002241 on 207 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.06191,
  Adjusted R-squared:  0.03472
F-statistic: 2.277 on 6 and 207 DF,  p-value: 0.03771

> nobs(m24)
[1] 214
> mm24

t test of coefficients:

               Estimate  Std. Error    t value Pr(>|t|)
(Intercept)  9.9999e-01  7.4753e-05 13377.3516  < 2e-16 ***
french       3.0336e-04  8.5436e-04     0.3551  0.72289
cabinet     -7.8103e-06  3.2691e-04    -0.0239  0.98096
maritime    -1.8079e-06  1.3901e-05    -0.1301  0.89665
quebec      -1.6301e-03  8.3378e-04    -1.9551  0.05192 .
west        -3.1227e-04  3.1906e-04    -0.9787  0.32887
prairie     -5.9054e-04  3.1071e-04    -1.9006  0.05874 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m26)

Call:
lm(formula = m8.4, data = data1[data1$parl26 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.227190 -0.003363  0.001641  0.008351  0.109467

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.998359   0.006545 152.545  < 2e-16 ***
french      -0.016943   0.020052  -0.845    0.400
cabinet            NA         NA      NA       NA
maritime    -0.006710   0.011430  -0.587    0.559
quebec      -0.109065   0.021351  -5.108 1.75e-06 ***
west        -0.010063   0.015268  -0.659    0.511
prairie     -0.009435   0.008339  -1.131    0.261
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03379 on 92 degrees of freedom
Multiple R-squared:  0.5469,
  Adjusted R-squared:  0.5223
F-statistic: 22.21 on 5 and 92 DF,  p-value: 1.547e-14

> nobs(m26)
[1] 98
> mm26

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
```

```
(Intercept)  0.9983594  0.0013458 741.8510 < 2.2e-16 ***
french      -0.0169432  0.0221183  -0.7660 0.4456205
maritime    -0.0067101  0.0065693  -1.0214 0.3097300
quebec      -0.1090647  0.0297452  -3.6666 0.0004111 ***
west        -0.0100628  0.0069998  -1.4376 0.1539458
prairie     -0.0094351  0.0023926  -3.9435 0.0001566 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m27)

Call:
lm(formula = m8.4, data = data1[data1$parl27 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.40575 -0.02012  0.01416  0.03194  0.05579

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.972716   0.012146  80.082   <2e-16 ***
french       0.049988   0.038590   1.295    0.198
cabinet            NA         NA      NA       NA
maritime    -0.028508   0.018484  -1.542    0.126
quebec      -0.060840   0.038030  -1.600    0.113
west         0.006664   0.032705   0.204    0.839
prairie     -0.017644   0.015301  -1.153    0.252
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06073 on 93 degrees of freedom
Multiple R-squared:  0.04921,
  Adjusted R-squared:  -0.001907
F-statistic: 0.9627 on 5 and 93 DF,  p-value: 0.4449

> nobs(m27)
[1] 99
> mm27

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9727159  0.0057065 170.4572  < 2e-16 ***
french       0.0499884  0.0295984   1.6889  0.09459 .
maritime    -0.0285079  0.0233138  -1.2228  0.22450
quebec      -0.0608403  0.0336147  -1.8099  0.07354 .
west         0.0066635  0.0105329   0.6326  0.52852
prairie     -0.0176440  0.0090704  -1.9452  0.05477 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m28)

Call:
lm(formula = m8.4, data = data1[data1$parl28 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.070767 -0.002539  0.003394  0.008543  0.020142

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.989934   0.004088 242.170   <2e-16 ***
french       0.009396   0.012506   0.751   0.4550
cabinet            NA         NA      NA       NA
maritime    -0.010076   0.005339  -1.887   0.0633 .
quebec      -0.018131   0.015273  -1.187   0.2392
west         0.010066   0.017818   0.565   0.5739
prairie     -0.003638   0.005339  -0.681   0.4979
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.01734 on 70 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.06942,
  Adjusted R-squared:  0.002953
F-statistic: 1.044 on 5 and 70 DF,  p-value: 0.3987

> nobs(m28)
[1] 76
> mm28

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9899342  0.0025765 384.2127 < 2.2e-16 ***
french       0.0093960  0.0026314   3.5708 0.0006486 ***
maritime    -0.0100762  0.0053251  -1.8922 0.0625991 .
quebec      -0.0181307  0.0084088  -2.1562 0.0345099 *
west         0.0100658  0.0025765   3.9067 0.0002133 ***
prairie     -0.0036382  0.0032679  -1.1133 0.2693810
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m29)

Call:
lm(formula = m8.4, data = data1[data1$parl29 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.082625 -0.010436  0.006509  0.019196  0.027271

Coefficients: (1 not defined because of singularities)
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9791763  0.0036419 268.861   <2e-16 ***
french       0.0168755  0.0180014   0.937    0.351
cabinet             NA         NA      NA       NA
maritime     0.0016280  0.0061139   0.266    0.791
quebec      -0.0010407  0.0150373  -0.069    0.945
west         0.0005762  0.0084979   0.068    0.946
prairie     -0.0064473  0.0053989  -1.194    0.235
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02303 on 102 degrees of freedom
Multiple R-squared:  0.0286,
  Adjusted R-squared:  -0.01902
F-statistic: 0.6005 on 5 and 102 DF,  p-value: 0.6996

> nobs(m29)
[1] 108
> mm29

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.97917626  0.00388692 251.9159 < 2.2e-16 ***
french       0.01687546  0.00531552   3.1748  0.001983 **
maritime     0.00162803  0.00573735   0.2838  0.777169
quebec      -0.00104073  0.00674155  -0.1544  0.877619
west         0.00057617  0.00587897   0.0980  0.922121
prairie     -0.00644732  0.00595471  -1.0827  0.281483
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m30)

Call:
lm(formula = m8.4, data = data1[data1$parl30 == 1, ])

Residuals:
```

```
      Min        1Q    Median        3Q       Max
-0.103136 -0.002923  0.007223  0.014052  0.022619

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.985948   0.003490 282.539   <2e-16 ***
french       0.009138   0.010508   0.870    0.387
cabinet            NA         NA      NA       NA
maritime    -0.003668   0.005621  -0.653    0.516
quebec      -0.008567   0.012226  -0.701    0.485
west         0.006829   0.006171   1.107    0.271
prairie      0.005960   0.004732   1.259    0.211
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01971 on 102 degrees of freedom
Multiple R-squared:  0.05172,
  Adjusted R-squared:  0.005241
F-statistic: 1.113 on 5 and 102 DF,  p-value: 0.3584

> nobs(m30)
[1] 108
> mm30

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9859480  0.0044756 220.2933  < 2e-16 ***
french       0.0091379  0.0046004   1.9863  0.04968 *
maritime    -0.0036682  0.0069499  -0.5278  0.59878
quebec      -0.0085672  0.0113007  -0.7581  0.45013
west         0.0068288  0.0054305   1.2575  0.21145
prairie      0.0059597  0.0050117   1.1892  0.23714
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m31)

Call:
lm(formula = m8.4, data = data1[data1$parl31 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-2.584e-14 -1.276e-16  6.660e-17  9.280e-17  1.347e-15

Coefficients:
              Estimate Std. Error    t value Pr(>|t|)
(Intercept)  1.000e+00  3.584e-16  2.790e+15   <2e-16 ***
french       3.995e-17  1.824e-15  2.200e-02   0.9826
cabinet      2.203e-16  4.306e-16  5.120e-01   0.6097
maritime     1.933e-17  6.321e-16  3.100e-02   0.9757
quebec      -1.542e-16  1.865e-15 -8.300e-02   0.9342
west        -1.254e-15  6.009e-16 -2.087e+00   0.0388 *
prairie      2.619e-17  4.978e-16  5.300e-02   0.9581
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.334e-15 on 129 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.4987,
  Adjusted R-squared:  0.4754
F-statistic: 21.39 on 6 and 129 DF,  p-value: < 2.2e-16

> nobs(m31)
[1] 136
> mm31

t test of coefficients:

               Estimate  Std. Error     t value Pr(>|t|)
(Intercept)  1.0000e+00  9.7863e-17  1.0218e+16   <2e-16 ***
```

```
french       3.9952e-17  4.7150e-17  8.4730e-01   0.3984
cabinet      2.2034e-16  2.3050e-16  9.5590e-01   0.3409
maritime     1.9328e-17  3.5686e-17  5.4160e-01   0.5890
quebec      -1.5420e-16  1.6345e-16 -9.4340e-01   0.3472
west        -1.2544e-15  1.2560e-15 -9.9870e-01   0.3198
prairie      2.6189e-17  3.5758e-17  7.3240e-01   0.4653
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m32)

Call:
lm(formula = m8.4, data = data1[data1$parl32 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.060971 -0.000073  0.001131  0.002447  0.002859

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9971408  0.0011138 895.289   <2e-16 ***
french       0.0021142  0.0071500   0.296    0.768
cabinet             NA         NA      NA       NA
maritime     0.0004123  0.0021874   0.188    0.851
quebec      -0.0052074  0.0100986  -0.516    0.607
west         0.0017285  0.0019626   0.881    0.381
prairie      0.0007449  0.0016565   0.450    0.654
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.007044 on 102 degrees of freedom
Multiple R-squared:  0.01143,
  Adjusted R-squared:  -0.03703
F-statistic: 0.2358 on 5 and 102 DF,  p-value: 0.9459

> nobs(m32)
[1] 108
> mm32

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.99714085  0.00159960 623.3670 < 2.2e-16 ***
french       0.00211421  0.00075674   2.7938  0.006223 **
maritime     0.00041230  0.00241268   0.1709  0.864649
quebec      -0.00520744  0.00186115  -2.7980  0.006149 **
west         0.00172848  0.00170312   1.0149  0.312560
prairie      0.00074495  0.00186115   0.4003  0.689802
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m33)

Call:
lm(formula = m8.4, data = data1[data1$parl33 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.43457 -0.00049  0.00497  0.01113  0.03082

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.929e-01  5.253e-03 188.999   <2e-16 ***
french       1.391e-02  1.067e-02   1.303    0.194
cabinet     -1.482e-03  5.324e-03  -0.278    0.781
maritime     6.758e-05  9.114e-03   0.007    0.994
quebec      -2.223e-02  1.127e-02  -1.972    0.050 *
west         1.120e-03  9.484e-03   0.118    0.906
prairie     -1.226e-02  7.716e-03  -1.589    0.114
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.03857 on 206 degrees of freedom
Multiple R-squared:  0.03166,
  Adjusted R-squared:  0.003456
F-statistic: 1.123 on 6 and 206 DF,  p-value: 0.3503

> nobs(m33)
[1] 213
> mm33

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  9.9289e-01  2.7227e-03 364.6683   <2e-16 ***
french       1.3910e-02  1.2672e-02   1.0976   0.2736
cabinet     -1.4820e-03  5.8174e-03  -0.2547   0.7992
maritime     6.7579e-05  2.2418e-03   0.0301   0.9760
quebec      -2.2229e-02  1.3659e-02  -1.6274   0.1052
west         1.1195e-03  1.5679e-03   0.7140   0.4760
prairie     -1.2260e-02  1.1249e-02  -1.0899   0.2770
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m34)

Call:
lm(formula = m8.4, data = data1[data1$parl34 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.71093 -0.00531  0.00395  0.01071  0.03843

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.988119   0.009821 100.608   <2e-16 ***
french       0.003858   0.019018   0.203   0.8395
cabinet      0.014855   0.009133   1.627   0.1058
maritime    -0.005659   0.019133  -0.296   0.7678
quebec      -0.001360   0.019551  -0.070   0.9446
west        -0.002231   0.019100  -0.117   0.9072
prairie     -0.026544   0.013210  -2.009   0.0462 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05886 on 160 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.0506,
  Adjusted R-squared:  0.015
F-statistic: 1.421 on 6 and 160 DF,  p-value: 0.2095

> nobs(m34)
[1] 167
> mm34

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9881191  0.0054116 182.5937   <2e-16 ***
french       0.0038582  0.0038582   1.0000   0.3188
cabinet      0.0148550  0.0105474   1.4084   0.1610
maritime    -0.0056594  0.0027470  -2.0602   0.0410 *
quebec      -0.0013599  0.0035318  -0.3850   0.7007
west        -0.0022308  0.0027344  -0.8158   0.4158
prairie     -0.0265444  0.0245842  -1.0797   0.2819
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m36)

Call:
lm(formula = m8.4, data = data1[data1$parl36 == 1, ])
```

```
Residuals:
      Min        1Q    Median        3Q       Max
-0.008830 -0.002090  0.000000  0.004044  0.007089

Coefficients: (1 not defined because of singularities)
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.959e-01  5.186e-03 192.029   <2e-16 ***
french       9.933e-06  3.258e-03   0.003    0.998
cabinet     -6.156e-03  5.374e-03  -1.146    0.268
maritime    -3.007e-03  5.374e-03  -0.560    0.583
quebec      -4.501e-04  6.251e-03  -0.072    0.943
west                NA         NA      NA       NA
prairie     -1.094e-03  7.335e-03  -0.149    0.883
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.005186 on 17 degrees of freedom
Multiple R-squared:  0.1452,
  Adjusted R-squared:  -0.1063
F-statistic: 0.5773 on 5 and 17 DF,  p-value: 0.7168

> nobs(m36)
[1] 23
> mm36

t test of coefficients:

               Estimate  Std. Error     t value  Pr(>|t|)
(Intercept)  9.9592e-01  6.4555e-10  1.5427e+09 < 2.2e-16 ***
french       9.9326e-06  2.3842e-03  4.2000e-03  0.996725
cabinet     -6.1561e-03  1.7788e-03 -3.4609e+00  0.002987 **
maritime    -3.0073e-03  1.7788e-03 -1.6907e+00  0.109144
quebec      -4.5005e-04  2.1573e-03 -2.0860e-01  0.837225
prairie     -1.0944e-03  5.8498e-10 -1.8707e+06 < 2.2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m37)

Call:
lm(formula = m8.4, data = data1[data1$parl37 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.07283 -0.01232  0.00319  0.01589  0.04635

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.953647   0.011436  83.393   <2e-16 ***
french      -0.050777   0.025905  -1.960   0.0534 .
cabinet      0.005992   0.026312   0.228   0.8204
maritime     0.009592   0.013009   0.737   0.4630
quebec      -0.052022   0.038153  -1.364   0.1765
west         0.015678   0.012527   1.252   0.2143
prairie      0.030464   0.012165   2.504   0.0143 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02557 on 81 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:   0.32,
  Adjusted R-squared:  0.2696
F-statistic: 6.352 on 6 and 81 DF,  p-value: 1.649e-05

> nobs(m37)
[1] 88
> mm37

t test of coefficients:
```

```
             Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9536469  0.0140697  67.7800 < 2.2e-16 ***
french      -0.0507771  0.0034408 -14.7572 < 2.2e-16 ***
cabinet      0.0059919  0.0064097   0.9348 0.3526549
maritime     0.0095920  0.0152109   0.6306 0.5300789
quebec      -0.0520223  0.0141737  -3.6704 0.0004326 ***
west         0.0156781  0.0151845   1.0325 0.3049083
prairie      0.0304635  0.0141737   2.1493 0.0345947 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m38)

Call:
lm(formula = m8.4, data = data1[data1$parl38 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.079839 -0.003343  0.002449  0.005937  0.021512

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.983931   0.003069 320.605   <2e-16 ***
french       0.003544   0.008712   0.407    0.685
cabinet            NA         NA      NA       NA
maritime    -0.005443   0.006317  -0.862    0.391
quebec             NA         NA      NA       NA
west         0.002571   0.004372   0.588    0.558
prairie      0.004785   0.003717   1.287    0.201
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01461 on 94 degrees of freedom
Multiple R-squared:  0.04067,
  Adjusted R-squared:  -0.0001554
F-statistic: 0.9962 on 4 and 94 DF,  p-value: 0.4137

> nobs(m38)
[1] 99
> mm38

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9839306  0.0023063 426.6235  < 2e-16 ***
french       0.0035442  0.0034280   1.0339  0.30383
maritime    -0.0054428  0.0130484  -0.4171  0.67754
west         0.0025712  0.0039122   0.6572  0.51264
prairie      0.0047851  0.0027725   1.7259  0.08764 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m39)

Call:
lm(formula = m8.4, data = data1[data1$parl39 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.044051 -0.000838  0.001916  0.002380  0.007783

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9943345  0.0011358 875.428  < 2e-16 ***
french       0.0001894  0.0021603   0.088   0.9303
cabinet      0.0054025  0.0012143   4.449 1.92e-05 ***
maritime    -0.0053566  0.0024823  -2.158   0.0329 *
quebec      -0.0018505  0.0025672  -0.721   0.4724
west        -0.0021170  0.0019175  -1.104   0.2717
prairie     -0.0019041  0.0014198  -1.341   0.1824
---
```

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

Residual standard error: 0.0067 on 122 degrees of freedom
Multiple R-squared:  0.1623,
  Adjusted R-squared:  0.1211
F-statistic: 3.939 on 6 and 122 DF,  p-value: 0.001237

> nobs(m39)
[1] 129
> mm39

t test of coefficients:

               Estimate  Std. Error   t value  Pr(>|t|)
(Intercept)  0.99433447  0.00096298 1032.5559 < 2.2e-16 ***
french       0.00018938  0.00103538    0.1829  0.855173
cabinet      0.00540246  0.00121305    4.4536 1.883e-05 ***
maritime    -0.00535660  0.00195164   -2.7447  0.006972 **
quebec      -0.00185048  0.00118860   -1.5569  0.122094
west        -0.00211699  0.00133591   -1.5847  0.115627
prairie     -0.00190408  0.00148453   -1.2826  0.202058
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m40)

Call:
lm(formula = m8.4, data = data1[data1$parl40 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0159569 -0.0008259  0.0008352  0.0028020  0.0068753

Coefficients:
              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9942927  0.0006821 1457.627  < 2e-16 ***
french       0.0033589  0.0016595    2.024  0.04491 *
cabinet      0.0020744  0.0007366    2.816  0.00558 **
maritime     0.0021664  0.0014997    1.445  0.15086
quebec      -0.0041531  0.0018471   -2.249  0.02614 *
west         0.0026131  0.0010835    2.412  0.01720 *
prairie      0.0008309  0.0008547    0.972  0.33270
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.004286 on 137 degrees of freedom
Multiple R-squared:  0.1382,
  Adjusted R-squared:  0.1005
F-statistic: 3.662 on 6 and 137 DF,  p-value: 0.002104

> nobs(m40)
[1] 144
> mm40

t test of coefficients:

               Estimate  Std. Error   t value  Pr(>|t|)
(Intercept)  0.99429274  0.00067465 1473.7835 < 2.2e-16 ***
french       0.00335895  0.00184507    1.8205  0.070865 .
cabinet      0.00207444  0.00067572    3.0700  0.002582 **
maritime     0.00216643  0.00123663    1.7519  0.082031 .
quebec      -0.00415312  0.00284058   -1.4621  0.146013
west         0.00261307  0.00093819    2.7852  0.006107 **
prairie      0.00083086  0.00091209    0.9109  0.363923
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

>
> all1 <-
rbind(conf40,conf39,conf38,conf37,conf36,conf34,conf33,conf32,conf30,conf29,conf28,conf27,conf26,conf24,conf22,
conf21,conf20,conf19,conf18,conf17,conf16,conf14,conf13,conf12,conf11,conf10,conf9,conf8,conf7,conf6,conf5,conf
```

```
4,conf3,conf2,conf1)
>
> colnames(all1) <- c("low","high","coef","V1")
> all1 <- data.frame(all1)
> all1$low <- as.numeric(as.character(all1$low))
> all1$high <- as.numeric(as.character(all1$high))
> all1$coef <- as.numeric(as.character(all1$coef))
>
> #Liberal Language
>
> dataL1 <- subset(dataL, dataL$parliament < 11)
> dataL2 <- subset(dataL, dataL$parliament > 10)
>
> dat <- dataL1
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,ifelse(dat$province=="Northwest Territories",1,0))))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Nunavut",
1,ifelse(dat$province=="Yukon",1,0)))
> dat1 <- dat
>
> dat <- dataL2
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,0)))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Northwest Territories",
1,ifelse(dat$province=="Nunavut",1,ifelse(dat$province=="Yukon",1,0))))
> dat2 <- dat
>
> data1 <- rbind(dat1,dat2)
>
> m8.4 <- loyalty ~ french + cabinet + maritime + quebec + west + prairie
>
> m1 <- lm(m8.4,data=data1[data1$parl1==1,])
> m2 <- lm(m8.4,data=data1[data1$parl2==1,])
> m3 <- lm(m8.4,data=data1[data1$parl3==1,])
> m4 <- lm(m8.4,data=data1[data1$parl4==1,])
> m5 <- lm(m8.4,data=data1[data1$parl5==1,])
> m6 <- lm(m8.4,data=data1[data1$parl6==1,])
> m7 <- lm(m8.4,data=data1[data1$parl7==1,])
> m8 <- lm(m8.4,data=data1[data1$parl8==1,])
> m9 <- lm(m8.4,data=data1[data1$parl9==1,])
> m10 <- lm(m8.4,data=data1[data1$parl10==1,])
> m11 <- lm(m8.4,data=data1[data1$parl11==1,])
> m12 <- lm(m8.4,data=data1[data1$parl12==1,])
> m13 <- lm(m8.4,data=data1[data1$parl13==1,])
> m14 <- lm(m8.4,data=data1[data1$parl14==1,])
> m15 <- lm(m8.4,data=data1[data1$parl15==1,])
> m16 <- lm(m8.4,data=data1[data1$parl16==1,])
> m17 <- lm(m8.4,data=data1[data1$parl17==1,])
> m18 <- lm(m8.4,data=data1[data1$parl18==1,])
> m19 <- lm(m8.4,data=data1[data1$parl19==1,])
> m20 <- lm(m8.4,data=data1[data1$parl20==1,])
> m21 <- lm(m8.4,data=data1[data1$parl21==1,])
> m22 <- lm(m8.4,data=data1[data1$parl22==1,])
> m23 <- lm(m8.4,data=data1[data1$parl23==1,])
> m24 <- lm(m8.4,data=data1[data1$parl24==1,])
> #m25 <- lm(m8.4,data=data1[data1$parl25==1,])
> m26 <- lm(m8.4,data=data1[data1$parl26==1,])
> m27 <- lm(m8.4,data=data1[data1$parl27==1,])
> m28 <- lm(m8.4,data=data1[data1$parl28==1,])
> m29 <- lm(m8.4,data=data1[data1$parl29==1,])
> m30 <- lm(m8.4,data=data1[data1$parl30==1,])
> m31 <- lm(m8.4,data=data1[data1$parl31==1,])
> m32 <- lm(m8.4,data=data1[data1$parl32==1,])
> m33 <- lm(m8.4,data=data1[data1$parl33==1,])
> m34 <- lm(m8.4,data=data1[data1$parl34==1,])
> #m35 <- lm(m8.4,data=data1[data1$parl35==1,])
> m36 <- lm(m8.4,data=data1[data1$parl36==1,])
> m37 <- lm(m8.4,data=data1[data1$parl37==1,])
> m38 <- lm(m8.4,data=data1[data1$parl38==1,])
> m39 <- lm(m8.4,data=data1[data1$parl39==1,])
> m40 <- lm(m8.4,data=data1[data1$parl40==1,])
```

```
>
> 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))
> mm18 <- coeftest(m18, vcov = vcovHAC(m18))
> mm19 <- coeftest(m19, vcov = vcovHAC(m19))
> mm20 <- coeftest(m20, vcov = vcovHAC(m20))
> mm21 <- coeftest(m21, vcov = vcovHAC(m21))
> mm22 <- coeftest(m22, vcov = vcovHAC(m22))
> mm23 <- coeftest(m23, vcov = vcovHAC(m23))
> mm24 <- coeftest(m24, vcov = vcovHAC(m24))
> #mm25 <- coeftest(m25, vcov = vcovHAC(m25))
> mm26 <- coeftest(m26, vcov = vcovHAC(m26))
> mm27 <- coeftest(m27, vcov = vcovHAC(m27))
> mm28 <- coeftest(m28, vcov = vcovHAC(m28))
> mm29 <- coeftest(m29, vcov = vcovHAC(m29))
> mm30 <- coeftest(m30, vcov = vcovHAC(m30))
> mm31 <- coeftest(m31, vcov = vcovHAC(m31))
> mm32 <- coeftest(m32, vcov = vcovHAC(m32))
> mm33 <- coeftest(m33, vcov = vcovHAC(m33))
> mm34 <- coeftest(m34, vcov = vcovHAC(m34))
> #mm35 <- coeftest(m35, vcov = vcovHAC(m35))
> mm36 <- coeftest(m36, vcov = vcovHAC(m36))
> mm37 <- coeftest(m37, vcov = vcovHAC(m37))
> mm38 <- coeftest(m38, vcov = vcovHAC(m38))
> mm39 <- coeftest(m39, vcov = vcovHAC(m39))
> mm40 <- coeftest(m40, vcov = vcovHAC(m40))
>
> coef <- mm1[2,1]
> se <- mm1[2,2]
> conf1 <- coef + c(-1,1)*se*qt(0.975, m1$df.residual)
> conf1 <- c(conf1,coef,"1st (1867-1872)")
> coef <- mm2[2,1]
> se <- mm2[2,2]
> conf2 <- coef + c(-1,1)*se*qt(0.975, m2$df.residual)
> conf2 <- c(conf2,coef,"2nd (1872-1874)")
> coef <- mm3[2,1]
> se <- mm3[2,2]
> conf3 <- coef + c(-1,1)*se*qt(0.975, m3$df.residual)
> conf3 <- c(conf3,coef,"3rd (1874-1878)")
> coef <- mm4[2,1]
> se <- mm4[2,2]
> conf4 <- coef + c(-1,1)*se*qt(0.975, m4$df.residual)
> conf4 <- c(conf4,coef,"4th (1879-1882)")
> coef <- mm5[2,1]
> se <- mm5[2,2]
> conf5 <- coef + c(-1,1)*se*qt(0.975, m5$df.residual)
> conf5 <- c(conf5,coef,"5th (1883-1887)")
> coef <- mm6[2,1]
> se <- mm6[2,2]
> conf6 <- coef + c(-1,1)*se*qt(0.975, m6$df.residual)
> conf6 <- c(conf6,coef,"6th (1887-1891)")
> coef <- mm7[2,1]
> se <- mm7[2,2]
> conf7 <- coef + c(-1,1)*se*qt(0.975, m7$df.residual)
> conf7 <- c(conf7,coef,"7th (1891-1896)")
> coef <- mm8[2,1]
```

```
> se <- mm8[2,2]
> conf8 <- coef + c(-1,1)*se*qt(0.975, m8$df.residual)
> conf8 <- c(conf8,coef,"8th (1896-1900)")
> coef <- mm9[2,1]
> se <- mm9[2,2]
> conf9 <- coef + c(-1,1)*se*qt(0.975, m9$df.residual)
> conf9 <- c(conf9,coef,"9th (1901-1904)")
> coef <- mm10[2,1]
> se <- mm10[2,2]
> conf10 <- coef + c(-1,1)*se*qt(0.975, m10$df.residual)
> conf10 <- c(conf10,coef,"10th (1905-1908)")
> coef <- mm11[2,1]
> se <- mm11[2,2]
> conf11 <- coef + c(-1,1)*se*qt(0.975, m11$df.residual)
> conf11 <- c(conf11,coef,"11th (1909-1911)")
> coef <- mm12[2,1]
> se <- mm12[2,2]
> conf12 <- coef + c(-1,1)*se*qt(0.975, m12$df.residual)
> conf12 <- c(conf12,coef,"12th (1911-1917)")
> coef <- mm13[2,1]
> se <- mm13[2,2]
> conf13 <- coef + c(-1,1)*se*qt(0.975, m13$df.residual)
> conf13 <- c(conf13,coef,"13th (1917-1921)")
> coef <- mm14[2,1]
> se <- mm14[2,2]
> conf14 <- coef + c(-1,1)*se*qt(0.975, m14$df.residual)
> conf14 <- c(conf14,coef,"14th (1921-1925)")
> coef <- mm16[2,1]
> se <- mm16[2,2]
> conf16 <- coef + c(-1,1)*se*qt(0.975, m16$df.residual)
> conf16 <- c(conf16,coef,"16th (1926-1930)")
> coef <- mm17[2,1]
> se <- mm17[2,2]
> conf17 <- coef + c(-1,1)*se*qt(0.975, m17$df.residual)
> conf17 <- c(conf17,coef,"17th (1930-1935)")
> coef <- mm18[2,1]
> se <- mm18[2,2]
> conf18 <- coef + c(-1,1)*se*qt(0.975, m18$df.residual)
> conf18 <- c(conf18,coef,"18th (1935-1940)")
> coef <- mm19[2,1]
> se <- mm19[2,2]
> conf19 <- coef + c(-1,1)*se*qt(0.975, m19$df.residual)
> conf19 <- c(conf19,coef,"19th (1940-1945)")
> coef <- mm20[2,1]
> se <- mm20[2,2]
> conf20 <- coef + c(-1,1)*se*qt(0.975, m20$df.residual)
> conf20 <- c(conf20,coef,"20th (1945-1949)")
> coef <- mm21[2,1]
> se <- mm21[2,2]
> conf21 <- coef + c(-1,1)*se*qt(0.975, m21$df.residual)
> conf21 <- c(conf21,coef,"21st (1949-1953)")
> coef <- mm22[2,1]
> se <- mm22[2,2]
> conf22 <- coef + c(-1,1)*se*qt(0.975, m22$df.residual)
> conf22 <- c(conf22,coef,"22nd (1953-1957)")
> coef <- mm24[2,1]
> se <- mm24[2,2]
> conf24 <- coef + c(-1,1)*se*qt(0.975, m24$df.residual)
> conf24 <- c(conf24,coef,"24th (1958-1962)")
> coef <- mm26[2,1]
> se <- mm26[2,2]
> conf26 <- coef + c(-1,1)*se*qt(0.975, m26$df.residual)
> conf26 <- c(conf26,coef,"26th (1963-1965)")
> coef <- mm27[2,1]
> se <- mm27[2,2]
> conf27 <- coef + c(-1,1)*se*qt(0.975, m27$df.residual)
> conf27 <- c(conf27,coef,"27th (1965-1968)")
> coef <- mm28[2,1]
> se <- mm28[2,2]
> conf28 <- coef + c(-1,1)*se*qt(0.975, m28$df.residual)
> conf28 <- c(conf28,coef,"28th (1968-1972)")
```

```
> coef <- mm29[2,1]
> se <- mm29[2,2]
> conf29 <- coef + c(-1,1)*se*qt(0.975, m29$df.residual)
> conf29 <- c(conf29,coef,"29th (1972-1974)")
> coef <- mm30[2,1]
> se <- mm30[2,2]
> conf30 <- coef + c(-1,1)*se*qt(0.975, m30$df.residual)
> conf30 <- c(conf30,coef,"30th (1974-1979)")
> coef <- mm32[2,1]
> se <- mm32[2,2]
> conf32 <- coef + c(-1,1)*se*qt(0.975, m32$df.residual)
> conf32 <- c(conf32,coef,"32nd (1980-1984)")
> coef <- mm33[2,1]
> se <- mm33[2,2]
> conf33 <- coef + c(-1,1)*se*qt(0.975, m33$df.residual)
> conf33 <- c(conf33,coef,"33rd (1984-1988)")
> coef <- mm34[2,1]
> se <- mm34[2,2]
> conf34 <- coef + c(-1,1)*se*qt(0.975, m34$df.residual)
> conf34 <- c(conf34,coef,"34th (1988-1993)")
> #coef <- mm35[2,1]
> #se <- mm35[2,2]
> #conf35 <- coef + c(-1,1)*se*qt(0.975, m35$df.residual)
> #conf35 <- c(conf35,coef,"35th (1994-1997)")
> coef <- mm36[2,1]
> se <- mm36[2,2]
> conf36 <- coef + c(-1,1)*se*qt(0.975, m36$df.residual)
> conf36 <- c(conf36,coef,"36th (1997-2000)")
> coef <- mm37[2,1]
> se <- mm37[2,2]
> conf37 <- coef + c(-1,1)*se*qt(0.975, m37$df.residual)
> conf37 <- c(conf37,coef,"37th (2001-2004)")
> coef <- mm38[2,1]
> se <- mm38[2,2]
> conf38 <- coef + c(-1,1)*se*qt(0.975, m38$df.residual)
> conf38 <- c(conf38,coef,"38th (2004-2005)")
> coef <- mm39[2,1]
> se <- mm39[2,2]
> conf39 <- coef + c(-1,1)*se*qt(0.975, m39$df.residual)
> conf39 <- c(conf39,coef,"39th (2006-2008)")
> coef <- mm40[2,1]
> se <- mm40[2,2]
> conf40 <- coef + c(-1,1)*se*qt(0.975, m40$df.residual)
> conf40 <- c(conf40,coef,"40th (2008-2011)")
>
> #Print results Liberals Language
>
> summary(m1)

Call:
lm(formula = m8.4, data = data1[data1$parl1 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.48943 -0.04106  0.01663  0.09034  0.23327

Coefficients: (2 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.83229    0.02376  35.032  < 2e-16 ***
french       0.01265    0.06751   0.187   0.8519
cabinet           NA         NA      NA       NA
maritime    -0.26198    0.03880  -6.752 2.22e-09 ***
quebec      -0.12374    0.06481  -1.909   0.0599 .
west        -0.62255    0.08783  -7.088 5.07e-10 ***
prairie           NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1465 on 79 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.5104,
```

```
  Adjusted R-squared:  0.4856
F-statistic: 20.59 on 4 and 79 DF,  p-value: 1.189e-11

> nobs(m1)
[1] 84
> mm1

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.832290   0.025259  32.9500 < 2.2e-16 ***
french       0.012649   0.085991   0.1471    0.8834
maritime    -0.261984   0.048596  -5.3910  7.07e-07 ***
quebec      -0.123736   0.085025  -1.4553    0.1496
west        -0.622554   0.025778 -24.1502 < 2.2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m2)

Call:
lm(formula = m8.4, data = data1[data1$parl2 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.62535 -0.06847  0.01058  0.06545  0.47104

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.90753    0.02236  40.588  < 2e-16 ***
french       0.08702    0.07245   1.201 0.232868
cabinet           NA         NA      NA       NA
maritime    -0.37857    0.04314  -8.776 9.31e-14 ***
quebec      -0.18694    0.06770  -2.761 0.006962 **
west        -0.58261    0.11291  -5.160 1.44e-06 ***
prairie     -0.63167    0.15811  -3.995 0.000131 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1565 on 91 degrees of freedom
  (9 observations deleted due to missingness)
Multiple R-squared:  0.5416,
  Adjusted R-squared:  0.5164
F-statistic:  21.5 on 5 and 91 DF,  p-value: 3.805e-14

> nobs(m2)
[1] 97
> mm2

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.907527   0.016410  55.3024 < 2.2e-16 ***
french       0.087017   0.127204   0.6841    0.4957
maritime    -0.378567   0.058488  -6.4726 4.777e-09 ***
quebec      -0.186939   0.128328  -1.4567    0.1486
west        -0.582611   0.062237  -9.3612 5.539e-15 ***
prairie     -0.631665   0.016410 -38.4921 < 2.2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m3)

Call:
lm(formula = m8.4, data = data1[data1$parl3 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.49913 -0.02227  0.02217  0.05556  0.22976

Coefficients:
```

```
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.93053    0.01299  71.659  < 2e-16 ***
french      -0.08103    0.03277  -2.473   0.0146 *
cabinet      0.06634    0.02647   2.506   0.0134 *
maritime    -0.03485    0.02303  -1.513   0.1325
quebec      -0.11731    0.03070  -3.822   0.0002 ***
west        -0.31902    0.06202  -5.144 9.10e-07 ***
prairie     -0.33007    0.06202  -5.322 4.08e-07 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.105 on 137 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.4551,
  Adjusted R-squared:  0.4313
F-statistic: 19.07 on 6 and 137 DF,  p-value: 4.53e-16

> nobs(m3)
[1] 144
> mm3

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9305317  0.0088172 105.5358 < 2.2e-16 ***
french      -0.0810327  0.0444053  -1.8248 0.0702034 .
cabinet      0.0663373  0.0177574   3.7357 0.0002738 ***
maritime    -0.0348492  0.0219210  -1.5898 0.1141936
quebec      -0.1173126  0.0431986  -2.7157 0.0074668 **
west        -0.3190241  0.0999187  -3.1928 0.0017478 **
prairie     -0.3300665  0.1203043  -2.7436 0.0068907 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m4)

Call:
lm(formula = m8.4, data = data1[data1$parl4 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.48763 -0.01367  0.01920  0.03842  0.09113

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.951167   0.018183  52.311  < 2e-16 ***
french      -0.099522   0.047951  -2.076   0.0423 *
cabinet            NA         NA      NA       NA
maritime    -0.039533   0.028750  -1.375   0.1743
quebec      -0.001113   0.042643  -0.026   0.9793
west        -0.779215   0.069238 -11.254 2.56e-16 ***
prairie     -0.790248   0.096215  -8.213 2.39e-11 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09448 on 59 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.7646,
  Adjusted R-squared:  0.7446
F-statistic: 38.32 on 5 and 59 DF,  p-value: < 2.2e-16

> nobs(m4)
[1] 65
> mm4

t test of coefficients:

              Estimate Std. Error   t value Pr(>|t|)
(Intercept)  0.9511672  0.0071128  133.7255  < 2e-16 ***
french      -0.0995224  0.0530253   -1.8769  0.06548 .
maritime    -0.0395325  0.0277435   -1.4249  0.15945
```

```
quebec      -0.0011129  0.0209160   -0.0532  0.95775
west        -0.7792149  0.0192628  -40.4518  < 2e-16 ***
prairie     -0.7902477  0.0071128 -111.1017  < 2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m5)

Call:
lm(formula = m8.4, data = data1[data1$parl5 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.69010  0.00262  0.02339  0.04537  0.20696

Coefficients: (2 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.94213    0.02125  44.341   <2e-16 ***
french      -0.03481    0.09075  -0.384   0.7024
cabinet           NA         NA      NA       NA
maritime    -0.07582    0.03911  -1.938   0.0565 .
quebec       0.01089    0.08320   0.131   0.8962
west              NA         NA      NA       NA
prairie     -0.19671    0.10078  -1.952   0.0549 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1393 on 72 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.08877,
  Adjusted R-squared:  0.03814
F-statistic: 1.753 on 4 and 72 DF,  p-value: 0.1477

> nobs(m5)
[1] 77
> mm5

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.942131   0.017206 54.7550 < 2.2e-16 ***
french      -0.034811   0.011926 -2.9190  0.004684 **
maritime    -0.075818   0.053397 -1.4199  0.159959
quebec       0.010890   0.019051  0.5716  0.569366
prairie     -0.196710   0.152217 -1.2923  0.200386
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m6)

Call:
lm(formula = m8.4, data = data1[data1$parl6 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.63478 -0.02103  0.00525  0.05503  0.14931

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.897571   0.018522  48.461   <2e-16 ***
french      -0.026530   0.054471  -0.487    0.628
cabinet           NA         NA      NA       NA
maritime    -0.046880   0.032517  -1.442    0.154
quebec       0.009696   0.054152   0.179    0.858
west              NA         NA      NA       NA
prairie     -0.015218   0.114174  -0.133    0.894
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1127 on 75 degrees of freedom
  (1 observation deleted due to missingness)
```

```
Multiple R-squared:  0.03205,
  Adjusted R-squared:  -0.01958
F-statistic: 0.6208 on 4 and 75 DF,  p-value: 0.6491

> nobs(m6)
[1] 80
> mm6

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.8975709  0.0082059 109.3817   <2e-16 ***
french      -0.0265300  0.0254085  -1.0441   0.2998
maritime    -0.0468799  0.0554155  -0.8460   0.4003
quebec       0.0096958  0.0250430   0.3872   0.6997
prairie     -0.0152179  0.0082059  -1.8545   0.0676 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m7)

Call:
lm(formula = m8.4, data = data1[data1$parl7 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.82023 -0.01249  0.01545  0.05221  0.14829

Coefficients: (2 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.97445    0.01801  54.105   <2e-16 ***
french      -0.06727    0.04007  -1.679   0.0965 .
cabinet           NA         NA      NA       NA
maritime    -0.08971    0.03839  -2.337   0.0216 *
quebec      -0.05547    0.03920  -1.415   0.1603
west              NA         NA      NA       NA
prairie     -0.02894    0.08813  -0.328   0.7434
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.122 on 94 degrees of freedom
Multiple R-squared:  0.1721,
  Adjusted R-squared:  0.1369
F-statistic: 4.885 on 4 and 94 DF,  p-value: 0.001269

> nobs(m7)
[1] 99
> mm7

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9744509  0.0036243 268.8691  < 2e-16 ***
french      -0.0672704  0.0311486  -2.1597  0.03334 *
maritime    -0.0897053  0.0684834  -1.3099  0.19343
quebec      -0.0554737  0.0222348  -2.4949  0.01434 *
prairie     -0.0289381  0.0212405  -1.3624  0.17633
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m8)

Call:
lm(formula = m8.4, data = data1[data1$parl8 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.230268 -0.027007  0.009733  0.036870  0.118834

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
```

```
(Intercept)  0.935956   0.008491 110.231  < 2e-16 ***
french       0.001079   0.016285   0.066   0.9473
cabinet      0.033281   0.015373   2.165   0.0321 *
maritime     0.006658   0.015636   0.426   0.6709
quebec      -0.002036   0.016626  -0.122   0.9027
west        -0.074110   0.030465  -2.433   0.0163 *
prairie     -0.126218   0.022331  -5.652 9.03e-08 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05852 on 135 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:  0.2555,
  Adjusted R-squared:  0.2225
F-statistic: 7.723 on 6 and 135 DF,  p-value: 3.78e-07

> nobs(m8)
[1] 142
> mm8

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9359561  0.0064190 145.8100 < 2.2e-16 ***
french       0.0010792  0.0137348   0.0786 0.9374852
cabinet      0.0332807  0.0123856   2.6870 0.0081152 **
maritime     0.0066580  0.0116930   0.5694 0.5700307
quebec      -0.0020362  0.0140220  -0.1452 0.8847594
west        -0.0741096  0.0688842  -1.0759 0.2839097
prairie     -0.1262182  0.0371791  -3.3949 0.0009019 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m9)

Call:
lm(formula = m8.4, data = data1[data1$parl9 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.197234 -0.010349  0.009859  0.017052  0.037263

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.982948   0.005647 174.064   <2e-16 ***
french      -0.013052   0.008415  -1.551    0.123
cabinet     -0.002150   0.008193  -0.262    0.793
maritime     0.003283   0.008304   0.395    0.693
quebec      -0.007160   0.009019  -0.794    0.429
west        -0.014909   0.014206  -1.049    0.296
prairie     -0.012152   0.014164  -0.858    0.392
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03449 on 145 degrees of freedom
Multiple R-squared:  0.0749,
  Adjusted R-squared:  0.03662
F-statistic: 1.957 on 6 and 145 DF,  p-value: 0.07562

> nobs(m9)
[1] 152
> mm9

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9829484  0.0062598 157.0252  < 2e-16 ***
french      -0.0130517  0.0060934  -2.1419  0.03387 *
cabinet     -0.0021496  0.0073998  -0.2905  0.77185
maritime     0.0032826  0.0068935   0.4762  0.63466
quebec      -0.0071598  0.0070460  -1.0162  0.31125
```

```
west        -0.0149087  0.0213724  -0.6976  0.48656
prairie     -0.0121519  0.0141466  -0.8590  0.39176
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m10)

Call:
lm(formula = m8.4, data = data1[data1$parl10 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.46267  0.00506  0.01595  0.01803  0.03733

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9721461  0.0100997  96.255   <2e-16 ***
french       0.0193051  0.0160695   1.201    0.231
cabinet      0.0001142  0.0160364   0.007    0.994
maritime     0.0169165  0.0154931   1.092    0.277
quebec      -0.0094811  0.0173393  -0.547    0.585
west         0.0214990  0.0251537   0.855    0.394
prairie      0.0032145  0.0186719   0.172    0.864
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06538 on 153 degrees of freedom
  (4 observations deleted due to missingness)
Multiple R-squared:  0.02049,
  Adjusted R-squared:  -0.01792
F-statistic: 0.5334 on 6 and 153 DF,  p-value: 0.7822

> nobs(m10)
[1] 160
> mm10

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  0.97214611  0.00708858 137.1426  < 2e-16 ***
french       0.01930514  0.02460614   0.7846  0.43392
cabinet      0.00011416  0.01470137   0.0078  0.99381
maritime     0.01691650  0.00838407   2.0177  0.04537 *
quebec      -0.00948108  0.02646665  -0.3582  0.72067
west         0.02149905  0.00875945   2.4544  0.01523 *
prairie      0.00321447  0.01136863   0.2827  0.77775
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m11)

Call:
lm(formula = m8.4, data = data1[data1$parl11 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.183128 -0.007865  0.004031  0.008765  0.020354

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9912352  0.0036229 273.605   <2e-16 ***
french      -0.0037664  0.0059852  -0.629    0.530
cabinet      0.0005693  0.0058286   0.098    0.922
maritime     0.0047337  0.0054819   0.864    0.389
quebec      -0.0055718  0.0063918  -0.872    0.385
west        -0.0115890  0.0130882  -0.885    0.378
prairie     -0.0081073  0.0064968  -1.248    0.214
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02173 on 128 degrees of freedom
```

```
  (2 observations deleted due to missingness)
Multiple R-squared:  0.06319,
  Adjusted R-squared:  0.01928
F-statistic: 1.439 on 6 and 128 DF,  p-value: 0.2047

> nobs(m11)
[1] 135
> mm11

t test of coefficients:

              Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  0.99123517  0.00258516 383.4331   <2e-16 ***
french      -0.00376639  0.00404522  -0.9311   0.3536
cabinet      0.00056928  0.00346090   0.1645   0.8696
maritime     0.00473373  0.00355576   1.3313   0.1855
quebec      -0.00557179  0.00453863  -1.2276   0.2218
west        -0.01158902  0.00996351  -1.1631   0.2469
prairie     -0.00810732  0.01255981  -0.6455   0.5198
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m12)

Call:
lm(formula = m8.4, data = data1[data1$parl12 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.32669 -0.01347  0.00623  0.02609  0.08916

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.94982    0.01514  62.727  < 2e-16 ***
french      -0.01391    0.01749  -0.795  0.42869
cabinet     -0.17204    0.05846  -2.943  0.00423 **
maritime     0.01021    0.01968   0.519  0.60544
quebec       0.03866    0.02138   1.808  0.07425 .
west              NA         NA      NA       NA
prairie     -0.03898    0.02038  -1.913  0.05926 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05646 on 82 degrees of freedom
Multiple R-squared:  0.2509,
  Adjusted R-squared:  0.2052
F-statistic: 5.493 on 5 and 82 DF,  p-value: 0.000207

> nobs(m12)
[1] 88
> mm12

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.949818   0.011282  84.1892  < 2e-16 ***
french      -0.013913   0.015468  -0.8994  0.37105
cabinet     -0.172040   0.011282 -15.2492  < 2e-16 ***
maritime     0.010207   0.021495   0.4748  0.63616
quebec       0.038660   0.015072   2.5650  0.01214 *
prairie     -0.038983   0.021238  -1.8355  0.07005 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m13)

Call:
lm(formula = m8.4, data = data1[data1$parl13 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
```

```
-0.121248 -0.016164  0.001545  0.017170  0.072300

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.927700   0.011204  82.798  < 2e-16 ***
french       0.027085   0.009599   2.822  0.00603 **
cabinet            NA         NA      NA       NA
maritime     0.023040   0.015119   1.524  0.13147
quebec       0.028045   0.013755   2.039  0.04476 *
west               NA         NA      NA       NA
prairie     -0.037035   0.026179  -1.415  0.16104
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03346 on 80 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.3133,
  Adjusted R-squared:  0.279
F-statistic: 9.127 on 4 and 80 DF,  p-value: 3.989e-06

> nobs(m13)
[1] 85
> mm13

t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.927700   0.020318 45.6592  < 2e-16 ***
french       0.027085   0.011077  2.4453  0.01667 *
maritime     0.023040   0.021243  1.0846  0.28134
quebec       0.028045   0.021341  1.3141  0.19256
prairie     -0.037035   0.025328 -1.4622  0.14761
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m14)

Call:
lm(formula = m8.4, data = data1[data1$parl14 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.29378 -0.01716  0.01157  0.02446  0.11806

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.918233   0.013620  67.418  < 2e-16 ***
french       0.042452   0.014935   2.842 0.005230 **
cabinet      0.030474   0.014639   2.082 0.039411 *
maritime    -0.003801   0.017444  -0.218 0.827857
quebec       0.015542   0.018221   0.853 0.395287
west        -0.012063   0.038514  -0.313 0.754641
prairie     -0.134330   0.034197  -3.928 0.000141 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06286 on 125 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:  0.2722,
  Adjusted R-squared:  0.2372
F-statistic: 7.791 on 6 and 125 DF,  p-value: 3.928e-07

> nobs(m14)
[1] 132
> mm14

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9182334  0.0128001 71.7363  < 2e-16 ***
french       0.0424520  0.0197023  2.1547  0.03310 *
```

```
cabinet      0.0304735  0.0129074  2.3609  0.01978 *
maritime    -0.0038011  0.0188970 -0.2011  0.84091
quebec       0.0155424  0.0221595  0.7014  0.48436
west        -0.0120632  0.0263218 -0.4583  0.64753
prairie     -0.1343303  0.0611911 -2.1953  0.02999 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m15)

Call:
lm(formula = m8.4, data = data1[data1$parl15 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.97942  0.00132  0.00456  0.02058  0.02058

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.0020358  0.0297125  33.724   <2e-16 ***
french      -0.0160178  0.0298716  -0.536    0.593
cabinet      0.0076059  0.0314981   0.241    0.810
maritime    -0.0006338  0.0505714  -0.013    0.990
quebec      -0.0065981  0.0373709  -0.177    0.860
west        -0.0045711  0.0658396  -0.069    0.945
prairie     -0.0033586  0.0364094  -0.092    0.927
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.101 on 96 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.01098,
  Adjusted R-squared:  -0.05084
F-statistic: 0.1776 on 6 and 96 DF,  p-value: 0.9823

> nobs(m15)
[1] 103
> mm15

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  1.00203580  0.00275616 363.5617   <2e-16 ***
french      -0.01601775  0.01645591  -0.9734   0.3328
cabinet      0.00760594  0.00825322   0.9216   0.3591
maritime    -0.00063383  0.00373790  -0.1696   0.8657
quebec      -0.00659813  0.00739154  -0.8927   0.3743
west        -0.00457111  0.00546878  -0.8359   0.4053
prairie     -0.00335857  0.00395001  -0.8503   0.3973
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m16)

Call:
lm(formula = m8.4, data = data1[data1$parl16 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.246521 -0.018119  0.004213  0.023940  0.212989

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.903631   0.014114  64.024  < 2e-16 ***
french       0.053199   0.016271   3.269  0.00139 **
cabinet      0.004965   0.017346   0.286  0.77519
maritime    -0.004915   0.024358  -0.202  0.84042
quebec       0.023806   0.018359   1.297  0.19711
west        -0.108595   0.070540  -1.539  0.12619
prairie     -0.116620   0.018043  -6.464 2.03e-09 ***
---
```

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

Residual standard error: 0.06768 on 126 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.5718,
  Adjusted R-squared:  0.5514
F-statistic: 28.04 on 6 and 126 DF,  p-value: < 2.2e-16

> nobs(m16)
[1] 133
> mm16

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9036306  0.0155134 58.2485 < 2.2e-16 ***
french       0.0531988  0.0114978  4.6269 9.084e-06 ***
cabinet      0.0049646  0.0227424  0.2183    0.8275
maritime    -0.0049149  0.0225920 -0.2175    0.8281
quebec       0.0238064  0.0144440  1.6482    0.1018
west        -0.1085953  0.0253642 -4.2814 3.647e-05 ***
prairie     -0.1166199  0.0242481 -4.8095 4.240e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m17)

Call:
lm(formula = m8.4, data = data1[data1$parl17 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.76799 -0.01385  0.01072  0.03246  0.08778

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.964332   0.017036  56.606   <2e-16 ***
french       0.010153   0.027194   0.373   0.7097
cabinet            NA         NA      NA       NA
maritime    -0.016093   0.036629  -0.439   0.6614
quebec      -0.006945   0.028918  -0.240   0.8107
west        -0.034688   0.042230  -0.821   0.4135
prairie     -0.052110   0.025537  -2.041   0.0441 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0864 on 95 degrees of freedom
Multiple R-squared:  0.06412,
  Adjusted R-squared:  0.01486
F-statistic: 1.302 on 5 and 95 DF,  p-value: 0.2698

> nobs(m17)
[1] 101
> mm17

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9643317  0.0057075 168.9599   <2e-16 ***
french       0.0101531  0.0115400   0.8798   0.3812
maritime    -0.0160927  0.0155451  -1.0352   0.3032
quebec      -0.0069450  0.0107725  -0.6447   0.5207
west        -0.0346878  0.0146111  -2.3741   0.0196 *
prairie     -0.0521099  0.0412626  -1.2629   0.2097
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m18)

Call:
lm(formula = m8.4, data = data1[data1$parl18 == 1, ])
```

```
Residuals:
      Min        1Q    Median        3Q       Max
-0.212611 -0.005732  0.005981  0.010017  0.042065

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9899827  0.0037768 262.122  < 2e-16 ***
french       0.0041711  0.0064857   0.643  0.52095
cabinet      0.0158834  0.0070762   2.245  0.02600 *
maritime     0.0002218  0.0063063   0.035  0.97198
quebec      -0.0001344  0.0069448  -0.019  0.98458
west        -0.0320477  0.0111247  -2.881  0.00444 **
prairie     -0.0273721  0.0061366  -4.460 1.43e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02772 on 182 degrees of freedom
  (9 observations deleted due to missingness)
Multiple R-squared:  0.1801,
  Adjusted R-squared:  0.1531
F-statistic: 6.664 on 6 and 182 DF,  p-value: 2.171e-06

> nobs(m18)
[1] 189
> mm18

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.98998267  0.00225835 438.3650 < 2.2e-16 ***
french       0.00417112  0.00415164   1.0047  0.316379
cabinet      0.01588344  0.00488554   3.2511  0.001370 **
maritime     0.00022183  0.00358075   0.0620  0.950669
quebec      -0.00013442  0.00446491  -0.0301  0.976016
west        -0.03204765  0.01751296  -1.8299  0.068895 .
prairie     -0.02737214  0.00924749  -2.9600  0.003487 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m19)

Call:
lm(formula = m8.4, data = data1[data1$parl19 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.51890 -0.00316  0.00318  0.04779  0.17075

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9968204  0.0143922  69.261  < 2e-16 ***
french      -0.0720888  0.0233952  -3.081 0.002388 **
cabinet      0.0508706  0.0217009   2.344 0.020173 *
maritime     0.0003895  0.0280173   0.014 0.988924
quebec      -0.0954846  0.0250717  -3.808 0.000192 ***
west        -0.0156333  0.0360925  -0.433 0.665434
prairie     -0.0070231  0.0227868  -0.308 0.758283
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.105 on 178 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.3455,
  Adjusted R-squared:  0.3235
F-statistic: 15.66 on 6 and 178 DF,  p-value: 2.094e-14

> nobs(m19)
[1] 185
> mm19
```

```
t test of coefficients:

              Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.99682040  0.00332926 299.4123 < 2.2e-16 ***
french      -0.07208877  0.02113855  -3.4103 0.0008029 ***
cabinet      0.05087059  0.01557480   3.2662 0.0013076 **
maritime     0.00038949  0.00832876   0.0468 0.9627531
quebec      -0.09548456  0.01886393  -5.0618  1.03e-06 ***
west        -0.01563331  0.00814763  -1.9188 0.0566154 .
prairie     -0.00702312  0.00796474  -0.8818 0.3790867
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.115464 -0.007949  0.002654  0.012087  0.025750

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977005   0.003959 246.778  < 2e-16 ***
french       0.009704   0.005239   1.852  0.06645 .
cabinet      0.002927   0.004339   0.675  0.50121
maritime     0.004061   0.005853   0.694  0.48918
quebec       0.001204   0.005700   0.211  0.83312
west        -0.031998   0.010341  -3.094  0.00245 **
prairie      0.001841   0.006424   0.287  0.77496
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02119 on 120 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.1404,
  Adjusted R-squared:  0.09744
F-statistic: 3.267 on 6 and 120 DF,  p-value: 0.005191

> nobs(m20)
[1] 127
> mm20

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9770051  0.0040184 243.1305   <2e-16 ***
french       0.0097038  0.0071643   1.3545   0.1781
cabinet      0.0029272  0.0049578   0.5904   0.5560
maritime     0.0040606  0.0050697   0.8009   0.4247
quebec       0.0012037  0.0079570   0.1513   0.8800
west        -0.0319984  0.0174264  -1.8362   0.0688 .
prairie      0.0018408  0.0061101   0.3013   0.7637
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.115464 -0.007949  0.002654  0.012087  0.025750

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977005   0.003959 246.778  < 2e-16 ***
french       0.009704   0.005239   1.852  0.06645 .
cabinet      0.002927   0.004339   0.675  0.50121
```

```
maritime     0.004061   0.005853   0.694  0.48918
quebec       0.001204   0.005700   0.211  0.83312
west        -0.031998   0.010341  -3.094  0.00245 **
prairie      0.001841   0.006424   0.287  0.77496
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02119 on 120 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.1404,
  Adjusted R-squared:  0.09744
F-statistic: 3.267 on 6 and 120 DF,  p-value: 0.005191

> nobs(m20)
[1] 127
> mm20

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9770051  0.0040184 243.1305   <2e-16 ***
french       0.0097038  0.0071643   1.3545   0.1781
cabinet      0.0029272  0.0049578   0.5904   0.5560
maritime     0.0040606  0.0050697   0.8009   0.4247
quebec       0.0012037  0.0079570   0.1513   0.8800
west        -0.0319984  0.0174264  -1.8362   0.0688 .
prairie      0.0018408  0.0061101   0.3013   0.7637
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m21)

Call:
lm(formula = m8.4, data = data1[data1$parl21 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.109590 -0.001793  0.002222  0.007934  0.026337

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9923071  0.0020693 479.546  < 2e-16 ***
french      -0.0008025  0.0036179  -0.222   0.8247
cabinet      0.0069302  0.0028154   2.462   0.0147 *
maritime     0.0025554  0.0035518   0.719   0.4727
quebec      -0.0007593  0.0038314  -0.198   0.8431
west        -0.0255747  0.0047736  -5.358 2.41e-07 ***
prairie     -0.0002410  0.0033488  -0.072   0.9427
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.015 on 191 degrees of freedom
  (7 observations deleted due to missingness)
Multiple R-squared:  0.1672,
  Adjusted R-squared:  0.141
F-statistic: 6.389 on 6 and 191 DF,  p-value: 3.78e-06

> nobs(m21)
[1] 198
> mm21

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.99230711  0.00153729 645.4904 < 2.2e-16 ***
french      -0.00080253  0.00190666  -0.4209 0.6742955
cabinet      0.00693023  0.00186682   3.7123 0.0002694 ***
maritime     0.00255540  0.00196610   1.2997 0.1952601
quebec      -0.00075926  0.00206053  -0.3685 0.7129247
west        -0.02557467  0.01132618  -2.2580 0.0250760 *
prairie     -0.00024103  0.00273245  -0.0882 0.9298021
```

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

> summary(m22)

Call:
lm(formula = m8.4, data = data1[data1$parl22 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.069158 -0.001383  0.002321  0.003697  0.018252

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.992235   0.001638 605.869  < 2e-16 ***
french       0.004013   0.002575   1.558   0.1210
cabinet      0.005283   0.002147   2.461   0.0148 *
maritime     0.004068   0.002681   1.517   0.1311
quebec       0.001432   0.002805   0.510   0.6104
west        -0.015770   0.003905  -4.039 8.08e-05 ***
prairie      0.002577   0.003168   0.814   0.4170
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01129 on 172 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.186,
  Adjusted R-squared:  0.1576
F-statistic:  6.55 on 6 and 172 DF,  p-value: 3.016e-06

> nobs(m22)
[1] 179
> mm22

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9922349  0.0024066 412.2960 < 2.2e-16 ***
french       0.0040126  0.0013725   2.9235  0.003927 **
cabinet      0.0052827  0.0013957   3.7851  0.000212 ***
maritime     0.0040677  0.0023232   1.7509  0.081747 .
quebec       0.0014317  0.0021682   0.6603  0.509935
west        -0.0157701  0.0076201  -2.0695  0.039990 *
prairie      0.0025775  0.0022436   1.1488  0.252234
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m23)

Call:
lm(formula = m8.4, data = data1[data1$parl23 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.51004 -0.02604  0.04552  0.04552  0.09043

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.97257    0.02132  45.615   <2e-16 ***
french       0.01676    0.02850   0.588   0.5577
cabinet           NA         NA      NA       NA
maritime    -0.06300    0.03456  -1.823   0.0714 .
quebec      -0.03485    0.03307  -1.054   0.2946
west        -0.02654    0.05184  -0.512   0.6098
prairie     -0.05694    0.04448  -1.280   0.2036
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09449 on 97 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.04126,
```

```
  Adjusted R-squared:  -0.008155
F-statistic: 0.835 on 5 and 97 DF,  p-value: 0.528

> nobs(m23)
[1] 103
> mm23

t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.972566   0.014265 68.1774  < 2e-16 ***
french       0.016764   0.026469  0.6334  0.52799
maritime    -0.062998   0.026641 -2.3647  0.02004 *
quebec      -0.034847   0.028021 -1.2436  0.21663
west        -0.026543   0.031351 -0.8467  0.39927
prairie     -0.056942   0.038640 -1.4736  0.14382
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m24)

Call:
lm(formula = m8.4, data = data1[data1$parl24 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.019300 -0.002753  0.001233  0.002669  0.010492

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.990728   0.001598 619.822  < 2e-16 ***
french       0.011078   0.002693   4.113 0.000156 ***
cabinet            NA         NA      NA       NA
maritime    -0.001220   0.002775  -0.440 0.662093
quebec      -0.004475   0.002857  -1.566 0.124036
west         0.009272   0.006702   1.383 0.173057
prairie      0.009272   0.006702   1.383 0.173057
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.006509 on 47 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.3292,
  Adjusted R-squared:  0.2578
F-statistic: 4.613 on 5 and 47 DF,  p-value: 0.001663

> nobs(m24)
[1] 53
> mm24

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9907280  0.0021139 468.6678 < 2.2e-16 ***
french       0.0110779  0.0032329   3.4267  0.001279 **
maritime    -0.0012203  0.0026423  -0.4618  0.646320
quebec      -0.0044749  0.0032757  -1.3661  0.178421
west         0.0092720  0.0021139   4.3861 6.468e-05 ***
prairie      0.0092720  0.0021139   4.3861 6.468e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m26)

Call:
lm(formula = m8.4, data = data1[data1$parl26 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.91433 -0.00299  0.01271  0.01377  0.08567
```

```
Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.986232   0.013130  75.113  < 2e-16 ***
french       0.068150   0.023879   2.854  0.00505 **
cabinet      0.016756   0.015845   1.057  0.29234
maritime     0.001058   0.022211   0.048  0.96210
quebec      -0.071904   0.025016  -2.874  0.00476 **
west         0.004194   0.034888   0.120  0.90452
prairie     -0.020119   0.051668  -0.389  0.69765
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08589 on 125 degrees of freedom
Multiple R-squared:  0.07764,
  Adjusted R-squared:  0.03337
F-statistic: 1.754 on 6 and 125 DF,  p-value: 0.114

> nobs(m26)
[1] 132
> mm26

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9862317  0.0106914 92.2455   <2e-16 ***
french       0.0681502  0.0628360  1.0846   0.2802
cabinet      0.0167557  0.0144350  1.1608   0.2479
maritime     0.0010576  0.0057865  0.1828   0.8553
quebec      -0.0719037  0.0673758 -1.0672   0.2879
west         0.0041936  0.0047147  0.8895   0.3755
prairie     -0.0201189  0.0306521 -0.6564   0.5128
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m27)

Call:
lm(formula = m8.4, data = data1[data1$parl27 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.139393 -0.008751  0.006053  0.016978  0.038781

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9752136  0.0044276 220.257   <2e-16 ***
french      -0.0084287  0.0079627  -1.059    0.292
cabinet      0.0072706  0.0052238   1.392    0.166
maritime     0.0079326  0.0079975   0.992    0.323
quebec      -0.0055657  0.0083117  -0.670    0.504
west         0.0002667  0.0108567   0.025    0.980
prairie      0.0253655  0.0208035   1.219    0.225
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0284 on 131 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1041,
  Adjusted R-squared:  0.06303
F-statistic: 2.536 on 6 and 131 DF,  p-value: 0.0235

> nobs(m27)
[1] 138
> mm27

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.97521358  0.00522354 186.6960 < 2.2e-16 ***
french      -0.00842867  0.00572139  -1.4732   0.14310
cabinet      0.00727057  0.00423030   1.7187   0.08803 .
```

```
maritime     0.00793258  0.00602105   1.3175   0.18998
quebec      -0.00556571  0.00628414  -0.8857   0.37742
west         0.00026669  0.00640846   0.0416   0.96687
prairie      0.02536546  0.00470758   5.3882 3.199e-07 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m28)

Call:
lm(formula = m8.4, data = data1[data1$parl28 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0147209  0.0004766  0.0006053  0.0012795  0.0020965

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9985919  0.0004342 2299.740   <2e-16 ***
french       0.0005280  0.0007754    0.681    0.497
cabinet      0.0001286  0.0004738    0.272    0.786
maritime     0.0011837  0.0011894    0.995    0.321
quebec       0.0002749  0.0008006    0.343    0.732
west        -0.0006884  0.0008101   -0.850    0.397
prairie      0.0009818  0.0009662    1.016    0.311
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002953 on 151 degrees of freedom
Multiple R-squared:  0.03594,
  Adjusted R-squared:  -0.002363
F-statistic: 0.9383 on 6 and 151 DF,  p-value: 0.4694

> nobs(m28)
[1] 158
> mm28

t test of coefficients:

               Estimate  Std. Error   t value Pr(>|t|)
(Intercept)  0.99859190  0.00054625 1828.0826   <2e-16 ***
french       0.00052796  0.00041462    1.2734   0.2048
cabinet      0.00012864  0.00044383    0.2898   0.7723
maritime     0.00118375  0.00037822    3.1298   0.0021 **
quebec       0.00027486  0.00054717    0.5023   0.6162
west        -0.00068841  0.00110923   -0.6206   0.5358
prairie      0.00098177  0.00049158    1.9972   0.0476 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m29)

Call:
lm(formula = m8.4, data = data1[data1$parl29 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.079548 -0.000415  0.004233  0.012760  0.016020

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.993777   0.003683 269.818   <2e-16 ***
french       0.001270   0.004574   0.278   0.7819
cabinet      0.001990   0.003788   0.525   0.6004
maritime     0.004648   0.006697   0.694   0.4892
quebec      -0.009797   0.004944  -1.982   0.0502 .
west         0.005228   0.009832   0.532   0.5961
prairie     -0.004962   0.011388  -0.436   0.6639
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.0186 on 102 degrees of freedom
Multiple R-squared:  0.08849,
  Adjusted R-squared:  0.03487
F-statistic:  1.65 on 6 and 102 DF,  p-value: 0.141

> nobs(m29)
[1] 109
> mm29

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9937770  0.0030289 328.0959  < 2e-16 ***
french       0.0012697  0.0047379   0.2680  0.78925
cabinet      0.0019902  0.0042736   0.4657  0.64243
maritime     0.0046480  0.0029168   1.5935  0.11414
quebec      -0.0097966  0.0045671  -2.1451  0.03432 *
west         0.0052279  0.0029362   1.7805  0.07797 .
prairie     -0.0049623  0.0084181  -0.5895  0.55684
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m30)

Call:
lm(formula = m8.4, data = data1[data1$parl30 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.054257 -0.004737  0.003663  0.005432  0.016177

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.989040   0.002109 468.979  < 2e-16 ***
french      -0.001242   0.002259  -0.550  0.58327
cabinet      0.005528   0.001982   2.789  0.00601 **
maritime     0.000900   0.003077   0.292  0.77035
quebec       0.001270   0.002411   0.527  0.59906
west        -0.009890   0.003992  -2.478  0.01439 *
prairie      0.003251   0.004544   0.715  0.47553
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0105 on 142 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1029,
  Adjusted R-squared:  0.06498
F-statistic: 2.714 on 6 and 142 DF,  p-value: 0.01587

> nobs(m30)
[1] 149
> mm30

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  0.98904007  0.00297084 332.9159  < 2e-16 ***
french      -0.00124241  0.00169737  -0.7320  0.46540
cabinet      0.00552779  0.00256759   2.1529  0.03302 *
maritime     0.00090004  0.00301200   0.2988  0.76552
quebec       0.00127026  0.00209581   0.6061  0.54542
west        -0.00989020  0.00661898  -1.4942  0.13734
prairie      0.00325056  0.00203449   1.5977  0.11233
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m31)

Call:
lm(formula = m8.4, data = data1[data1$parl31 == 1, ])
```

```
Residuals:
      Min        1Q    Median        3Q       Max
-0.159738  0.000000  0.006929  0.006929  0.015603

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.0005897  0.0053773 186.077   <2e-16 ***
french      -0.0022849  0.0065761  -0.347    0.729
cabinet             NA         NA      NA       NA
maritime    -0.0139073  0.0096589  -1.440    0.153
quebec      -0.0052335  0.0071459  -0.732    0.466
west        -0.0005897  0.0289137  -0.020    0.984
prairie     -0.0005897  0.0207956  -0.028    0.977
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02841 on 107 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.02299,
  Adjusted R-squared:  -0.02267
F-statistic: 0.5035 on 5 and 107 DF,  p-value: 0.773

> nobs(m31)
[1] 113
> mm31

t test of coefficients:

               Estimate  Std. Error   t value Pr(>|t|)
(Intercept)  1.00058966  0.00097457 1026.6944  < 2e-16 ***
french      -0.00228493  0.00369995   -0.6176  0.53818
maritime    -0.01390732  0.01376950   -1.0100  0.31477
quebec      -0.00523350  0.00275390   -1.9004  0.06007 .
west        -0.00058966  0.00097457   -0.6050  0.54643
prairie     -0.00058966  0.00097457   -0.6050  0.54643
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m32)

Call:
lm(formula = m8.4, data = data1[data1$parl32 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0141571  0.0000261  0.0001711  0.0007329  0.0025709

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9974291  0.0004538 2198.175  < 2e-16 ***
french       0.0001451  0.0004737    0.306    0.760
cabinet      0.0018380  0.0004191    4.386 2.22e-05 ***
maritime     0.0003963  0.0005661    0.700    0.485
quebec       0.0005617  0.0004988    1.126    0.262
west         0.0025709  0.0022021    1.167    0.245
prairie     -0.0010577  0.0015553   -0.680    0.498
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002155 on 144 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1322,
  Adjusted R-squared:  0.09603
F-statistic: 3.656 on 6 and 144 DF,  p-value: 0.00208

> nobs(m32)
[1] 151
> mm32

t test of coefficients:
```

```
              Estimate  Std. Error   t value  Pr(>|t|)
(Intercept)  0.99742914  0.00081390 1225.4872 < 2.2e-16 ***
french       0.00014506  0.00064712    0.2242 0.8229481
cabinet      0.00183800  0.00067168    2.7364 0.0069938 **
maritime     0.00039634  0.00051931    0.7632 0.4465853
quebec       0.00056171  0.00067570    0.8313 0.4071821
west         0.00257086  0.00081390    3.1587 0.0019315 **
prairie     -0.00105771  0.00029386   -3.5994 0.0004379 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m33)

Call:
lm(formula = m8.4, data = data1[data1$parl33 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.16992  0.00000  0.00531  0.01229  0.01635

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.987054   0.008930 110.526   <2e-16 ***
french      -0.001406   0.012760  -0.110    0.913
cabinet           NA         NA      NA       NA
maritime     0.007835   0.015142   0.517    0.608
quebec      -0.001999   0.013437  -0.149    0.883
west         0.012946   0.033908   0.382    0.705
prairie      0.010854   0.033908   0.320    0.751
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03271 on 35 degrees of freedom
Multiple R-squared:  0.02221,
  Adjusted R-squared:  -0.1175
F-statistic: 0.159 on 5 and 35 DF,  p-value: 0.9758

> nobs(m33)
[1] 41
> mm33

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9870543  0.0059217 166.6831  < 2e-16 ***
french      -0.0014057  0.0103251  -0.1361  0.89249
maritime     0.0078352  0.0055897   1.4017  0.16980
quebec      -0.0019987  0.0081296  -0.2459  0.80723
west         0.0129457  0.0059217   2.1861  0.03558 *
prairie      0.0108536  0.0059217   1.8328  0.07534 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m34)

Call:
lm(formula = m8.4, data = data1[data1$parl34 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.40502 -0.00305  0.00051  0.00481  0.20927

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.930e-01  8.777e-03 113.133  < 2e-16 ***
french       6.362e-04  1.675e-02   0.038    0.970
cabinet             NA         NA      NA       NA
maritime     2.094e-05  1.508e-02   0.001    0.999
quebec       2.098e-03  1.942e-02   0.108    0.914
west        -2.023e-01  3.357e-02  -6.025 5.07e-08 ***
prairie      4.052e-03  2.454e-02   0.165    0.869
```

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

Residual standard error: 0.05612 on 79 degrees of freedom
Multiple R-squared:  0.3242,
  Adjusted R-squared:  0.2815
F-statistic: 7.581 on 5 and 79 DF,  p-value: 7.373e-06

> nobs(m34)
[1] 85
> mm34

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  9.9300e-01  1.0317e-03 962.5312  < 2e-16 ***
french       6.3615e-04  1.6064e-03   0.3960  0.69316
maritime     2.0936e-05  1.4271e-03   0.0147  0.98833
quebec       2.0979e-03  1.8379e-03   1.1415  0.25712
west        -2.0226e-01  1.7155e-01  -1.1791  0.24191
prairie      4.0517e-03  2.1000e-03   1.9294  0.05727 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m36)

Call:
lm(formula = m8.4, data = data1[data1$parl36 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.075951 -0.002402  0.002224  0.004191  0.011074

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.889e-01  1.335e-03 740.995  < 2e-16 ***
french       1.413e-03  2.214e-03   0.638    0.524
cabinet      6.882e-03  1.562e-03   4.405 1.95e-05 ***
maritime     9.347e-04  2.884e-03   0.324    0.746
quebec       1.955e-06  2.272e-03   0.001    0.999
west         4.308e-03  3.279e-03   1.314    0.191
prairie     -8.210e-04  3.142e-03  -0.261    0.794
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.009374 on 157 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1285,
  Adjusted R-squared:  0.09524
F-statistic:  3.86 on 6 and 157 DF,  p-value: 0.001277

> nobs(m36)
[1] 164
> mm36

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  9.8893e-01  2.1117e-03 468.2976 < 2.2e-16 ***
french       1.4131e-03  1.8446e-03   0.7661 0.4447862
cabinet      6.8821e-03  1.9845e-03   3.4680 0.0006768 ***
maritime     9.3467e-04  1.6850e-03   0.5547 0.5798844
quebec       1.9554e-06  1.9587e-03   0.0010 0.9992047
west         4.3077e-03  1.2944e-03   3.3280 0.0010897 **
prairie     -8.2102e-04  2.8007e-03  -0.2931 0.7697965
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m37)

Call:
```

```
lm(formula = m8.4, data = data1[data1$parl37 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.114292 -0.003924  0.007415  0.016373  0.040482

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.957557   0.004640 206.348  < 2e-16 ***
french      0.000546   0.005918   0.092  0.92660
cabinet     0.018333   0.004900   3.742  0.00025 ***
maritime    0.003643   0.006796   0.536  0.59259
quebec      0.012696   0.006207   2.045  0.04235 *
west        0.012588   0.009748   1.291  0.19833
prairie     0.016993   0.009264   1.834  0.06835 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02783 on 170 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1209,
  Adjusted R-squared:  0.08988
F-statistic: 3.897 on 6 and 170 DF,  p-value: 0.001132

> nobs(m37)
[1] 177
> mm37

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept) 0.95755684 0.00634451 150.9267 < 2.2e-16 ***
french      0.00054601 0.00566153   0.0964  0.923282
cabinet     0.01833346 0.00559142   3.2789  0.001264 **
maritime    0.00364307 0.00600548   0.6066  0.544910
quebec      0.01269597 0.00614579   2.0658  0.040365 *
west        0.01258786 0.00417899   3.0122  0.002990 **
prairie     0.01699296 0.00511997   3.3190  0.001105 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m38)

Call:
lm(formula = m8.4, data = data1[data1$parl38 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.120720 -0.012621  0.008066  0.022137  0.054522

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9460888  0.0050877 185.955  < 2e-16 ***
french      -0.0002339  0.0088771  -0.026    0.979
cabinet      0.0317738  0.0063406   5.011 1.74e-06 ***
maritime    -0.0006109  0.0086531  -0.071    0.944
quebec       0.0068211  0.0096536   0.707    0.481
west         0.0108606  0.0118293   0.918    0.360
prairie     -0.0036842  0.0155120  -0.238    0.813
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03607 on 129 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1825,
  Adjusted R-squared:  0.1445
F-statistic: 4.799 on 6 and 129 DF,  p-value: 0.0001886

> nobs(m38)
[1] 136
> mm38
```

```
t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.94608880  0.00615707 153.6588 < 2.2e-16 ***
french      -0.00023387  0.00687094  -0.0340    0.9729
cabinet      0.03177385  0.00663019   4.7923 4.462e-06 ***
maritime    -0.00061086  0.00790441  -0.0773    0.9385
quebec       0.00682110  0.00724373   0.9417    0.3481
west         0.01086059  0.00844861   1.2855    0.2009
prairie     -0.00368422  0.01631680  -0.2258    0.8217
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m39)

Call:
lm(formula = m8.4, data = data1[data1$parl39 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.055004 -0.007188  0.002093  0.012140  0.032687

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.970258   0.002476 391.841   <2e-16 ***
french       0.005259   0.005348   0.983   0.3279
cabinet            NA         NA      NA       NA
maritime     0.007331   0.004821   1.521   0.1315
quebec       0.012642   0.006053   2.089   0.0393 *
west        -0.002945   0.006115  -0.482   0.6311
prairie      0.009847   0.008647   1.139   0.2575
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01848 on 100 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.09645,
  Adjusted R-squared:  0.05128
F-statistic: 2.135 on 5 and 100 DF,  p-value: 0.06735

> nobs(m39)
[1] 106
> mm39

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9702578  0.0028762 337.3432 < 2.2e-16 ***
french       0.0052586  0.0029935   1.7567  0.082038 .
maritime     0.0073314  0.0033912   2.1619  0.033015 *
quebec       0.0126424  0.0040347   3.1334  0.002268 **
west        -0.0029449  0.0082706  -0.3561  0.722538
prairie      0.0098468  0.0068467   1.4382  0.153502
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m40)

Call:
lm(formula = m8.4, data = data1[data1$parl40 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.046451 -0.004527  0.006133  0.012061  0.037483

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.980271   0.002964 330.742  < 2e-16 ***
french      -0.004153   0.007244  -0.573  0.56826
cabinet            NA         NA      NA       NA
```

```
maritime     0.003657   0.005312   0.689  0.49334
quebec       0.008172   0.006886   1.187  0.23929
west        -0.021377   0.007920  -2.699  0.00868 **
prairie      0.007590   0.010801   0.703  0.48454
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01799 on 71 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1372,
  Adjusted R-squared:  0.07648
F-statistic: 2.259 on 5 and 71 DF,  p-value: 0.05772

> nobs(m40)
[1] 77
> mm40

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9802710  0.0031338 312.8039   <2e-16 ***
french      -0.0041531  0.0066240  -0.6270   0.5327
maritime     0.0036574  0.0047710   0.7666   0.4459
quebec       0.0081716  0.0066144   1.2354   0.2207
west        -0.0213774  0.0119584  -1.7876   0.0781 .
prairie      0.0075895  0.0042411   1.7895   0.0778 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

>
> all2 <-
rbind(conf40,conf39,conf38,conf37,conf36,conf34,conf33,conf32,conf30,conf29,conf28,conf27,conf26,conf24,conf22,
conf21,conf20,conf19,conf18,conf17,conf16,conf14,conf13,conf12,conf11,conf10,conf9,conf8,conf7,conf6,conf5,conf
4,conf3,conf2,conf1)
>
> colnames(all2) <- c("low","high","coef","V1")
> all2 <- data.frame(all2)
> all2$low <- as.numeric(as.character(all2$low))
> all2$high <- as.numeric(as.character(all2$high))
> all2$coef <- as.numeric(as.character(all2$coef))
>
> all1$party  <- paste("Conservative")
> all2$party  <- paste("Liberal")
>
> all <- rbind(all1,all2)
> all$specification <- 1:35
> pd <- position_dodge(width=0.5)
>
>
> #tiff(file = "~/Dropbox/Canada-Manuscript/Figures-Final/Figure-8.4.1.jpg", width = 8, height = 8, units =
'in', res = 200)
> #ggplot(all, aes(specification,coef, color=party,ymin = low,ymax = high)) +
> #geom_point(aes(shape=party),size=2, position=pd) +
> #scale_color_manual(name="Party",values=c("black","gray")) +
> #scale_shape_manual(name="Party",values=c(16,16)) +
> #theme_bw() +
> #scale_x_discrete('Parliaments (1867-2011)',limits=all$V1) +
> #scale_y_continuous("95% Confidence Intervals for French Speaking MPs",limits = c(-.9,.5)) +
> #geom_errorbar(aes(ymin=low,ymax=high),width=0.2,size=.3,position=pd)+
> #geom_hline(yintercept=0) +
> #coord_flip() +
> #ggtitle("French Speaking MPs") +
> #theme(plot.title = element_text(hjust = 0.5))
> #dev.off()
>
> ##################
> #Prairie analysis#
> ##################
>
> #Conservative Prairie
>
```

```
> dataC1 <- subset(dataC, dataC$parliament < 11)
> dataC2 <- subset(dataC, dataC$parliament > 10)
>
> dat <- dataC1
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,ifelse(dat$province=="Northwest Territories",1,0))))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Nunavut",
1,ifelse(dat$province=="Yukon",1,0)))
> dat1 <- dat
>
> dat <- dataC2
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,0)))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Northwest Territories",
1,ifelse(dat$province=="Nunavut",1,ifelse(dat$province=="Yukon",1,0))))
> dat2 <- dat
>
> data1 <- rbind(dat1,dat2)
>
> #Model 8.4 for Conservative Prairie
>
> m8.4 <- loyalty ~ prairie + cabinet + maritime + quebec + west + french
>
> m2 <- lm(m8.4,data=data1[data1$parl2==1,])
> m3 <- lm(m8.4,data=data1[data1$parl3==1,])
> m4 <- lm(m8.4,data=data1[data1$parl4==1,])
> m5 <- lm(m8.4,data=data1[data1$parl5==1,])
> m6 <- lm(m8.4,data=data1[data1$parl6==1,])
> m7 <- lm(m8.4,data=data1[data1$parl7==1,])
> m8 <- lm(m8.4,data=data1[data1$parl8==1,])
> m9 <- lm(m8.4,data=data1[data1$parl9==1,])
> m10 <- lm(m8.4,data=data1[data1$parl10==1,])
> m11 <- lm(m8.4,data=data1[data1$parl11==1,])
> m12 <- lm(m8.4,data=data1[data1$parl12==1,])
> m13 <- lm(m8.4,data=data1[data1$parl13==1,])
> m14 <- lm(m8.4,data=data1[data1$parl14==1,])
> m15 <- lm(m8.4,data=data1[data1$parl15==1,])
> m16 <- lm(m8.4,data=data1[data1$parl16==1,])
> m17 <- lm(m8.4,data=data1[data1$parl17==1,])
> m18 <- lm(m8.4,data=data1[data1$parl18==1,])
> m19 <- lm(m8.4,data=data1[data1$parl19==1,])
> m20 <- lm(m8.4,data=data1[data1$parl20==1,])
> m21 <- lm(m8.4,data=data1[data1$parl21==1,])
> m22 <- lm(m8.4,data=data1[data1$parl22==1,])
> m23 <- lm(m8.4,data=data1[data1$parl23==1,])
> m24 <- lm(m8.4,data=data1[data1$parl24==1,])
> #m25 <- lm(m8.4,data=data1[data1$parl25==1,])
> m26 <- lm(m8.4,data=data1[data1$parl26==1,])
> m27 <- lm(m8.4,data=data1[data1$parl27==1,])
> m28 <- lm(m8.4,data=data1[data1$parl28==1,])
> m29 <- lm(m8.4,data=data1[data1$parl29==1,])
> m30 <- lm(m8.4,data=data1[data1$parl30==1,])
> m31 <- lm(m8.4,data=data1[data1$parl31==1,])
> m32 <- lm(m8.4,data=data1[data1$parl32==1,])
> m33 <- lm(m8.4,data=data1[data1$parl33==1,])
> m34 <- lm(m8.4,data=data1[data1$parl34==1,])
> #m35 <- lm(m8.4,data=data1[data1$parl35==1,])
> m36 <- lm(m8.4,data=data1[data1$parl36==1,])
> m37 <- lm(m8.4,data=data1[data1$parl37==1,])
> m38 <- lm(m8.4,data=data1[data1$parl38==1,])
> m39 <- lm(m8.4,data=data1[data1$parl39==1,])
> m40 <- lm(m8.4,data=data1[data1$parl40==1,])
>
> 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))
> mm18 <- coeftest(m18, vcov = vcovHAC(m18))
> mm19 <- coeftest(m19, vcov = vcovHAC(m19))
> mm20 <- coeftest(m20, vcov = vcovHAC(m20))
> mm21 <- coeftest(m21, vcov = vcovHAC(m21))
> mm22 <- coeftest(m22, vcov = vcovHAC(m22))
> mm23 <- coeftest(m23, vcov = vcovHAC(m23))
> mm24 <- coeftest(m24, vcov = vcovHAC(m24))
> #mm25 <- coeftest(m25, vcov = vcovHAC(m25))
> mm26 <- coeftest(m26, vcov = vcovHAC(m26))
> mm27 <- coeftest(m27, vcov = vcovHAC(m27))
> mm28 <- coeftest(m28, vcov = vcovHAC(m28))
> mm29 <- coeftest(m29, vcov = vcovHAC(m29))
> mm30 <- coeftest(m30, vcov = vcovHAC(m30))
> mm31 <- coeftest(m31, vcov = vcovHAC(m31))
> mm32 <- coeftest(m32, vcov = vcovHAC(m32))
> mm33 <- coeftest(m33, vcov = vcovHAC(m33))
> mm34 <- coeftest(m34, vcov = vcovHAC(m34))
> #mm35 <- coeftest(m35, vcov = vcovHAC(m35))
> mm36 <- coeftest(m36, vcov = vcovHAC(m36))
> mm37 <- coeftest(m37, vcov = vcovHAC(m37))
> mm38 <- coeftest(m38, vcov = vcovHAC(m38))
> mm39 <- coeftest(m39, vcov = vcovHAC(m39))
> mm40 <- coeftest(m40, vcov = vcovHAC(m40))
>
> coef <- mm2[2,1]
> se <- mm2[2,2]
> conf2 <- coef + c(-1,1)*se*qt(0.975, m2$df.residual)
> conf2 <- c(conf2,coef,"2nd (1872-1874)")
> coef <- mm3[2,1]
> se <- mm3[2,2]
> conf3 <- coef + c(-1,1)*se*qt(0.975, m3$df.residual)
> conf3 <- c(conf3,coef,"3rd (1874-1878)")
> coef <- mm4[2,1]
> se <- mm4[2,2]
> conf4 <- coef + c(-1,1)*se*qt(0.975, m4$df.residual)
> conf4 <- c(conf4,coef,"4th (1879-1882)")
> coef <- mm5[2,1]
> se <- mm5[2,2]
> conf5 <- coef + c(-1,1)*se*qt(0.975, m5$df.residual)
> conf5 <- c(conf5,coef,"5th (1883-1887)")
> coef <- mm6[2,1]
> se <- mm6[2,2]
> conf6 <- coef + c(-1,1)*se*qt(0.975, m6$df.residual)
> conf6 <- c(conf6,coef,"6th (1887-1891)")
> coef <- mm7[2,1]
> se <- mm7[2,2]
> conf7 <- coef + c(-1,1)*se*qt(0.975, m7$df.residual)
> conf7 <- c(conf7,coef,"7th (1891-1896)")
> coef <- mm8[2,1]
> se <- mm8[2,2]
> conf8 <- coef + c(-1,1)*se*qt(0.975, m8$df.residual)
> conf8 <- c(conf8,coef,"8th (1896-1900)")
> coef <- mm9[2,1]
> se <- mm9[2,2]
> conf9 <- coef + c(-1,1)*se*qt(0.975, m9$df.residual)
> conf9 <- c(conf9,coef,"9th (1901-1904)")
> coef <- mm10[2,1]
> se <- mm10[2,2]
> conf10 <- coef + c(-1,1)*se*qt(0.975, m10$df.residual)
> conf10 <- c(conf10,coef,"10th (1905-1908)")
> coef <- mm11[2,1]
> se <- mm11[2,2]
> conf11 <- coef + c(-1,1)*se*qt(0.975, m11$df.residual)
```

```
> conf11 <- c(conf11,coef,"11th (1909-1911)")
> coef <- mm12[2,1]
> se <- mm12[2,2]
> conf12 <- coef + c(-1,1)*se*qt(0.975, m12$df.residual)
> conf12 <- c(conf12,coef,"12th (1911-1917)")
> coef <- mm13[2,1]
> se <- mm13[2,2]
> conf13 <- coef + c(-1,1)*se*qt(0.975, m13$df.residual)
> conf13 <- c(conf13,coef,"13th (1917-1921)")
> coef <- mm14[2,1]
> se <- mm14[2,2]
> conf14 <- coef + c(-1,1)*se*qt(0.975, m14$df.residual)
> conf14 <- c(conf14,coef,"14th (1921-1925)")
> coef <- mm16[2,1]
> se <- mm16[2,2]
> conf16 <- coef + c(-1,1)*se*qt(0.975, m16$df.residual)
> conf16 <- c(conf16,coef,"16th (1926-1930)")
> coef <- mm17[2,1]
> se <- mm17[2,2]
> conf17 <- coef + c(-1,1)*se*qt(0.975, m17$df.residual)
> conf17 <- c(conf17,coef,"17th (1930-1935)")
> coef <- mm18[2,1]
> se <- mm18[2,2]
> conf18 <- coef + c(-1,1)*se*qt(0.975, m18$df.residual)
> conf18 <- c(conf18,coef,"18th (1935-1940)")
> coef <- mm19[2,1]
> se <- mm19[2,2]
> conf19 <- coef + c(-1,1)*se*qt(0.975, m19$df.residual)
> conf19 <- c(conf19,coef,"19th (1940-1945)")
> coef <- mm20[2,1]
> se <- mm20[2,2]
> conf20 <- coef + c(-1,1)*se*qt(0.975, m20$df.residual)
> conf20 <- c(conf20,coef,"20th (1945-1949)")
> coef <- mm21[2,1]
> se <- mm21[2,2]
> conf21 <- coef + c(-1,1)*se*qt(0.975, m21$df.residual)
> conf21 <- c(conf21,coef,"21st (1949-1953)")
> coef <- mm22[2,1]
> se <- mm22[2,2]
> conf22 <- coef + c(-1,1)*se*qt(0.975, m22$df.residual)
> conf22 <- c(conf22,coef,"22nd (1953-1957)")
> coef <- mm24[2,1]
> se <- mm24[2,2]
> conf24 <- coef + c(-1,1)*se*qt(0.975, m24$df.residual)
> conf24 <- c(conf24,coef,"24th (1958-1962)")
> coef <- mm26[2,1]
> se <- mm26[2,2]
> conf26 <- coef + c(-1,1)*se*qt(0.975, m26$df.residual)
> conf26 <- c(conf26,coef,"26th (1963-1965)")
> coef <- mm27[2,1]
> se <- mm27[2,2]
> conf27 <- coef + c(-1,1)*se*qt(0.975, m27$df.residual)
> conf27 <- c(conf27,coef,"27th (1965-1968)")
> coef <- mm28[2,1]
> se <- mm28[2,2]
> conf28 <- coef + c(-1,1)*se*qt(0.975, m28$df.residual)
> conf28 <- c(conf28,coef,"28th (1968-1972)")
> coef <- mm29[2,1]
> se <- mm29[2,2]
> conf29 <- coef + c(-1,1)*se*qt(0.975, m29$df.residual)
> conf29 <- c(conf29,coef,"29th (1972-1974)")
> coef <- mm30[2,1]
> se <- mm30[2,2]
> conf30 <- coef + c(-1,1)*se*qt(0.975, m30$df.residual)
> conf30 <- c(conf30,coef,"30th (1974-1979)")
> coef <- mm32[2,1]
> se <- mm32[2,2]
> conf32 <- coef + c(-1,1)*se*qt(0.975, m32$df.residual)
> conf32 <- c(conf32,coef,"32nd (1980-1984)")
> coef <- mm33[2,1]
> se <- mm33[2,2]
```

```
> conf33 <- coef + c(-1,1)*se*qt(0.975, m33$df.residual)
> conf33 <- c(conf33,coef,"33rd (1984-1988)")
> coef <- mm34[2,1]
> se <- mm34[2,2]
> conf34 <- coef + c(-1,1)*se*qt(0.975, m34$df.residual)
> conf34 <- c(conf34,coef,"34th (1988-1993)")
> coef <- mm36[2,1]
> se <- mm36[2,2]
> conf36 <- coef + c(-1,1)*se*qt(0.975, m36$df.residual)
> conf36 <- c(conf36,coef,"36th (1997-2000)")
> coef <- mm37[2,1]
> se <- mm37[2,2]
> conf37 <- coef + c(-1,1)*se*qt(0.975, m37$df.residual)
> conf37 <- c(conf37,coef,"37th (2001-2004)")
> coef <- mm38[2,1]
> se <- mm38[2,2]
> conf38 <- coef + c(-1,1)*se*qt(0.975, m38$df.residual)
> conf38 <- c(conf38,coef,"38th (2004-2005)")
> coef <- mm39[2,1]
> se <- mm39[2,2]
> conf39 <- coef + c(-1,1)*se*qt(0.975, m39$df.residual)
> conf39 <- c(conf39,coef,"39th (2006-2008)")
> coef <- mm40[2,1]
> se <- mm40[2,2]
> conf40 <- coef + c(-1,1)*se*qt(0.975, m40$df.residual)
> conf40 <- c(conf40,coef,"40th (2008-2011)")
>
> #Print results Conservative Language
>
> summary(m2)

Call:
lm(formula = m8.4, data = data1[data1$parl2 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.38532 -0.03148  0.01672  0.05422  0.16315

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.93792    0.01429  65.619  < 2e-16 ***
prairie     -0.08078    0.08573  -0.942 0.348693
cabinet      0.04343    0.02901   1.497 0.137999
maritime    -0.05261    0.02585  -2.035 0.044978 *
quebec      -0.10107    0.02735  -3.695 0.000388 ***
west         0.06208    0.04461   1.391 0.167743
french      -0.07406    0.02957  -2.504 0.014178 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08453 on 85 degrees of freedom
  (11 observations deleted due to missingness)
Multiple R-squared:  0.4601,
  Adjusted R-squared:  0.4219
F-statistic: 12.07 on 6 and 85 DF,  p-value: 9.117e-10

> nobs(m2)
[1] 92
> mm2

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.937925   0.010257 91.4464 < 2.2e-16 ***
prairie     -0.080782   0.010257 -7.8761 1.004e-11 ***
cabinet      0.043434   0.030458  1.4261 0.1575161
maritime    -0.052608   0.040858 -1.2876 0.2013848
quebec      -0.101073   0.025908 -3.9013 0.0001908 ***
west         0.062075   0.010257  6.0523 3.730e-08 ***
french      -0.074058   0.026103 -2.8372 0.0056893 **
---
```

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

> summary(m3)

Call:
lm(formula = m8.4, data = data1[data1$parl3 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.53927 -0.02702  0.02876  0.07618  0.24133

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.73454    0.02677  27.444   <2e-16 ***
prairie     -0.18615    0.15607  -1.193    0.237
cabinet           NA         NA      NA       NA
maritime    -0.06678    0.05353  -1.248    0.216
quebec       0.07407    0.05183   1.429    0.157
west         0.02398    0.11197   0.214    0.831
french       0.04495    0.05400   0.832    0.408
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1538 on 78 degrees of freedom
Multiple R-squared:  0.1776,
  Adjusted R-squared:  0.1249
F-statistic:  3.37 on 5 and 78 DF,  p-value: 0.008284

> nobs(m3)
[1] 84
> mm3

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.734541   0.028279 25.9744 < 2.2e-16 ***
prairie     -0.186154   0.028279 -6.5827 4.847e-09 ***
maritime    -0.066785   0.066113 -1.0102    0.3155
quebec       0.074071   0.048385  1.5309    0.1298
west         0.023981   0.035778  0.6703    0.5047
french       0.044947   0.044243  1.0159    0.3128
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m4)

Call:
lm(formula = m8.4, data = data1[data1$parl4 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.73428 -0.01272  0.00831  0.02632  0.08238

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.917618   0.008677 105.758   <2e-16 ***
prairie     0.015221   0.037141   0.410    0.683
cabinet     0.006577   0.020888   0.315    0.753
maritime    0.005750   0.016609   0.346    0.730
quebec      0.013002   0.018174   0.715    0.475
west        0.045282   0.030069   1.506    0.134
french      0.013638   0.018109   0.753    0.453
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07018 on 148 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.03586,
  Adjusted R-squared:  -0.003228
F-statistic: 0.9174 on 6 and 148 DF,  p-value: 0.4842
```

```
> nobs(m4)
[1] 155
> mm4

t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.9176183  0.0122963 74.6256  < 2e-16 ***
prairie     0.0152212  0.0306183  0.4971  0.61984
cabinet     0.0065774  0.0074760  0.8798  0.38040
maritime    0.0057498  0.0143310  0.4012  0.68884
quebec      0.0130020  0.0136531  0.9523  0.34249
west        0.0452820  0.0154023  2.9400  0.00381 **
french      0.0136382  0.0090039  1.5147  0.13198
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m5)

Call:
lm(formula = m8.4, data = data1[data1$parl5 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.230388 -0.024444  0.006867  0.033917  0.075140

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.910231   0.007072 128.706  < 2e-16 ***
prairie      0.029323   0.030631   0.957  0.34002
cabinet      0.017251   0.015112   1.141  0.25556
maritime    -0.005075   0.011334  -0.448  0.65501
quebec      -0.004963   0.013412  -0.370  0.71192
west        -0.030185   0.022066  -1.368  0.17346
french      -0.043302   0.012922  -3.351  0.00103 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0512 on 144 degrees of freedom
  (5 observations deleted due to missingness)
Multiple R-squared:  0.1662,
  Adjusted R-squared:  0.1314
F-statistic: 4.783 on 6 and 144 DF,  p-value: 0.0001776

> nobs(m5)
[1] 151
> mm5

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9102315  0.0064050 142.1136 < 2.2e-16 ***
prairie      0.0293233  0.0139823   2.0972   0.03773 *
cabinet      0.0172506  0.0146994   1.1736   0.24251
maritime    -0.0050746  0.0097317  -0.5215   0.60285
quebec      -0.0049627  0.0105572  -0.4701   0.63901
west        -0.0301845  0.0115328  -2.6173   0.00981 **
french      -0.0433020  0.0107276  -4.0365 8.779e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m6)

Call:
lm(formula = m8.4, data = data1[data1$parl6 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.49905 -0.02394  0.00570  0.04249  0.13163

Coefficients:
```

```
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.901521   0.010119  89.092  < 2e-16 ***
prairie      0.017026   0.026233   0.649  0.51742
cabinet      0.048780   0.020641   2.363  0.01955 *
maritime     0.008289   0.017762   0.467  0.64150
quebec      -0.071126   0.022141  -3.212  0.00165 **
west         0.011636   0.027432   0.424  0.67212
french      -0.072086   0.023349  -3.087  0.00246 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07649 on 134 degrees of freedom
  (7 observations deleted due to missingness)
Multiple R-squared:  0.3792,
  Adjusted R-squared:  0.3515
F-statistic: 13.64 on 6 and 134 DF,  p-value: 4.727e-12

> nobs(m6)
[1] 141
> mm6

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9015210  0.0080828 111.5362 < 2.2e-16 ***
prairie      0.0170264  0.0115004   1.4805 0.1410855
cabinet      0.0487802  0.0139371   3.5000 0.0006322 ***
maritime     0.0082890  0.0127447   0.6504 0.5165581
quebec      -0.0711256  0.0153966  -4.6196 8.922e-06 ***
west         0.0116362  0.0206738   0.5628 0.5744783
french      -0.0720855  0.0247730  -2.9098 0.0042355 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m7)

Call:
lm(formula = m8.4, data = data1[data1$parl7 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.50059 -0.01089  0.01612  0.03482  0.07084

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.945952   0.009649  98.040   <2e-16 ***
prairie      0.017725   0.025300   0.701    0.485
cabinet      0.018019   0.015965   1.129    0.261
maritime     0.019908   0.015328   1.299    0.196
quebec       0.007095   0.022050   0.322    0.748
west         0.030928   0.029371   1.053    0.294
french      -0.023889   0.022171  -1.077    0.283
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.07366 on 146 degrees of freedom
Multiple R-squared:  0.04487,
  Adjusted R-squared:  0.005614
F-statistic: 1.143 on 6 and 146 DF,  p-value: 0.3404

> nobs(m7)
[1] 153
> mm7

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9459522  0.0106677 88.6743 < 2.2e-16 ***
prairie      0.0177246  0.0160539  1.1041  0.271380
cabinet      0.0180192  0.0094478  1.9072  0.058453 .
maritime     0.0199083  0.0120192  1.6564  0.099793 .
```

```
quebec       0.0070946  0.0145442  0.4878  0.626426
west         0.0309276  0.0117127  2.6405  0.009178 **
french      -0.0238886  0.0176758 -1.3515  0.178629
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m8)

Call:
lm(formula = m8.4, data = data1[data1$parl8 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.70824 -0.02092  0.01984  0.06158  0.29176

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.938421   0.023207  40.436  < 2e-16 ***
prairie     -0.230179   0.070668  -3.257  0.00165 **
cabinet            NA         NA      NA       NA
maritime    -0.046503   0.039056  -1.191  0.23731
quebec      -0.106710   0.055455  -1.924  0.05788 .
west         0.007231   0.106349   0.068  0.94596
french       0.082916   0.060570   1.369  0.17485
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1468 on 80 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1323,
  Adjusted R-squared:  0.07802
F-statistic: 2.439 on 5 and 80 DF,  p-value: 0.04139
```

```
> nobs(m8)
[1] 86
> mm8

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9384212  0.0099599 94.2199  < 2e-16 ***
prairie     -0.2301794  0.1750070 -1.3153  0.19218
maritime    -0.0465025  0.0544458 -0.8541  0.39560
quebec      -0.1067103  0.0591500 -1.8041  0.07499 .
west         0.0072309  0.0346930  0.2084  0.83543
french       0.0829158  0.0619885  1.3376  0.18482
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m9)

Call:
lm(formula = m8.4, data = data1[data1$parl9 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.63106 -0.01685  0.01519  0.03511  0.16041

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.94941    0.01307  72.649   <2e-16 ***
prairie      0.05928    0.06156   0.963   0.3385
cabinet           NA         NA      NA       NA
maritime     0.01548    0.03033   0.511   0.6111
quebec      -0.03618    0.04788  -0.756   0.4521
west         0.04334    0.07098   0.611   0.5432
french      -0.12428    0.05805  -2.141   0.0354 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09867 on 78 degrees of freedom
```

```
  (3 observations deleted due to missingness)
Multiple R-squared:  0.1629,
  Adjusted R-squared:  0.1092
F-statistic: 3.035 on 5 and 78 DF,  p-value: 0.01482

> nobs(m9)
[1] 84
> mm9

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9494128  0.0085605 110.9062 < 2.2e-16 ***
prairie      0.0592831  0.0537571   1.1028    0.2735
maritime     0.0154816  0.0175256   0.8834    0.3798
quebec      -0.0361804  0.0333901  -1.0836    0.2819
west         0.0433408  0.0100775   4.3007 4.881e-05 ***
french      -0.1242785  0.1147996  -1.0826    0.2823
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m10)

Call:
lm(formula = m8.4, data = data1[data1$parl10 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.56230 -0.00387  0.00867  0.02866  0.25913

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.971340   0.016304  59.576  < 2e-16 ***
prairie      0.014566   0.050253   0.290   0.7727
cabinet            NA         NA      NA       NA
maritime     0.002929   0.040268   0.073   0.9422
quebec      -0.025059   0.054564  -0.459   0.6474
west        -0.304673   0.117571  -2.591   0.0115 *
french      -0.383982   0.068178  -5.632 3.04e-07 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1164 on 74 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.5324,
  Adjusted R-squared:  0.5008
F-statistic: 16.85 on 5 and 74 DF,  p-value: 4.355e-11

> nobs(m10)
[1] 80
> mm10

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9713398  0.0098884  98.2304  < 2e-16 ***
prairie      0.0145659  0.0112048   1.3000  0.19764
maritime     0.0029286  0.0155508   0.1883  0.85114
quebec      -0.0250595  0.0158383  -1.5822  0.11787
west        -0.3046732  0.0098884 -30.8112  < 2e-16 ***
french      -0.3839817  0.1176793  -3.2630  0.00167 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m11)

Call:
lm(formula = m8.4, data = data1[data1$parl11 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
```

```
-0.59925 -0.01681  0.00755  0.02942  0.23142

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.970584   0.012528  77.472  < 2e-16 ***
prairie     -0.002879   0.028247  -0.102    0.919
cabinet            NA         NA      NA       NA
maritime     0.005940   0.031804   0.187    0.852
quebec      -0.055345   0.037931  -1.459    0.148
west         0.021869   0.041172   0.531    0.597
french      -0.254767   0.050632  -5.032 2.87e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0877 on 81 degrees of freedom
Multiple R-squared:  0.4685,
  Adjusted R-squared:  0.4357
F-statistic: 14.28 on 5 and 81 DF,  p-value: 5.16e-10

> nobs(m11)
[1] 87
> mm11

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9705843  0.0048678 199.3869  < 2e-16 ***
prairie     -0.0028786  0.0092202  -0.3122  0.75568
maritime     0.0059398  0.0085132   0.6977  0.48735
quebec      -0.0553447  0.0294925  -1.8766  0.06418 .
west         0.0218685  0.0084188   2.5976  0.01115 *
french      -0.2547665  0.1276287  -1.9962  0.04928 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m12)

Call:
lm(formula = m8.4, data = data1[data1$parl12 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.76763 -0.01068  0.01015  0.01015  0.15156

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9898474  0.0098709 100.279  < 2e-16 ***
prairie     -0.0108985  0.0264429  -0.412 0.680867
cabinet      0.0416818  0.0192356   2.167 0.031958 *
maritime     0.0014258  0.0227917   0.063 0.950208
quebec      -0.0372592  0.0289913  -1.285 0.200881
west        -0.0003983  0.0298465  -0.013 0.989371
french      -0.1041496  0.0303812  -3.428 0.000802 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08472 on 138 degrees of freedom
  (5 observations deleted due to missingness)
Multiple R-squared:  0.2738,
  Adjusted R-squared:  0.2422
F-statistic:  8.67 on 6 and 138 DF,  p-value: 5.216e-08

> nobs(m12)
[1] 145
> mm12

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.98984741  0.00303787 325.8363 < 2.2e-16 ***
prairie     -0.01089852  0.00674686  -1.6153  0.108519
```

```
cabinet      0.04168182  0.01948373   2.1393  0.034170 *
maritime     0.00142582  0.00821569   0.1735  0.862474
quebec      -0.03725918  0.02251407  -1.6549  0.100212
west        -0.00039833  0.00545379  -0.0730  0.941883
french      -0.10414963  0.03922083  -2.6555  0.008852 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m13)

Call:
lm(formula = m8.4, data = data1[data1$parl13 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.69857 -0.01394  0.02802  0.05310  0.10356

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.946898   0.014231  66.537   <2e-16 ***
prairie     -0.050458   0.022175  -2.275   0.0243 *
cabinet      0.025085   0.022962   1.092   0.2764
maritime    -0.020258   0.028549  -0.710   0.4791
quebec      -0.001748   0.067204  -0.026   0.9793
west         0.011885   0.031999   0.371   0.7109
french       0.053102   0.113622   0.467   0.6409
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1127 on 145 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:  0.05479,
  Adjusted R-squared:  0.01567
F-statistic: 1.401 on 6 and 145 DF,  p-value: 0.2182

> nobs(m13)
[1] 152
> mm13

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9468983  0.0122954 77.0125 < 2.2e-16 ***
prairie     -0.0504581  0.0227669 -2.2163   0.02823 *
cabinet      0.0250852  0.0180447  1.3902   0.16661
maritime    -0.0202581  0.0392865 -0.5157   0.60688
quebec      -0.0017481  0.0173679 -0.1007   0.91996
west         0.0118853  0.0133898  0.8876   0.37621
french       0.0531017  0.0122954  4.3188 2.893e-05 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m14)

Call:
lm(formula = m8.4, data = data1[data1$parl14 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.108793 -0.020848 -0.000015  0.036169  0.108793

Coefficients: (3 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.937515   0.007637 122.766   <2e-16 ***
prairie            NA         NA      NA       NA
cabinet            NA         NA      NA       NA
maritime    -0.039556   0.019412  -2.038    0.047 *
quebec             NA         NA      NA       NA
west         0.018950   0.017163   1.104    0.275
french      -0.046308   0.034086  -1.359    0.181
---
```

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

Residual standard error: 0.04611 on 49 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1703,
  Adjusted R-squared:  0.1195
F-statistic: 3.353 on 3 and 49 DF,  p-value: 0.02626

> nobs(m14)
[1] 53
> mm14

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9375147  0.0063158 148.4387   <2e-16 ***
maritime    -0.0395564  0.0236043  -1.6758   0.1001
west         0.0189495  0.0119032   1.5920   0.1178
french      -0.0463080  0.0803290  -0.5765   0.5669
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m15)

Call:
lm(formula = m8.4, data = data1[data1$parl15 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.036350  0.000165  0.000687  0.000687  0.010698

Coefficients:
              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9993132  0.0006314 1582.726  < 2e-16 ***
prairie      0.0004620  0.0016902    0.273 0.785100
cabinet      0.0011239  0.0013862    0.811 0.419279
maritime     0.0005217  0.0012068    0.432 0.666396
quebec      -0.0100108  0.0025643   -3.904 0.000166 ***
west         0.0004825  0.0016208    0.298 0.766525
french       0.0004260  0.0035667    0.119 0.905159
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.004964 on 107 degrees of freedom
Multiple R-squared:  0.1365,
  Adjusted R-squared:  0.08809
F-statistic: 2.819 on 6 and 107 DF,  p-value: 0.01379

> nobs(m15)
[1] 114
> mm15

t test of coefficients:

               Estimate  Std. Error   t value Pr(>|t|)
(Intercept)  0.99931317  0.00062125 1608.5470   <2e-16 ***
prairie      0.00046204  0.00057389    0.8051   0.4226
cabinet      0.00112394  0.00097539    1.1523   0.2518
maritime     0.00052171  0.00056380    0.9253   0.3569
quebec      -0.01001082  0.00931964   -1.0742   0.2852
west         0.00048247  0.00057465    0.8396   0.4030
french       0.00042597  0.00040184    1.0601   0.2915
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m16)

Call:
lm(formula = m8.4, data = data1[data1$parl16 == 1, ])

Residuals:
```

```
     Min       1Q   Median       3Q      Max
-0.19527 -0.01920  0.02028  0.04156  0.10125

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.938124   0.008027 116.871   <2e-16 ***
prairie      0.061876   0.060603   1.021   0.3101
cabinet            NA         NA      NA       NA
maritime     0.020315   0.016275   1.248   0.2153
quebec      -0.039373   0.031089  -1.266   0.2087
west         0.040244   0.017949   2.242   0.0275 *
french             NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06007 on 88 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.09327,
  Adjusted R-squared:  0.05206
F-statistic: 2.263 on 4 and 88 DF,  p-value: 0.06869

> nobs(m16)
[1] 93
> mm16

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.938124   0.009065 103.4888 < 2.2e-16 ***
prairie      0.061876   0.009065   6.8258 1.073e-09 ***
maritime     0.020315   0.014765   1.3759  0.172334
quebec      -0.039373   0.046614  -0.8447  0.400590
west         0.040244   0.010875   3.7007  0.000374 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m17)

Call:
lm(formula = m8.4, data = data1[data1$parl17 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.066736 -0.005531  0.003967  0.008581  0.026163

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.991419   0.001976 501.619   <2e-16 ***
prairie     -0.003817   0.003670  -1.040   0.3002
cabinet      0.008431   0.003582   2.354   0.0201 *
maritime    -0.002578   0.003709  -0.695   0.4883
quebec      -0.004684   0.005219  -0.897   0.3711
west        -0.004371   0.006007  -0.728   0.4681
french      -0.012899   0.005563  -2.319   0.0220 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01496 on 131 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.1578,
  Adjusted R-squared:  0.1192
F-statistic: 4.091 on 6 and 131 DF,  p-value: 0.000854

> nobs(m17)
[1] 138
> mm17

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9914193  0.0013931 711.6653  < 2e-16 ***
```

```
prairie     -0.0038173  0.0037631  -1.0144  0.31225
cabinet      0.0084309  0.0027065   3.1151  0.00226 **
maritime    -0.0025775  0.0029086  -0.8862  0.37715
quebec      -0.0046836  0.0086275  -0.5429  0.58814
west        -0.0043712  0.0029625  -1.4755  0.14248
french      -0.0128988  0.0058493  -2.2052  0.02919 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m18)

Call:
lm(formula = m8.4, data = data1[data1$parl18 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.08446 -0.01138  0.01231  0.01231  0.06353

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.987686   0.005018 196.832  < 2e-16 ***
prairie      0.012314   0.016130   0.763 0.449828
cabinet            NA         NA      NA       NA
maritime    -0.017989   0.027022  -0.666 0.509507
quebec      -0.051219   0.012891  -3.973 0.000297 ***
west        -0.001972   0.011220  -0.176 0.861394
french             NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02655 on 39 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.3124,
  Adjusted R-squared:  0.2419
F-statistic: 4.429 on 4 and 39 DF,  p-value: 0.004775

> nobs(m18)
[1] 44
> mm18

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9876864  0.0045454 217.2933 < 2.2e-16 ***
prairie      0.0123136  0.0045454   2.7090 0.0099718 **
maritime    -0.0179894  0.0045454  -3.9577 0.0003107 ***
quebec      -0.0512191  0.0224944  -2.2770 0.0283539 *
west        -0.0019721  0.0086795  -0.2272 0.8214477
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m19)

Call:
lm(formula = m8.4, data = data1[data1$parl19 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.056581 -0.006713  0.000013  0.016146  0.048653

Coefficients: (3 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.983854   0.004148 237.184  < 2e-16 ***
prairie     -0.011345   0.011169  -1.016  0.31651
cabinet            NA         NA      NA       NA
maritime    -0.032507   0.009429  -3.448  0.00146 **
quebec             NA         NA      NA       NA
west        -0.007971   0.010161  -0.784  0.43791
french             NA         NA      NA       NA
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.02074 on 36 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.2517,
  Adjusted R-squared:  0.1893
F-statistic: 4.036 on 3 and 36 DF,  p-value: 0.01424

> nobs(m19)
[1] 40
> mm19

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9838538  0.0038101 258.2198 < 2.2e-16 ***
prairie     -0.0113453  0.0032659  -3.4739  0.001354 **
maritime    -0.0325067  0.0105976  -3.0674  0.004085 **
west        -0.0079705  0.0130221  -0.6121  0.544333
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.078857 -0.010858  0.004669  0.013818  0.033389

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977939   0.003061 319.525  < 2e-16 ***
prairie     -0.002193   0.009350  -0.235  0.81531
cabinet            NA         NA      NA       NA
maritime    -0.023538   0.008734  -2.695  0.00895 **
quebec      -0.043873   0.021857  -2.007  0.04888 *
west        -0.011328   0.009350  -1.212  0.23007
french       0.065934   0.030606   2.154  0.03493 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02164 on 65 degrees of freedom
Multiple R-squared:  0.1665,
  Adjusted R-squared:  0.1023
F-statistic: 2.596 on 5 and 65 DF,  p-value: 0.03343

> nobs(m20)
[1] 71
> mm20

t test of coefficients:

               Estimate  Std. Error     t value  Pr(>|t|)
(Intercept)  9.7794e-01  3.0455e-03  3.2110e+02 < 2.2e-16 ***
prairie     -2.1930e-03  9.8580e-03 -2.2250e-01 0.8246555
maritime    -2.3538e-02  6.1439e-03 -3.8312e+00 0.0002899 ***
quebec      -4.3873e-02  3.0455e-03 -1.4406e+01 < 2.2e-16 ***
west        -1.1328e-02  1.2736e-02 -8.8950e-01 0.3770406
french       6.5934e-02  2.0699e-17  3.1853e+15 < 2.2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.078857 -0.010858  0.004669  0.013818  0.033389
```

```
Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977939   0.003061 319.525  < 2e-16 ***
prairie     -0.002193   0.009350  -0.235  0.81531
cabinet            NA         NA      NA       NA
maritime    -0.023538   0.008734  -2.695  0.00895 **
quebec      -0.043873   0.021857  -2.007  0.04888 *
west        -0.011328   0.009350  -1.212  0.23007
french       0.065934   0.030606   2.154  0.03493 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02164 on 65 degrees of freedom
Multiple R-squared:  0.1665,
  Adjusted R-squared:  0.1023
F-statistic: 2.596 on 5 and 65 DF,  p-value: 0.03343

> nobs(m20)
[1] 71
> mm20

t test of coefficients:

               Estimate  Std. Error     t value  Pr(>|t|)
(Intercept)  9.7794e-01  3.0455e-03  3.2110e+02 < 2.2e-16 ***
prairie     -2.1930e-03  9.8580e-03 -2.2250e-01 0.8246555
maritime    -2.3538e-02  6.1439e-03 -3.8312e+00 0.0002899 ***
quebec      -4.3873e-02  3.0455e-03 -1.4406e+01 < 2.2e-16 ***
west        -1.1328e-02  1.2736e-02 -8.8950e-01 0.3770406
french       6.5934e-02  2.0699e-17  3.1853e+15 < 2.2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m21)

Call:
lm(formula = m8.4, data = data1[data1$parl21 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.059714 -0.003972  0.002785  0.009542  0.017998

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.990458   0.002940 336.844   <2e-16 ***
prairie     -0.008456   0.006668  -1.268    0.211
cabinet            NA         NA      NA       NA
maritime    -0.007667   0.005723  -1.340    0.187
quebec       0.002658   0.012765   0.208    0.836
west        -0.010615   0.009603  -1.105    0.275
french       0.010325   0.012614   0.819    0.417
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01583 on 47 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.108,
  Adjusted R-squared:  0.01308
F-statistic: 1.138 on 5 and 47 DF,  p-value: 0.3538

> nobs(m21)
[1] 53
> mm21

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9904582  0.0023420 422.9140  < 2e-16 ***
prairie     -0.0084559  0.0080603  -1.0491  0.29951
maritime    -0.0076670  0.0074494  -1.0292  0.30865
```

```
quebec       0.0026583  0.0065088   0.4084  0.68482
west        -0.0106146  0.0061315  -1.7312  0.08998 .
french       0.0103253  0.0068391   1.5097  0.13780
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m22)

Call:
lm(formula = m8.4, data = data1[data1$parl22 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.186379 -0.003217  0.004186  0.013895  0.045843

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.986105   0.005889 167.441   <2e-16 ***
prairie     -0.040797   0.015582  -2.618   0.0117 *
cabinet            NA         NA      NA       NA
maritime    -0.001470   0.015582  -0.094   0.9252
quebec       0.001550   0.035823   0.043   0.9657
west         0.007548   0.021234   0.355   0.7238
french      -0.047102   0.040802  -1.154   0.2539
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03534 on 49 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1858,
  Adjusted R-squared:  0.1027
F-statistic: 2.236 on 5 and 49 DF,  p-value: 0.06538
```

```
> nobs(m22)
[1] 55
> mm22

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9861048  0.0038611 255.3947 < 2.2e-16 ***
prairie     -0.0407970  0.0366744  -1.1124 0.2713891
maritime    -0.0014703  0.0073297  -0.2006 0.8418489
quebec       0.0015495  0.0038611   0.4013 0.6899329
west         0.0075484  0.0040653   1.8568 0.0693587 .
french      -0.0471018  0.0129222  -3.6450 0.0006458 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m23)

Call:
lm(formula = m8.4, data = data1[data1$parl23 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.074166  0.001795  0.005030  0.009168  0.009168

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.990832   0.002681 369.549   <2e-16 ***
prairie     0.001671   0.005725   0.292    0.771
cabinet     0.004786   0.004000   1.197    0.234
maritime    0.004137   0.004853   0.853    0.396
quebec      0.003770   0.008950   0.421    0.674
west        0.007373   0.007211   1.022    0.309
french      0.004808   0.008782   0.547    0.585
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0191 on 104 degrees of freedom
```

```
  (3 observations deleted due to missingness)
Multiple R-squared:  0.0378,
  Adjusted R-squared:  -0.01772
F-statistic: 0.6809 on 6 and 104 DF,  p-value: 0.6654

> nobs(m23)
[1] 111
> mm23

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept) 0.9908323  0.0032310 306.6620  < 2e-16 ***
prairie     0.0016710  0.0059039   0.2830  0.77772
cabinet     0.0047862  0.0031768   1.5066  0.13495
maritime    0.0041372  0.0047014   0.8800  0.38089
quebec      0.0037696  0.0027809   1.3555  0.17819
west        0.0073728  0.0029550   2.4950  0.01417 *
french      0.0048080  0.0024077   1.9970  0.04844 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m24)

Call:
lm(formula = m8.4, data = data1[data1$parl24 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0185338  0.0000071  0.0001555  0.0005976  0.0016450

Coefficients:
              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  1.000e+00  2.901e-04 3446.836  < 2e-16 ***
prairie     -5.905e-04  4.245e-04   -1.391  0.16566
cabinet     -7.810e-06  3.689e-04   -0.021  0.98313
maritime    -1.808e-06  5.043e-04   -0.004  0.99714
quebec      -1.630e-03  5.921e-04   -2.753  0.00643 **
west        -3.123e-04  5.726e-04   -0.545  0.58609
french       3.034e-04  5.890e-04    0.515  0.60704
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002241 on 207 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.06191,
  Adjusted R-squared:  0.03472
F-statistic: 2.277 on 6 and 207 DF,  p-value: 0.03771

> nobs(m24)
[1] 214
> mm24

t test of coefficients:

               Estimate  Std. Error    t value Pr(>|t|)
(Intercept)  9.9999e-01  7.4753e-05 13377.3516  < 2e-16 ***
prairie     -5.9054e-04  3.1071e-04    -1.9006  0.05874 .
cabinet     -7.8103e-06  3.2691e-04    -0.0239  0.98096
maritime    -1.8079e-06  1.3901e-05    -0.1301  0.89665
quebec      -1.6301e-03  8.3378e-04    -1.9551  0.05192 .
west        -3.1227e-04  3.1906e-04    -0.9787  0.32887
french       3.0336e-04  8.5436e-04     0.3551  0.72289
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m26)

Call:
lm(formula = m8.4, data = data1[data1$parl26 == 1, ])
```

```
Residuals:
      Min        1Q    Median        3Q       Max
-0.227190 -0.003363  0.001641  0.008351  0.109467

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.998359   0.006545 152.545  < 2e-16 ***
prairie     -0.009435   0.008339  -1.131    0.261
cabinet           NA         NA      NA       NA
maritime    -0.006710   0.011430  -0.587    0.559
quebec      -0.109065   0.021351  -5.108 1.75e-06 ***
west        -0.010063   0.015268  -0.659    0.511
french      -0.016943   0.020052  -0.845    0.400
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03379 on 92 degrees of freedom
Multiple R-squared:  0.5469,
  Adjusted R-squared:  0.5223
F-statistic: 22.21 on 5 and 92 DF,  p-value: 1.547e-14

> nobs(m26)
[1] 98
> mm26

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9983594  0.0013458 741.8510 < 2.2e-16 ***
prairie     -0.0094351  0.0023926  -3.9435 0.0001566 ***
maritime    -0.0067101  0.0065693  -1.0214 0.3097300
quebec      -0.1090647  0.0297452  -3.6666 0.0004111 ***
west        -0.0100628  0.0069998  -1.4376 0.1539458
french      -0.0169432  0.0221183  -0.7660 0.4456205
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m27)

Call:
lm(formula = m8.4, data = data1[data1$parl27 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.40575 -0.02012  0.01416  0.03194  0.05579

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.972716   0.012146  80.082   <2e-16 ***
prairie     -0.017644   0.015301  -1.153    0.252
cabinet           NA         NA      NA       NA
maritime    -0.028508   0.018484  -1.542    0.126
quebec      -0.060840   0.038030  -1.600    0.113
west         0.006664   0.032705   0.204    0.839
french       0.049988   0.038590   1.295    0.198
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06073 on 93 degrees of freedom
Multiple R-squared:  0.04921,
  Adjusted R-squared:  -0.001907
F-statistic: 0.9627 on 5 and 93 DF,  p-value: 0.4449

> nobs(m27)
[1] 99
> mm27

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9727159  0.0057065 170.4572  < 2e-16 ***
```

```
prairie     -0.0176440  0.0090704  -1.9452  0.05477 .
maritime    -0.0285079  0.0233138  -1.2228  0.22450
quebec      -0.0608403  0.0336147  -1.8099  0.07354 .
west         0.0066635  0.0105329   0.6326  0.52852
french       0.0499884  0.0295984   1.6889  0.09459 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m28)

Call:
lm(formula = m8.4, data = data1[data1$parl28 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.070767 -0.002539  0.003394  0.008543  0.020142

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.989934   0.004088 242.170   <2e-16 ***
prairie     -0.003638   0.005339  -0.681   0.4979
cabinet            NA         NA      NA       NA
maritime    -0.010076   0.005339  -1.887   0.0633 .
quebec      -0.018131   0.015273  -1.187   0.2392
west         0.010066   0.017818   0.565   0.5739
french       0.009396   0.012506   0.751   0.4550
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01734 on 70 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.06942,
  Adjusted R-squared:  0.002953
F-statistic: 1.044 on 5 and 70 DF,  p-value: 0.3987
```

```
> nobs(m28)
[1] 76
> mm28

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9899342  0.0025765 384.2127 < 2.2e-16 ***
prairie     -0.0036382  0.0032679  -1.1133 0.2693810
maritime    -0.0100762  0.0053251  -1.8922 0.0625991 .
quebec      -0.0181307  0.0084088  -2.1562 0.0345099 *
west         0.0100658  0.0025765   3.9067 0.0002133 ***
french       0.0093960  0.0026314   3.5708 0.0006486 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m29)

Call:
lm(formula = m8.4, data = data1[data1$parl29 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.082625 -0.010436  0.006509  0.019196  0.027271

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9791763  0.0036419 268.861   <2e-16 ***
prairie     -0.0064473  0.0053989  -1.194    0.235
cabinet            NA         NA      NA       NA
maritime     0.0016280  0.0061139   0.266    0.791
quebec      -0.0010407  0.0150373  -0.069    0.945
west         0.0005762  0.0084979   0.068    0.946
french       0.0168755  0.0180014   0.937    0.351
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.02303 on 102 degrees of freedom
Multiple R-squared:  0.0286,
  Adjusted R-squared:  -0.01902
F-statistic: 0.6005 on 5 and 102 DF,  p-value: 0.6996

> nobs(m29)
[1] 108
> mm29

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.97917626  0.00388692 251.9159 < 2.2e-16 ***
prairie     -0.00644732  0.00595471  -1.0827  0.281483
maritime     0.00162803  0.00573735   0.2838  0.777169
quebec      -0.00104073  0.00674155  -0.1544  0.877619
west         0.00057617  0.00587897   0.0980  0.922121
french       0.01687546  0.00531552   3.1748  0.001983 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m30)

Call:
lm(formula = m8.4, data = data1[data1$parl30 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.103136 -0.002923  0.007223  0.014052  0.022619

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.985948   0.003490 282.539   <2e-16 ***
prairie      0.005960   0.004732   1.259    0.211
cabinet            NA         NA      NA       NA
maritime    -0.003668   0.005621  -0.653    0.516
quebec      -0.008567   0.012226  -0.701    0.485
west         0.006829   0.006171   1.107    0.271
french       0.009138   0.010508   0.870    0.387
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01971 on 102 degrees of freedom
Multiple R-squared:  0.05172,
  Adjusted R-squared:  0.005241
F-statistic: 1.113 on 5 and 102 DF,  p-value: 0.3584

> nobs(m30)
[1] 108
> mm30

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9859480  0.0044756 220.2933  < 2e-16 ***
prairie      0.0059597  0.0050117   1.1892  0.23714
maritime    -0.0036682  0.0069499  -0.5278  0.59878
quebec      -0.0085672  0.0113007  -0.7581  0.45013
west         0.0068288  0.0054305   1.2575  0.21145
french       0.0091379  0.0046004   1.9863  0.04968 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m31)

Call:
lm(formula = m8.4, data = data1[data1$parl31 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
```

```
-2.584e-14 -1.276e-16  6.660e-17  9.280e-17  1.347e-15

Coefficients:
             Estimate Std. Error    t value Pr(>|t|)
(Intercept)  1.000e+00  3.584e-16  2.790e+15   <2e-16 ***
prairie      2.619e-17  4.978e-16  5.300e-02   0.9581
cabinet      2.203e-16  4.306e-16  5.120e-01   0.6097
maritime     1.933e-17  6.321e-16  3.100e-02   0.9757
quebec      -1.542e-16  1.865e-15 -8.300e-02   0.9342
west        -1.254e-15  6.009e-16 -2.087e+00   0.0388 *
french       3.995e-17  1.824e-15  2.200e-02   0.9826
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.334e-15 on 129 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.4987,
  Adjusted R-squared:  0.4754
F-statistic: 21.39 on 6 and 129 DF,  p-value: < 2.2e-16

> nobs(m31)
[1] 136
> mm31

t test of coefficients:

               Estimate  Std. Error     t value Pr(>|t|)
(Intercept)  1.0000e+00  9.7863e-17  1.0218e+16   <2e-16 ***
prairie      2.6189e-17  3.5758e-17  7.3240e-01   0.4653
cabinet      2.2034e-16  2.3050e-16  9.5590e-01   0.3409
maritime     1.9328e-17  3.5686e-17  5.4160e-01   0.5890
quebec      -1.5420e-16  1.6345e-16 -9.4340e-01   0.3472
west        -1.2544e-15  1.2560e-15 -9.9870e-01   0.3198
french       3.9952e-17  4.7150e-17  8.4730e-01   0.3984
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m32)

Call:
lm(formula = m8.4, data = data1[data1$parl32 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.060971 -0.000073  0.001131  0.002447  0.002859

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9971408  0.0011138 895.289   <2e-16 ***
prairie      0.0007449  0.0016565   0.450    0.654
cabinet             NA         NA      NA       NA
maritime     0.0004123  0.0021874   0.188    0.851
quebec      -0.0052074  0.0100986  -0.516    0.607
west         0.0017285  0.0019626   0.881    0.381
french       0.0021142  0.0071500   0.296    0.768
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.007044 on 102 degrees of freedom
Multiple R-squared:  0.01143,
  Adjusted R-squared:  -0.03703
F-statistic: 0.2358 on 5 and 102 DF,  p-value: 0.9459

> nobs(m32)
[1] 108
> mm32

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.99714085  0.00159960 623.3670 < 2.2e-16 ***
```

```
prairie      0.00074495  0.00186115   0.4003  0.689802
maritime     0.00041230  0.00241268   0.1709  0.864649
quebec      -0.00520744  0.00186115  -2.7980  0.006149 **
west         0.00172848  0.00170312   1.0149  0.312560
french       0.00211421  0.00075674   2.7938  0.006223 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m33)

Call:
lm(formula = m8.4, data = data1[data1$parl33 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.43457 -0.00049  0.00497  0.01113  0.03082

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.929e-01  5.253e-03 188.999   <2e-16 ***
prairie     -1.226e-02  7.716e-03  -1.589    0.114
cabinet     -1.482e-03  5.324e-03  -0.278    0.781
maritime     6.758e-05  9.114e-03   0.007    0.994
quebec      -2.223e-02  1.127e-02  -1.972    0.050 *
west         1.120e-03  9.484e-03   0.118    0.906
french       1.391e-02  1.067e-02   1.303    0.194
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03857 on 206 degrees of freedom
Multiple R-squared:  0.03166,
  Adjusted R-squared:  0.003456
F-statistic: 1.123 on 6 and 206 DF,  p-value: 0.3503
```

```
> nobs(m33)
[1] 213
> mm33

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  9.9289e-01  2.7227e-03 364.6683   <2e-16 ***
prairie     -1.2260e-02  1.1249e-02  -1.0899   0.2770
cabinet     -1.4820e-03  5.8174e-03  -0.2547   0.7992
maritime     6.7579e-05  2.2418e-03   0.0301   0.9760
quebec      -2.2229e-02  1.3659e-02  -1.6274   0.1052
west         1.1195e-03  1.5679e-03   0.7140   0.4760
french       1.3910e-02  1.2672e-02   1.0976   0.2736
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m34)

Call:
lm(formula = m8.4, data = data1[data1$parl34 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.71093 -0.00531  0.00395  0.01071  0.03843

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.988119   0.009821 100.608   <2e-16 ***
prairie     -0.026544   0.013210  -2.009   0.0462 *
cabinet      0.014855   0.009133   1.627   0.1058
maritime    -0.005659   0.019133  -0.296   0.7678
quebec      -0.001360   0.019551  -0.070   0.9446
west        -0.002231   0.019100  -0.117   0.9072
french       0.003858   0.019018   0.203   0.8395
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.05886 on 160 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.0506,
  Adjusted R-squared:  0.015
F-statistic: 1.421 on 6 and 160 DF,  p-value: 0.2095

> nobs(m34)
[1] 167
> mm34

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9881191  0.0054116 182.5937   <2e-16 ***
prairie     -0.0265444  0.0245842  -1.0797   0.2819
cabinet      0.0148550  0.0105474   1.4084   0.1610
maritime    -0.0056594  0.0027470  -2.0602   0.0410 *
quebec      -0.0013599  0.0035318  -0.3850   0.7007
west        -0.0022308  0.0027344  -0.8158   0.4158
french       0.0038582  0.0038582   1.0000   0.3188
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m36)

Call:
lm(formula = m8.4, data = data1[data1$parl36 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.008830 -0.002090  0.000000  0.004044  0.007089

Coefficients: (1 not defined because of singularities)
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.959e-01  5.186e-03 192.029   <2e-16 ***
prairie     -1.094e-03  7.335e-03  -0.149    0.883
cabinet     -6.156e-03  5.374e-03  -1.146    0.268
maritime    -3.007e-03  5.374e-03  -0.560    0.583
quebec      -4.501e-04  6.251e-03  -0.072    0.943
west                NA         NA      NA       NA
french       9.933e-06  3.258e-03   0.003    0.998
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.005186 on 17 degrees of freedom
Multiple R-squared:  0.1452,
  Adjusted R-squared:  -0.1063
F-statistic: 0.5773 on 5 and 17 DF,  p-value: 0.7168

> nobs(m36)
[1] 23
> mm36

t test of coefficients:

               Estimate  Std. Error     t value  Pr(>|t|)
(Intercept)  9.9592e-01  7.1052e-10  1.4017e+09 < 2.2e-16 ***
prairie     -1.0944e-03  7.2934e-10 -1.5005e+06 < 2.2e-16 ***
cabinet     -6.1561e-03  1.7788e-03 -3.4609e+00  0.002987 **
maritime    -3.0073e-03  1.7788e-03 -1.6907e+00  0.109144
quebec      -4.5005e-04  2.1573e-03 -2.0860e-01  0.837225
french       9.9326e-06  2.3842e-03  4.2000e-03  0.996725
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m37)

Call:
lm(formula = m8.4, data = data1[data1$parl37 == 1, ])
```

```
Residuals:
     Min       1Q   Median       3Q      Max
-0.07283 -0.01232  0.00319  0.01589  0.04635

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.953647   0.011436  83.393   <2e-16 ***
prairie      0.030464   0.012165   2.504   0.0143 *
cabinet      0.005992   0.026312   0.228   0.8204
maritime     0.009592   0.013009   0.737   0.4630
quebec      -0.052022   0.038153  -1.364   0.1765
west         0.015678   0.012527   1.252   0.2143
french      -0.050777   0.025905  -1.960   0.0534 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02557 on 81 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:   0.32,
  Adjusted R-squared:  0.2696
F-statistic: 6.352 on 6 and 81 DF,  p-value: 1.649e-05

> nobs(m37)
[1] 88
> mm37

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9536469  0.0140697  67.7800 < 2.2e-16 ***
prairie      0.0304635  0.0141737   2.1493 0.0345947 *
cabinet      0.0059919  0.0064097   0.9348 0.3526549
maritime     0.0095920  0.0152109   0.6306 0.5300789
quebec      -0.0520223  0.0141737  -3.6704 0.0004326 ***
west         0.0156781  0.0151845   1.0325 0.3049083
french      -0.0507771  0.0034408 -14.7572 < 2.2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m38)

Call:
lm(formula = m8.4, data = data1[data1$parl38 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.079839 -0.003343  0.002449  0.005937  0.021512

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.983931   0.003069 320.605   <2e-16 ***
prairie      0.004785   0.003717   1.287    0.201
cabinet            NA         NA      NA       NA
maritime    -0.005443   0.006317  -0.862    0.391
quebec             NA         NA      NA       NA
west         0.002571   0.004372   0.588    0.558
french       0.003544   0.008712   0.407    0.685
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01461 on 94 degrees of freedom
Multiple R-squared:  0.04067,
  Adjusted R-squared:  -0.0001554
F-statistic: 0.9962 on 4 and 94 DF,  p-value: 0.4137

> nobs(m38)
[1] 99
> mm38

t test of coefficients:
```

```
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9839306  0.0023063 426.6235  < 2e-16 ***
prairie      0.0047851  0.0027725   1.7259  0.08764 .
maritime    -0.0054428  0.0130484  -0.4171  0.67754
west         0.0025712  0.0039122   0.6572  0.51264
french       0.0035442  0.0034280   1.0339  0.30383
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m39)

Call:
lm(formula = m8.4, data = data1[data1$parl39 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.044051 -0.000838  0.001916  0.002380  0.007783

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9943345  0.0011358 875.428  < 2e-16 ***
prairie     -0.0019041  0.0014198  -1.341   0.1824
cabinet      0.0054025  0.0012143   4.449 1.92e-05 ***
maritime    -0.0053566  0.0024823  -2.158   0.0329 *
quebec      -0.0018505  0.0025672  -0.721   0.4724
west        -0.0021170  0.0019175  -1.104   0.2717
french       0.0001894  0.0021603   0.088   0.9303
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0067 on 122 degrees of freedom
Multiple R-squared:  0.1623,
  Adjusted R-squared:  0.1211
F-statistic: 3.939 on 6 and 122 DF,  p-value: 0.001237

> nobs(m39)
[1] 129
> mm39

t test of coefficients:

               Estimate  Std. Error   t value  Pr(>|t|)
(Intercept)  0.99433447  0.00096298 1032.5559 < 2.2e-16 ***
prairie     -0.00190408  0.00148453   -1.2826  0.202058
cabinet      0.00540246  0.00121305    4.4536 1.883e-05 ***
maritime    -0.00535660  0.00195164   -2.7447  0.006972 **
quebec      -0.00185048  0.00118860   -1.5569  0.122094
west        -0.00211699  0.00133591   -1.5847  0.115627
french       0.00018938  0.00103538    0.1829  0.855173
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m40)

Call:
lm(formula = m8.4, data = data1[data1$parl40 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0159569 -0.0008259  0.0008352  0.0028020  0.0068753

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9942927  0.0006821 1457.627  < 2e-16 ***
prairie      0.0008309  0.0008547    0.972  0.33270
cabinet      0.0020744  0.0007366    2.816  0.00558 **
maritime     0.0021664  0.0014997    1.445  0.15086
quebec      -0.0041531  0.0018471   -2.249  0.02614 *
west         0.0026131  0.0010835    2.412  0.01720 *
french       0.0033589  0.0016595    2.024  0.04491 *
---
```

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

Residual standard error: 0.004286 on 137 degrees of freedom
Multiple R-squared:  0.1382,
  Adjusted R-squared:  0.1005
F-statistic: 3.662 on 6 and 137 DF,  p-value: 0.002104

> nobs(m40)
[1] 144
> mm40

t test of coefficients:

              Estimate  Std. Error   t value  Pr(>|t|)
(Intercept)  0.99429274  0.00067465 1473.7835 < 2.2e-16 ***
prairie      0.00083086  0.00091209    0.9109  0.363923
cabinet      0.00207444  0.00067572    3.0700  0.002582 **
maritime     0.00216643  0.00123663    1.7519  0.082031 .
quebec      -0.00415312  0.00284058   -1.4621  0.146013
west         0.00261307  0.00093819    2.7852  0.006107 **
french       0.00335895  0.00184507    1.8205  0.070865 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

>
> all1 <-
rbind(conf40,conf39,conf38,conf37,conf36,conf34,conf33,conf32,conf30,conf29,conf28,conf27,conf26,conf24,conf22,
conf21,conf20,conf19,conf18,conf17,conf16,conf14,conf13,conf12,conf11,conf10,conf9,conf8,conf7,conf6,conf5,conf
4,conf3,conf2)
>
> colnames(all1) <- c("low","high","coef","V1")
> all1 <- data.frame(all1)
> all1$low <- as.numeric(as.character(all1$low))
> all1$high <- as.numeric(as.character(all1$high))
> all1$coef <- as.numeric(as.character(all1$coef))
>
> #Liberal Prairie
>
> dataL1 <- subset(dataL, dataL$parliament < 11)
> dataL2 <- subset(dataL, dataL$parliament > 10)
>
> dat <- dataL1
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,ifelse(dat$province=="Northwest Territories",1,0))))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Nunavut",
1,ifelse(dat$province=="Yukon",1,0)))
> dat1 <- dat
>
> dat <- dataL2
> dat$prairie <- ifelse(dat$province=="Alberta",1,ifelse(dat$province=="Saskatchewan",
1,ifelse(dat$province=="Manitoba",1,0)))
> dat$west <- ifelse(dat$province=="British Columbia",1,ifelse(dat$province=="Northwest Territories",
1,ifelse(dat$province=="Nunavut",1,ifelse(dat$province=="Yukon",1,0))))
> dat2 <- dat
>
> data1 <- rbind(dat1,dat2)
>
> m8.4 <- loyalty ~ prairie + cabinet + maritime + quebec + west + french
>
> m2 <- lm(m8.4,data=data1[data1$parl2==1,])
> m3 <- lm(m8.4,data=data1[data1$parl3==1,])
> m4 <- lm(m8.4,data=data1[data1$parl4==1,])
> m5 <- lm(m8.4,data=data1[data1$parl5==1,])
> m6 <- lm(m8.4,data=data1[data1$parl6==1,])
> m7 <- lm(m8.4,data=data1[data1$parl7==1,])
> m8 <- lm(m8.4,data=data1[data1$parl8==1,])
> m9 <- lm(m8.4,data=data1[data1$parl9==1,])
> m10 <- lm(m8.4,data=data1[data1$parl10==1,])
> m11 <- lm(m8.4,data=data1[data1$parl11==1,])
> m12 <- lm(m8.4,data=data1[data1$parl12==1,])
> m13 <- lm(m8.4,data=data1[data1$parl13==1,])
```

```
> m14 <- lm(m8.4,data=data1[data1$parl14==1,])
> m15 <- lm(m8.4,data=data1[data1$parl15==1,])
> m16 <- lm(m8.4,data=data1[data1$parl16==1,])
> m17 <- lm(m8.4,data=data1[data1$parl17==1,])
> m18 <- lm(m8.4,data=data1[data1$parl18==1,])
> m19 <- lm(m8.4,data=data1[data1$parl19==1,])
> m20 <- lm(m8.4,data=data1[data1$parl20==1,])
> m21 <- lm(m8.4,data=data1[data1$parl21==1,])
> m22 <- lm(m8.4,data=data1[data1$parl22==1,])
> m23 <- lm(m8.4,data=data1[data1$parl23==1,])
> m24 <- lm(m8.4,data=data1[data1$parl24==1,])
> #m25 <- lm(m8.4,data=data1[data1$parl25==1,])
> m26 <- lm(m8.4,data=data1[data1$parl26==1,])
> m27 <- lm(m8.4,data=data1[data1$parl27==1,])
> m28 <- lm(m8.4,data=data1[data1$parl28==1,])
> m29 <- lm(m8.4,data=data1[data1$parl29==1,])
> m30 <- lm(m8.4,data=data1[data1$parl30==1,])
> m31 <- lm(m8.4,data=data1[data1$parl31==1,])
> m32 <- lm(m8.4,data=data1[data1$parl32==1,])
> m33 <- lm(m8.4,data=data1[data1$parl33==1,])
> m34 <- lm(m8.4,data=data1[data1$parl34==1,])
> #m35 <- lm(m8.4,data=data1[data1$parl35==1,])
> m36 <- lm(m8.4,data=data1[data1$parl36==1,])
> m37 <- lm(m8.4,data=data1[data1$parl37==1,])
> m38 <- lm(m8.4,data=data1[data1$parl38==1,])
> m39 <- lm(m8.4,data=data1[data1$parl39==1,])
> m40 <- lm(m8.4,data=data1[data1$parl40==1,])
>
> mm2 <- coeftest(m2, vcov = vcovHAC(m2))
> mm3 <- coeftest(m3, vcov = vcovHAC(m3))
> mm4 <- coeftest(m4, vcov = vcovHAC(m4))
> mm5 <- coeftest(m5, vcov = vcovHAC(m5))
> mm6 <- coeftest(m6, vcov = vcovHAC(m6))
> mm7 <- coeftest(m7, vcov = vcovHAC(m7))
> mm8 <- coeftest(m8, vcov = vcovHAC(m8))
> mm9 <- coeftest(m9, vcov = vcovHAC(m9))
> mm10 <- coeftest(m10, vcov = vcovHAC(m10))
> mm11 <- coeftest(m11, vcov = vcovHAC(m11))
> mm12 <- coeftest(m12, vcov = vcovHAC(m12))
> mm13 <- coeftest(m13, vcov = vcovHAC(m13))
> mm14 <- coeftest(m14, vcov = vcovHAC(m14))
> mm15 <- coeftest(m15, vcov = vcovHAC(m15))
> mm16 <- coeftest(m16, vcov = vcovHAC(m16))
> mm17 <- coeftest(m17, vcov = vcovHAC(m17))
> mm18 <- coeftest(m18, vcov = vcovHAC(m18))
> mm19 <- coeftest(m19, vcov = vcovHAC(m19))
> mm20 <- coeftest(m20, vcov = vcovHAC(m20))
> mm21 <- coeftest(m21, vcov = vcovHAC(m21))
> mm22 <- coeftest(m22, vcov = vcovHAC(m22))
> mm23 <- coeftest(m23, vcov = vcovHAC(m23))
> mm24 <- coeftest(m24, vcov = vcovHAC(m24))
> #mm25 <- coeftest(m25, vcov = vcovHAC(m25))
> mm26 <- coeftest(m26, vcov = vcovHAC(m26))
> mm27 <- coeftest(m27, vcov = vcovHAC(m27))
> mm28 <- coeftest(m28, vcov = vcovHAC(m28))
> mm29 <- coeftest(m29, vcov = vcovHAC(m29))
> mm30 <- coeftest(m30, vcov = vcovHAC(m30))
> mm31 <- coeftest(m31, vcov = vcovHAC(m31))
> mm32 <- coeftest(m32, vcov = vcovHAC(m32))
> mm33 <- coeftest(m33, vcov = vcovHAC(m33))
> mm34 <- coeftest(m34, vcov = vcovHAC(m34))
> #mm35 <- coeftest(m35, vcov = vcovHAC(m35))
> mm36 <- coeftest(m36, vcov = vcovHAC(m36))
> mm37 <- coeftest(m37, vcov = vcovHAC(m37))
> mm38 <- coeftest(m38, vcov = vcovHAC(m38))
> mm39 <- coeftest(m39, vcov = vcovHAC(m39))
> mm40 <- coeftest(m40, vcov = vcovHAC(m40))
>
> coef <- mm2[2,1]
> se <- mm2[2,2]
> conf2 <- coef + c(-1,1)*se*qt(0.975, m2$df.residual)
```

```
> conf2 <- c(conf2,coef,"2nd (1872-1874)")
> coef <- mm3[2,1]
> se <- mm3[2,2]
> conf3 <- coef + c(-1,1)*se*qt(0.975, m3$df.residual)
> conf3 <- c(conf3,coef,"3rd (1874-1878)")
> coef <- mm4[2,1]
> se <- mm4[2,2]
> conf4 <- coef + c(-1,1)*se*qt(0.975, m4$df.residual)
> conf4 <- c(conf4,coef,"4th (1879-1882)")
> coef <- mm5[2,1]
> se <- mm5[2,2]
> conf5 <- coef + c(-1,1)*se*qt(0.975, m5$df.residual)
> conf5 <- c(conf5,coef,"5th (1883-1887)")
> coef <- mm6[2,1]
> se <- mm6[2,2]
> conf6 <- coef + c(-1,1)*se*qt(0.975, m6$df.residual)
> conf6 <- c(conf6,coef,"6th (1887-1891)")
> coef <- mm7[2,1]
> se <- mm7[2,2]
> conf7 <- coef + c(-1,1)*se*qt(0.975, m7$df.residual)
> conf7 <- c(conf7,coef,"7th (1891-1896)")
> coef <- mm8[2,1]
> se <- mm8[2,2]
> conf8 <- coef + c(-1,1)*se*qt(0.975, m8$df.residual)
> conf8 <- c(conf8,coef,"8th (1896-1900)")
> coef <- mm9[2,1]
> se <- mm9[2,2]
> conf9 <- coef + c(-1,1)*se*qt(0.975, m9$df.residual)
> conf9 <- c(conf9,coef,"9th (1901-1904)")
> coef <- mm10[2,1]
> se <- mm10[2,2]
> conf10 <- coef + c(-1,1)*se*qt(0.975, m10$df.residual)
> conf10 <- c(conf10,coef,"10th (1905-1908)")
> coef <- mm11[2,1]
> se <- mm11[2,2]
> conf11 <- coef + c(-1,1)*se*qt(0.975, m11$df.residual)
> conf11 <- c(conf11,coef,"11th (1909-1911)")
> coef <- mm12[2,1]
> se <- mm12[2,2]
> conf12 <- coef + c(-1,1)*se*qt(0.975, m12$df.residual)
> conf12 <- c(conf12,coef,"12th (1911-1917)")
> coef <- mm13[2,1]
> se <- mm13[2,2]
> conf13 <- coef + c(-1,1)*se*qt(0.975, m13$df.residual)
> conf13 <- c(conf13,coef,"13th (1917-1921)")
> coef <- mm14[2,1]
> se <- mm14[2,2]
> conf14 <- coef + c(-1,1)*se*qt(0.975, m14$df.residual)
> conf14 <- c(conf14,coef,"14th (1921-1925)")
> coef <- mm16[2,1]
> se <- mm16[2,2]
> conf16 <- coef + c(-1,1)*se*qt(0.975, m16$df.residual)
> conf16 <- c(conf16,coef,"16th (1926-1930)")
> coef <- mm17[2,1]
> se <- mm17[2,2]
> conf17 <- coef + c(-1,1)*se*qt(0.975, m17$df.residual)
> conf17 <- c(conf17,coef,"17th (1930-1935)")
> coef <- mm18[2,1]
> se <- mm18[2,2]
> conf18 <- coef + c(-1,1)*se*qt(0.975, m18$df.residual)
> conf18 <- c(conf18,coef,"18th (1935-1940)")
> coef <- mm19[2,1]
> se <- mm19[2,2]
> conf19 <- coef + c(-1,1)*se*qt(0.975, m19$df.residual)
> conf19 <- c(conf19,coef,"19th (1940-1945)")
> coef <- mm20[2,1]
> se <- mm20[2,2]
> conf20 <- coef + c(-1,1)*se*qt(0.975, m20$df.residual)
> conf20 <- c(conf20,coef,"20th (1945-1949)")
> coef <- mm21[2,1]
> se <- mm21[2,2]
```

```
> conf21 <- coef + c(-1,1)*se*qt(0.975, m21$df.residual)
> conf21 <- c(conf21,coef,"21st (1949-1953)")
> coef <- mm22[2,1]
> se <- mm22[2,2]
> conf22 <- coef + c(-1,1)*se*qt(0.975, m22$df.residual)
> conf22 <- c(conf22,coef,"22nd (1953-1957)")
> coef <- mm24[2,1]
> se <- mm24[2,2]
> conf24 <- coef + c(-1,1)*se*qt(0.975, m24$df.residual)
> conf24 <- c(conf24,coef,"24th (1958-1962)")
> coef <- mm26[2,1]
> se <- mm26[2,2]
> conf26 <- coef + c(-1,1)*se*qt(0.975, m26$df.residual)
> conf26 <- c(conf26,coef,"26th (1963-1965)")
> coef <- mm27[2,1]
> se <- mm27[2,2]
> conf27 <- coef + c(-1,1)*se*qt(0.975, m27$df.residual)
> conf27 <- c(conf27,coef,"27th (1965-1968)")
> coef <- mm28[2,1]
> se <- mm28[2,2]
> conf28 <- coef + c(-1,1)*se*qt(0.975, m28$df.residual)
> conf28 <- c(conf28,coef,"28th (1968-1972)")
> coef <- mm29[2,1]
> se <- mm29[2,2]
> conf29 <- coef + c(-1,1)*se*qt(0.975, m29$df.residual)
> conf29 <- c(conf29,coef,"29th (1972-1974)")
> coef <- mm30[2,1]
> se <- mm30[2,2]
> conf30 <- coef + c(-1,1)*se*qt(0.975, m30$df.residual)
> conf30 <- c(conf30,coef,"30th (1974-1979)")
> coef <- mm32[2,1]
> se <- mm32[2,2]
> conf32 <- coef + c(-1,1)*se*qt(0.975, m32$df.residual)
> conf32 <- c(conf32,coef,"32nd (1980-1984)")
> coef <- mm33[2,1]
> se <- mm33[2,2]
> conf33 <- coef + c(-1,1)*se*qt(0.975, m33$df.residual)
> conf33 <- c(conf33,coef,"33rd (1984-1988)")
> coef <- mm34[2,1]
> se <- mm34[2,2]
> conf34 <- coef + c(-1,1)*se*qt(0.975, m34$df.residual)
> conf34 <- c(conf34,coef,"34th (1988-1993)")
> coef <- mm36[2,1]
> se <- mm36[2,2]
> conf36 <- coef + c(-1,1)*se*qt(0.975, m36$df.residual)
> conf36 <- c(conf36,coef,"36th (1997-2000)")
> coef <- mm37[2,1]
> se <- mm37[2,2]
> conf37 <- coef + c(-1,1)*se*qt(0.975, m37$df.residual)
> conf37 <- c(conf37,coef,"37th (2001-2004)")
> coef <- mm38[2,1]
> se <- mm38[2,2]
> conf38 <- coef + c(-1,1)*se*qt(0.975, m38$df.residual)
> conf38 <- c(conf38,coef,"38th (2004-2005)")
> coef <- mm39[2,1]
> se <- mm39[2,2]
> conf39 <- coef + c(-1,1)*se*qt(0.975, m39$df.residual)
> conf39 <- c(conf39,coef,"39th (2006-2008)")
> coef <- mm40[2,1]
> se <- mm40[2,2]
> conf40 <- coef + c(-1,1)*se*qt(0.975, m40$df.residual)
> conf40 <- c(conf40,coef,"40th (2008-2011)")
>
> #Print results Conservative Language
>
> summary(m2)

Call:
lm(formula = m8.4, data = data1[data1$parl2 == 1, ])

Residuals:
```

```
     Min       1Q   Median       3Q      Max
-0.62535 -0.06847  0.01058  0.06545  0.47104

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.90753    0.02236  40.588  < 2e-16 ***
prairie     -0.63167    0.15811  -3.995 0.000131 ***
cabinet           NA         NA      NA       NA
maritime    -0.37857    0.04314  -8.776 9.31e-14 ***
quebec      -0.18694    0.06770  -2.761 0.006962 **
west        -0.58261    0.11291  -5.160 1.44e-06 ***
french       0.08702    0.07245   1.201 0.232868
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1565 on 91 degrees of freedom
  (9 observations deleted due to missingness)
Multiple R-squared:  0.5416,
  Adjusted R-squared:  0.5164
F-statistic:  21.5 on 5 and 91 DF,  p-value: 3.805e-14

> nobs(m2)
[1] 97
> mm2

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.907527   0.016410  55.3024 < 2.2e-16 ***
prairie     -0.631665   0.016410 -38.4921 < 2.2e-16 ***
maritime    -0.378567   0.058488  -6.4726 4.777e-09 ***
quebec      -0.186939   0.128328  -1.4567    0.1486
west        -0.582611   0.062237  -9.3612 5.539e-15 ***
french       0.087017   0.127204   0.6841    0.4957
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m3)

Call:
lm(formula = m8.4, data = data1[data1$parl3 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.49913 -0.02227  0.02217  0.05556  0.22976

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.93053    0.01299  71.659  < 2e-16 ***
prairie     -0.33007    0.06202  -5.322 4.08e-07 ***
cabinet      0.06634    0.02647   2.506   0.0134 *
maritime    -0.03485    0.02303  -1.513   0.1325
quebec      -0.11731    0.03070  -3.822   0.0002 ***
west        -0.31902    0.06202  -5.144 9.10e-07 ***
french      -0.08103    0.03277  -2.473   0.0146 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.105 on 137 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.4551,
  Adjusted R-squared:  0.4313
F-statistic: 19.07 on 6 and 137 DF,  p-value: 4.53e-16

> nobs(m3)
[1] 144
> mm3

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
```

```
(Intercept)  0.9305317  0.0088172 105.5358 < 2.2e-16 ***
prairie     -0.3300665  0.1203043  -2.7436 0.0068907 **
cabinet      0.0663373  0.0177574   3.7357 0.0002738 ***
maritime    -0.0348492  0.0219210  -1.5898 0.1141936
quebec      -0.1173126  0.0431986  -2.7157 0.0074668 **
west        -0.3190241  0.0999187  -3.1928 0.0017478 **
french      -0.0810327  0.0444053  -1.8248 0.0702034 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m4)

Call:
lm(formula = m8.4, data = data1[data1$parl4 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.48763 -0.01367  0.01920  0.03842  0.09113

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.951167   0.018183  52.311  < 2e-16 ***
prairie     -0.790248   0.096215  -8.213 2.39e-11 ***
cabinet            NA         NA      NA       NA
maritime    -0.039533   0.028750  -1.375   0.1743
quebec      -0.001113   0.042643  -0.026   0.9793
west        -0.779215   0.069238 -11.254 2.56e-16 ***
french      -0.099522   0.047951  -2.076   0.0423 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09448 on 59 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.7646,
  Adjusted R-squared:  0.7446
F-statistic: 38.32 on 5 and 59 DF,  p-value: < 2.2e-16

> nobs(m4)
[1] 65
> mm4

t test of coefficients:

              Estimate Std. Error   t value Pr(>|t|)
(Intercept)  0.9511672  0.0071128  133.7255  < 2e-16 ***
prairie     -0.7902477  0.0071128 -111.1017  < 2e-16 ***
maritime    -0.0395325  0.0277435   -1.4249  0.15945
quebec      -0.0011129  0.0209160   -0.0532  0.95775
west        -0.7792149  0.0192628  -40.4518  < 2e-16 ***
french      -0.0995224  0.0530253   -1.8769  0.06548 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m5)

Call:
lm(formula = m8.4, data = data1[data1$parl5 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.69010  0.00262  0.02339  0.04537  0.20696

Coefficients: (2 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.94213    0.02125  44.341   <2e-16 ***
prairie     -0.19671    0.10078  -1.952   0.0549 .
cabinet           NA         NA      NA       NA
maritime    -0.07582    0.03911  -1.938   0.0565 .
quebec       0.01089    0.08320   0.131   0.8962
west              NA         NA      NA       NA
french      -0.03481    0.09075  -0.384   0.7024
```

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

Residual standard error: 0.1393 on 72 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.08877,
  Adjusted R-squared:  0.03814
F-statistic: 1.753 on 4 and 72 DF,  p-value: 0.1477

> nobs(m5)
[1] 77
> mm5

t test of coefficients:

             Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.942131   0.017206 54.7550 < 2.2e-16 ***
prairie     -0.196710   0.152217 -1.2923  0.200386
maritime    -0.075818   0.053397 -1.4199  0.159959
quebec       0.010890   0.019051  0.5716  0.569366
french      -0.034811   0.011926 -2.9190  0.004684 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m6)

Call:
lm(formula = m8.4, data = data1[data1$parl6 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.63478 -0.02103  0.00525  0.05503  0.14931

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.897571   0.018522  48.461   <2e-16 ***
prairie     -0.015218   0.114174  -0.133    0.894
cabinet            NA         NA      NA       NA
maritime    -0.046880   0.032517  -1.442    0.154
quebec       0.009696   0.054152   0.179    0.858
west               NA         NA      NA       NA
french      -0.026530   0.054471  -0.487    0.628
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.1127 on 75 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.03205,
  Adjusted R-squared:  -0.01958
F-statistic: 0.6208 on 4 and 75 DF,  p-value: 0.6491

> nobs(m6)
[1] 80
> mm6

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.8975709  0.0082059 109.3817   <2e-16 ***
prairie     -0.0152179  0.0082059  -1.8545   0.0676 .
maritime    -0.0468799  0.0554155  -0.8460   0.4003
quebec       0.0096958  0.0250430   0.3872   0.6997
french      -0.0265300  0.0254085  -1.0441   0.2998
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m7)

Call:
lm(formula = m8.4, data = data1[data1$parl7 == 1, ])
```

```
Residuals:
     Min       1Q   Median       3Q      Max
-0.82023 -0.01249  0.01545  0.05221  0.14829

Coefficients: (2 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.97445    0.01801  54.105   <2e-16 ***
prairie     -0.02894    0.08813  -0.328   0.7434
cabinet           NA         NA      NA       NA
maritime    -0.08971    0.03839  -2.337   0.0216 *
quebec      -0.05547    0.03920  -1.415   0.1603
west              NA         NA      NA       NA
french      -0.06727    0.04007  -1.679   0.0965 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.122 on 94 degrees of freedom
Multiple R-squared:  0.1721,
  Adjusted R-squared:  0.1369
F-statistic: 4.885 on 4 and 94 DF,  p-value: 0.001269

> nobs(m7)
[1] 99
> mm7

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9744509  0.0036243 268.8691  < 2e-16 ***
prairie     -0.0289381  0.0212405  -1.3624  0.17633
maritime    -0.0897053  0.0684834  -1.3099  0.19343
quebec      -0.0554737  0.0222348  -2.4949  0.01434 *
french      -0.0672704  0.0311486  -2.1597  0.03334 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m8)

Call:
lm(formula = m8.4, data = data1[data1$parl8 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.230268 -0.027007  0.009733  0.036870  0.118834

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.935956   0.008491 110.231  < 2e-16 ***
prairie     -0.126218   0.022331  -5.652 9.03e-08 ***
cabinet      0.033281   0.015373   2.165   0.0321 *
maritime     0.006658   0.015636   0.426   0.6709
quebec      -0.002036   0.016626  -0.122   0.9027
west        -0.074110   0.030465  -2.433   0.0163 *
french       0.001079   0.016285   0.066   0.9473
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05852 on 135 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:  0.2555,
  Adjusted R-squared:  0.2225
F-statistic: 7.723 on 6 and 135 DF,  p-value: 3.78e-07

> nobs(m8)
[1] 142
> mm8

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9359561  0.0064190 145.8100 < 2.2e-16 ***
```

```
prairie     -0.1262182  0.0371791  -3.3949 0.0009019 ***
cabinet      0.0332807  0.0123856   2.6870 0.0081152 **
maritime     0.0066580  0.0116930   0.5694 0.5700307
quebec      -0.0020362  0.0140220  -0.1452 0.8847594
west        -0.0741096  0.0688842  -1.0759 0.2839097
french       0.0010792  0.0137348   0.0786 0.9374852
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m9)

Call:
lm(formula = m8.4, data = data1[data1$parl9 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.197234 -0.010349  0.009859  0.017052  0.037263

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.982948   0.005647 174.064   <2e-16 ***
prairie     -0.012152   0.014164  -0.858    0.392
cabinet     -0.002150   0.008193  -0.262    0.793
maritime     0.003283   0.008304   0.395    0.693
quebec      -0.007160   0.009019  -0.794    0.429
west        -0.014909   0.014206  -1.049    0.296
french      -0.013052   0.008415  -1.551    0.123
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03449 on 145 degrees of freedom
Multiple R-squared:  0.0749,
  Adjusted R-squared:  0.03662
F-statistic: 1.957 on 6 and 145 DF,  p-value: 0.07562

> nobs(m9)
[1] 152
> mm9

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9829484  0.0062598 157.0252  < 2e-16 ***
prairie     -0.0121519  0.0141466  -0.8590  0.39176
cabinet     -0.0021496  0.0073998  -0.2905  0.77185
maritime     0.0032826  0.0068935   0.4762  0.63466
quebec      -0.0071598  0.0070460  -1.0162  0.31125
west        -0.0149087  0.0213724  -0.6976  0.48656
french      -0.0130517  0.0060934  -2.1419  0.03387 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m10)

Call:
lm(formula = m8.4, data = data1[data1$parl10 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.46267  0.00506  0.01595  0.01803  0.03733

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9721461  0.0100997  96.255   <2e-16 ***
prairie      0.0032145  0.0186719   0.172    0.864
cabinet      0.0001142  0.0160364   0.007    0.994
maritime     0.0169165  0.0154931   1.092    0.277
quebec      -0.0094811  0.0173393  -0.547    0.585
west         0.0214990  0.0251537   0.855    0.394
french       0.0193051  0.0160695   1.201    0.231
---
```

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

Residual standard error: 0.06538 on 153 degrees of freedom
  (4 observations deleted due to missingness)
Multiple R-squared:  0.02049,
  Adjusted R-squared:  -0.01792
F-statistic: 0.5334 on 6 and 153 DF,  p-value: 0.7822

> nobs(m10)
[1] 160
> mm10

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  0.97214611  0.00708858 137.1426  < 2e-16 ***
prairie      0.00321447  0.01136863   0.2827  0.77775
cabinet      0.00011416  0.01470137   0.0078  0.99381
maritime     0.01691650  0.00838407   2.0177  0.04537 *
quebec      -0.00948108  0.02646665  -0.3582  0.72067
west         0.02149905  0.00875945   2.4544  0.01523 *
french       0.01930514  0.02460614   0.7846  0.43392
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m11)

Call:
lm(formula = m8.4, data = data1[data1$parl11 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.183128 -0.007865  0.004031  0.008765  0.020354

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9912352  0.0036229 273.605   <2e-16 ***
prairie     -0.0081073  0.0064968  -1.248    0.214
cabinet      0.0005693  0.0058286   0.098    0.922
maritime     0.0047337  0.0054819   0.864    0.389
quebec      -0.0055718  0.0063918  -0.872    0.385
west        -0.0115890  0.0130882  -0.885    0.378
french      -0.0037664  0.0059852  -0.629    0.530
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02173 on 128 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.06319,
  Adjusted R-squared:  0.01928
F-statistic: 1.439 on 6 and 128 DF,  p-value: 0.2047

> nobs(m11)
[1] 135
> mm11

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  0.99123517  0.00258516 383.4331   <2e-16 ***
prairie     -0.00810732  0.01255981  -0.6455   0.5198
cabinet      0.00056928  0.00346090   0.1645   0.8696
maritime     0.00473373  0.00355576   1.3313   0.1855
quebec      -0.00557179  0.00453863  -1.2276   0.2218
west        -0.01158902  0.00996351  -1.1631   0.2469
french      -0.00376639  0.00404522  -0.9311   0.3536
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m12)
```

```
Call:
lm(formula = m8.4, data = data1[data1$parl12 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.32669 -0.01347  0.00623  0.02609  0.08916

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.94982    0.01514  62.727  < 2e-16 ***
prairie     -0.03898    0.02038  -1.913  0.05926 .
cabinet     -0.17204    0.05846  -2.943  0.00423 **
maritime     0.01021    0.01968   0.519  0.60544
quebec       0.03866    0.02138   1.808  0.07425 .
west              NA         NA      NA       NA
french      -0.01391    0.01749  -0.795  0.42869
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05646 on 82 degrees of freedom
Multiple R-squared:  0.2509,
  Adjusted R-squared:  0.2052
F-statistic: 5.493 on 5 and 82 DF,  p-value: 0.000207

> nobs(m12)
[1] 88
> mm12

t test of coefficients:

             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.949818   0.011282  84.1892  < 2e-16 ***
prairie     -0.038983   0.021238  -1.8355  0.07005 .
cabinet     -0.172040   0.011282 -15.2492  < 2e-16 ***
maritime     0.010207   0.021495   0.4748  0.63616
quebec       0.038660   0.015072   2.5650  0.01214 *
french      -0.013913   0.015468  -0.8994  0.37105
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m13)

Call:
lm(formula = m8.4, data = data1[data1$parl13 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.121248 -0.016164  0.001545  0.017170  0.072300

Coefficients: (2 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.927700   0.011204  82.798  < 2e-16 ***
prairie     -0.037035   0.026179  -1.415  0.16104
cabinet            NA         NA      NA       NA
maritime     0.023040   0.015119   1.524  0.13147
quebec       0.028045   0.013755   2.039  0.04476 *
west               NA         NA      NA       NA
french       0.027085   0.009599   2.822  0.00603 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03346 on 80 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.3133,
  Adjusted R-squared:  0.279
F-statistic: 9.127 on 4 and 80 DF,  p-value: 3.989e-06

> nobs(m13)
[1] 85
> mm13
```

```
t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.927700   0.020318 45.6592  < 2e-16 ***
prairie     -0.037035   0.025328 -1.4622  0.14761
maritime     0.023040   0.021243  1.0846  0.28134
quebec       0.028045   0.021341  1.3141  0.19256
french       0.027085   0.011077  2.4453  0.01667 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m14)

Call:
lm(formula = m8.4, data = data1[data1$parl14 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.29378 -0.01716  0.01157  0.02446  0.11806

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.918233   0.013620  67.418  < 2e-16 ***
prairie     -0.134330   0.034197  -3.928 0.000141 ***
cabinet      0.030474   0.014639   2.082 0.039411 *
maritime    -0.003801   0.017444  -0.218 0.827857
quebec       0.015542   0.018221   0.853 0.395287
west        -0.012063   0.038514  -0.313 0.754641
french       0.042452   0.014935   2.842 0.005230 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06286 on 125 degrees of freedom
  (6 observations deleted due to missingness)
Multiple R-squared:  0.2722,
  Adjusted R-squared:  0.2372
F-statistic: 7.791 on 6 and 125 DF,  p-value: 3.928e-07

> nobs(m14)
[1] 132
> mm14

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9182334  0.0128001 71.7363  < 2e-16 ***
prairie     -0.1343303  0.0611911 -2.1953  0.02999 *
cabinet      0.0304735  0.0129074  2.3609  0.01978 *
maritime    -0.0038011  0.0188970 -0.2011  0.84091
quebec       0.0155424  0.0221595  0.7014  0.48436
west        -0.0120632  0.0263218 -0.4583  0.64753
french       0.0424520  0.0197023  2.1547  0.03310 *
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m15)

Call:
lm(formula = m8.4, data = data1[data1$parl15 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.97942  0.00132  0.00456  0.02058  0.02058

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.0020358  0.0297125  33.724   <2e-16 ***
prairie     -0.0033586  0.0364094  -0.092    0.927
cabinet      0.0076059  0.0314981   0.241    0.810
maritime    -0.0006338  0.0505714  -0.013    0.990
quebec      -0.0065981  0.0373709  -0.177    0.860
```

```
west        -0.0045711  0.0658396  -0.069    0.945
french      -0.0160178  0.0298716  -0.536    0.593
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.101 on 96 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.01098,
  Adjusted R-squared:  -0.05084
F-statistic: 0.1776 on 6 and 96 DF,  p-value: 0.9823

> nobs(m15)
[1] 103
> mm15

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  1.00203580  0.00275616 363.5617   <2e-16 ***
prairie     -0.00335857  0.00395001  -0.8503   0.3973
cabinet      0.00760594  0.00825322   0.9216   0.3591
maritime    -0.00063383  0.00373790  -0.1696   0.8657
quebec      -0.00659813  0.00739154  -0.8927   0.3743
west        -0.00457111  0.00546878  -0.8359   0.4053
french      -0.01601775  0.01645591  -0.9734   0.3328
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m16)

Call:
lm(formula = m8.4, data = data1[data1$parl16 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.246521 -0.018119  0.004213  0.023940  0.212989

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.903631   0.014114  64.024  < 2e-16 ***
prairie     -0.116620   0.018043  -6.464 2.03e-09 ***
cabinet      0.004965   0.017346   0.286  0.77519
maritime    -0.004915   0.024358  -0.202  0.84042
quebec       0.023806   0.018359   1.297  0.19711
west        -0.108595   0.070540  -1.539  0.12619
french       0.053199   0.016271   3.269  0.00139 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.06768 on 126 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.5718,
  Adjusted R-squared:  0.5514
F-statistic: 28.04 on 6 and 126 DF,  p-value: < 2.2e-16

> nobs(m16)
[1] 133
> mm16

t test of coefficients:

              Estimate Std. Error t value  Pr(>|t|)
(Intercept)  0.9036306  0.0155134 58.2485 < 2.2e-16 ***
prairie     -0.1166199  0.0242481 -4.8095 4.240e-06 ***
cabinet      0.0049646  0.0227424  0.2183    0.8275
maritime    -0.0049149  0.0225920 -0.2175    0.8281
quebec       0.0238064  0.0144440  1.6482    0.1018
west        -0.1085953  0.0253642 -4.2814 3.647e-05 ***
french       0.0531988  0.0114978  4.6269 9.084e-06 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m17)

Call:
lm(formula = m8.4, data = data1[data1$parl17 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.76799 -0.01385  0.01072  0.03246  0.08778

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.964332   0.017036  56.606   <2e-16 ***
prairie     -0.052110   0.025537  -2.041   0.0441 *
cabinet            NA         NA      NA       NA
maritime    -0.016093   0.036629  -0.439   0.6614
quebec      -0.006945   0.028918  -0.240   0.8107
west        -0.034688   0.042230  -0.821   0.4135
french       0.010153   0.027194   0.373   0.7097
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0864 on 95 degrees of freedom
Multiple R-squared:  0.06412,
  Adjusted R-squared:  0.01486
F-statistic: 1.302 on 5 and 95 DF,  p-value: 0.2698

> nobs(m17)
[1] 101
> mm17

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9643317  0.0057075 168.9599   <2e-16 ***
prairie     -0.0521099  0.0412626  -1.2629   0.2097
maritime    -0.0160927  0.0155451  -1.0352   0.3032
quebec      -0.0069450  0.0107725  -0.6447   0.5207
west        -0.0346878  0.0146111  -2.3741   0.0196 *
french       0.0101531  0.0115400   0.8798   0.3812
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m18)

Call:
lm(formula = m8.4, data = data1[data1$parl18 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.212611 -0.005732  0.005981  0.010017  0.042065

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9899827  0.0037768 262.122  < 2e-16 ***
prairie     -0.0273721  0.0061366  -4.460 1.43e-05 ***
cabinet      0.0158834  0.0070762   2.245  0.02600 *
maritime     0.0002218  0.0063063   0.035  0.97198
quebec      -0.0001344  0.0069448  -0.019  0.98458
west        -0.0320477  0.0111247  -2.881  0.00444 **
french       0.0041711  0.0064857   0.643  0.52095
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02772 on 182 degrees of freedom
  (9 observations deleted due to missingness)
Multiple R-squared:  0.1801,
  Adjusted R-squared:  0.1531
F-statistic: 6.664 on 6 and 182 DF,  p-value: 2.171e-06

> nobs(m18)
```

```
[1] 189
> mm18

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.98998267  0.00225835 438.3650 < 2.2e-16 ***
prairie     -0.02737214  0.00924749  -2.9600  0.003487 **
cabinet      0.01588344  0.00488554   3.2511  0.001370 **
maritime     0.00022183  0.00358075   0.0620  0.950669
quebec      -0.00013442  0.00446491  -0.0301  0.976016
west        -0.03204765  0.01751296  -1.8299  0.068895 .
french       0.00417112  0.00415164   1.0047  0.316379
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m19)

Call:
lm(formula = m8.4, data = data1[data1$parl19 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.51890 -0.00316  0.00318  0.04779  0.17075

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9968204  0.0143922  69.261  < 2e-16 ***
prairie     -0.0070231  0.0227868  -0.308 0.758283
cabinet      0.0508706  0.0217009   2.344 0.020173 *
maritime     0.0003895  0.0280173   0.014 0.988924
quebec      -0.0954846  0.0250717  -3.808 0.000192 ***
west        -0.0156333  0.0360925  -0.433 0.665434
french      -0.0720888  0.0233952  -3.081 0.002388 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.105 on 178 degrees of freedom
  (3 observations deleted due to missingness)
Multiple R-squared:  0.3455,
  Adjusted R-squared:  0.3235
F-statistic: 15.66 on 6 and 178 DF,  p-value: 2.094e-14

> nobs(m19)
[1] 185
> mm19

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.99682040  0.00332926 299.4123 < 2.2e-16 ***
prairie     -0.00702312  0.00796474  -0.8818 0.3790867
cabinet      0.05087059  0.01557480   3.2662 0.0013076 **
maritime     0.00038949  0.00832876   0.0468 0.9627531
quebec      -0.09548456  0.01886393  -5.0618  1.03e-06 ***
west        -0.01563331  0.00814763  -1.9188 0.0566154 .
french      -0.07208877  0.02113855  -3.4103 0.0008029 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.115464 -0.007949  0.002654  0.012087  0.025750

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
```

```
(Intercept)  0.977005   0.003959 246.778  < 2e-16 ***
prairie      0.001841   0.006424   0.287  0.77496
cabinet      0.002927   0.004339   0.675  0.50121
maritime     0.004061   0.005853   0.694  0.48918
quebec       0.001204   0.005700   0.211  0.83312
west        -0.031998   0.010341  -3.094  0.00245 **
french       0.009704   0.005239   1.852  0.06645 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02119 on 120 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.1404,
  Adjusted R-squared:  0.09744
F-statistic: 3.267 on 6 and 120 DF,  p-value: 0.005191

> nobs(m20)
[1] 127
> mm20

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9770051  0.0040184 243.1305   <2e-16 ***
prairie      0.0018408  0.0061101   0.3013   0.7637
cabinet      0.0029272  0.0049578   0.5904   0.5560
maritime     0.0040606  0.0050697   0.8009   0.4247
quebec       0.0012037  0.0079570   0.1513   0.8800
west        -0.0319984  0.0174264  -1.8362   0.0688 .
french       0.0097038  0.0071643   1.3545   0.1781
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m20)

Call:
lm(formula = m8.4, data = data1[data1$parl20 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.115464 -0.007949  0.002654  0.012087  0.025750

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.977005   0.003959 246.778  < 2e-16 ***
prairie      0.001841   0.006424   0.287  0.77496
cabinet      0.002927   0.004339   0.675  0.50121
maritime     0.004061   0.005853   0.694  0.48918
quebec       0.001204   0.005700   0.211  0.83312
west        -0.031998   0.010341  -3.094  0.00245 **
french       0.009704   0.005239   1.852  0.06645 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02119 on 120 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.1404,
  Adjusted R-squared:  0.09744
F-statistic: 3.267 on 6 and 120 DF,  p-value: 0.005191

> nobs(m20)
[1] 127
> mm20

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9770051  0.0040184 243.1305   <2e-16 ***
prairie      0.0018408  0.0061101   0.3013   0.7637
cabinet      0.0029272  0.0049578   0.5904   0.5560
maritime     0.0040606  0.0050697   0.8009   0.4247
```

```
quebec       0.0012037  0.0079570   0.1513   0.8800
west        -0.0319984  0.0174264  -1.8362   0.0688 .
french       0.0097038  0.0071643   1.3545   0.1781
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m21)

Call:
lm(formula = m8.4, data = data1[data1$parl21 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.109590 -0.001793  0.002222  0.007934  0.026337

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9923071  0.0020693 479.546  < 2e-16 ***
prairie     -0.0002410  0.0033488  -0.072   0.9427
cabinet      0.0069302  0.0028154   2.462   0.0147 *
maritime     0.0025554  0.0035518   0.719   0.4727
quebec      -0.0007593  0.0038314  -0.198   0.8431
west        -0.0255747  0.0047736  -5.358 2.41e-07 ***
french      -0.0008025  0.0036179  -0.222   0.8247
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.015 on 191 degrees of freedom
  (7 observations deleted due to missingness)
Multiple R-squared:  0.1672,
  Adjusted R-squared:  0.141
F-statistic: 6.389 on 6 and 191 DF,  p-value: 3.78e-06

> nobs(m21)
[1] 198
> mm21

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.99230711  0.00153729 645.4904 < 2.2e-16 ***
prairie     -0.00024103  0.00273245  -0.0882 0.9298021
cabinet      0.00693023  0.00186682   3.7123 0.0002694 ***
maritime     0.00255540  0.00196610   1.2997 0.1952601
quebec      -0.00075926  0.00206053  -0.3685 0.7129247
west        -0.02557467  0.01132618  -2.2580 0.0250760 *
french      -0.00080253  0.00190666  -0.4209 0.6742955
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m22)

Call:
lm(formula = m8.4, data = data1[data1$parl22 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.069158 -0.001383  0.002321  0.003697  0.018252

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.992235   0.001638 605.869  < 2e-16 ***
prairie      0.002577   0.003168   0.814   0.4170
cabinet      0.005283   0.002147   2.461   0.0148 *
maritime     0.004068   0.002681   1.517   0.1311
quebec       0.001432   0.002805   0.510   0.6104
west        -0.015770   0.003905  -4.039 8.08e-05 ***
french       0.004013   0.002575   1.558   0.1210
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
Residual standard error: 0.01129 on 172 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.186,
  Adjusted R-squared:  0.1576
F-statistic:  6.55 on 6 and 172 DF,  p-value: 3.016e-06

> nobs(m22)
[1] 179
> mm22

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9922349  0.0024066 412.2960 < 2.2e-16 ***
prairie      0.0025775  0.0022436   1.1488  0.252234
cabinet      0.0052827  0.0013957   3.7851  0.000212 ***
maritime     0.0040677  0.0023232   1.7509  0.081747 .
quebec       0.0014317  0.0021682   0.6603  0.509935
west        -0.0157701  0.0076201  -2.0695  0.039990 *
french       0.0040126  0.0013725   2.9235  0.003927 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m23)

Call:
lm(formula = m8.4, data = data1[data1$parl23 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.51004 -0.02604  0.04552  0.04552  0.09043

Coefficients: (1 not defined because of singularities)
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.97257    0.02132  45.615   <2e-16 ***
prairie     -0.05694    0.04448  -1.280   0.2036
cabinet           NA         NA      NA       NA
maritime    -0.06300    0.03456  -1.823   0.0714 .
quebec      -0.03485    0.03307  -1.054   0.2946
west        -0.02654    0.05184  -0.512   0.6098
french       0.01676    0.02850   0.588   0.5577
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.09449 on 97 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.04126,
  Adjusted R-squared:  -0.008155
F-statistic: 0.835 on 5 and 97 DF,  p-value: 0.528

> nobs(m23)
[1] 103
> mm23

t test of coefficients:

             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.972566   0.014265 68.1774  < 2e-16 ***
prairie     -0.056942   0.038640 -1.4736  0.14382
maritime    -0.062998   0.026641 -2.3647  0.02004 *
quebec      -0.034847   0.028021 -1.2436  0.21663
west        -0.026543   0.031351 -0.8467  0.39927
french       0.016764   0.026469  0.6334  0.52799
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m24)

Call:
lm(formula = m8.4, data = data1[data1$parl24 == 1, ])
```

```
Residuals:
      Min        1Q    Median        3Q       Max
-0.019300 -0.002753  0.001233  0.002669  0.010492

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.990728   0.001598 619.822  < 2e-16 ***
prairie      0.009272   0.006702   1.383 0.173057
cabinet           NA         NA      NA       NA
maritime    -0.001220   0.002775  -0.440 0.662093
quebec      -0.004475   0.002857  -1.566 0.124036
west         0.009272   0.006702   1.383 0.173057
french       0.011078   0.002693   4.113 0.000156 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.006509 on 47 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.3292,
  Adjusted R-squared:  0.2578
F-statistic: 4.613 on 5 and 47 DF,  p-value: 0.001663

> nobs(m24)
[1] 53
> mm24

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9907280  0.0021139 468.6678 < 2.2e-16 ***
prairie      0.0092720  0.0021139   4.3861 6.468e-05 ***
maritime    -0.0012203  0.0026423  -0.4618  0.646320
quebec      -0.0044749  0.0032757  -1.3661  0.178421
west         0.0092720  0.0021139   4.3861 6.468e-05 ***
french       0.0110779  0.0032329   3.4267  0.001279 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m26)

Call:
lm(formula = m8.4, data = data1[data1$parl26 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.91433 -0.00299  0.01271  0.01377  0.08567

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.986232   0.013130  75.113  < 2e-16 ***
prairie     -0.020119   0.051668  -0.389  0.69765
cabinet      0.016756   0.015845   1.057  0.29234
maritime     0.001058   0.022211   0.048  0.96210
quebec      -0.071904   0.025016  -2.874  0.00476 **
west         0.004194   0.034888   0.120  0.90452
french       0.068150   0.023879   2.854  0.00505 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.08589 on 125 degrees of freedom
Multiple R-squared:  0.07764,
  Adjusted R-squared:  0.03337
F-statistic: 1.754 on 6 and 125 DF,  p-value: 0.114

> nobs(m26)
[1] 132
> mm26

t test of coefficients:

              Estimate Std. Error t value Pr(>|t|)
```

```
(Intercept)  0.9862317  0.0106914 92.2455   <2e-16 ***
prairie     -0.0201189  0.0306521 -0.6564   0.5128
cabinet      0.0167557  0.0144350  1.1608   0.2479
maritime     0.0010576  0.0057865  0.1828   0.8553
quebec      -0.0719037  0.0673758 -1.0672   0.2879
west         0.0041936  0.0047147  0.8895   0.3755
french       0.0681502  0.0628360  1.0846   0.2802
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m27)

Call:
lm(formula = m8.4, data = data1[data1$parl27 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.139393 -0.008751  0.006053  0.016978  0.038781

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9752136  0.0044276 220.257   <2e-16 ***
prairie      0.0253655  0.0208035   1.219    0.225
cabinet      0.0072706  0.0052238   1.392    0.166
maritime     0.0079326  0.0079975   0.992    0.323
quebec      -0.0055657  0.0083117  -0.670    0.504
west         0.0002667  0.0108567   0.025    0.980
french      -0.0084287  0.0079627  -1.059    0.292
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0284 on 131 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1041,
  Adjusted R-squared:  0.06303
F-statistic: 2.536 on 6 and 131 DF,  p-value: 0.0235

> nobs(m27)
[1] 138
> mm27

t test of coefficients:

              Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.97521358  0.00522354 186.6960 < 2.2e-16 ***
prairie      0.02536546  0.00470758   5.3882 3.199e-07 ***
cabinet      0.00727057  0.00423030   1.7187   0.08803 .
maritime     0.00793258  0.00602105   1.3175   0.18998
quebec      -0.00556571  0.00628414  -0.8857   0.37742
west         0.00026669  0.00640846   0.0416   0.96687
french      -0.00842867  0.00572139  -1.4732   0.14310
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m28)

Call:
lm(formula = m8.4, data = data1[data1$parl28 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0147209  0.0004766  0.0006053  0.0012795  0.0020965

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9985919  0.0004342 2299.740   <2e-16 ***
prairie      0.0009818  0.0009662    1.016    0.311
cabinet      0.0001286  0.0004738    0.272    0.786
maritime     0.0011837  0.0011894    0.995    0.321
quebec       0.0002749  0.0008006    0.343    0.732
west        -0.0006884  0.0008101   -0.850    0.397
```

```
french       0.0005280  0.0007754    0.681    0.497
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002953 on 151 degrees of freedom
Multiple R-squared:  0.03594,
  Adjusted R-squared:  -0.002363
F-statistic: 0.9383 on 6 and 151 DF,  p-value: 0.4694

> nobs(m28)
[1] 158
> mm28

t test of coefficients:

               Estimate  Std. Error   t value Pr(>|t|)
(Intercept)  0.99859190  0.00054625 1828.0826   <2e-16 ***
prairie      0.00098177  0.00049158    1.9972   0.0476 *
cabinet      0.00012864  0.00044383    0.2898   0.7723
maritime     0.00118375  0.00037822    3.1298   0.0021 **
quebec       0.00027486  0.00054717    0.5023   0.6162
west        -0.00068841  0.00110923   -0.6206   0.5358
french       0.00052796  0.00041462    1.2734   0.2048
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m29)

Call:
lm(formula = m8.4, data = data1[data1$parl29 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.079548 -0.000415  0.004233  0.012760  0.016020

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.993777   0.003683 269.818   <2e-16 ***
prairie     -0.004962   0.011388  -0.436   0.6639
cabinet      0.001990   0.003788   0.525   0.6004
maritime     0.004648   0.006697   0.694   0.4892
quebec      -0.009797   0.004944  -1.982   0.0502 .
west         0.005228   0.009832   0.532   0.5961
french       0.001270   0.004574   0.278   0.7819
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0186 on 102 degrees of freedom
Multiple R-squared:  0.08849,
  Adjusted R-squared:  0.03487
F-statistic:  1.65 on 6 and 102 DF,  p-value: 0.141

> nobs(m29)
[1] 109
> mm29

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9937770  0.0030289 328.0959  < 2e-16 ***
prairie     -0.0049623  0.0084181  -0.5895  0.55684
cabinet      0.0019902  0.0042736   0.4657  0.64243
maritime     0.0046480  0.0029168   1.5935  0.11414
quebec      -0.0097966  0.0045671  -2.1451  0.03432 *
west         0.0052279  0.0029362   1.7805  0.07797 .
french       0.0012697  0.0047379   0.2680  0.78925
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m30)
```

```
Call:
lm(formula = m8.4, data = data1[data1$parl30 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.054257 -0.004737  0.003663  0.005432  0.016177

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.989040   0.002109 468.979  < 2e-16 ***
prairie      0.003251   0.004544   0.715  0.47553
cabinet      0.005528   0.001982   2.789  0.00601 **
maritime     0.000900   0.003077   0.292  0.77035
quebec       0.001270   0.002411   0.527  0.59906
west        -0.009890   0.003992  -2.478  0.01439 *
french      -0.001242   0.002259  -0.550  0.58327
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.0105 on 142 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1029,
  Adjusted R-squared:  0.06498
F-statistic: 2.714 on 6 and 142 DF,  p-value: 0.01587

> nobs(m30)
[1] 149
> mm30

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  0.98904007  0.00297084 332.9159  < 2e-16 ***
prairie      0.00325056  0.00203449   1.5977  0.11233
cabinet      0.00552779  0.00256759   2.1529  0.03302 *
maritime     0.00090004  0.00301200   0.2988  0.76552
quebec       0.00127026  0.00209581   0.6061  0.54542
west        -0.00989020  0.00661898  -1.4942  0.13734
french      -0.00124241  0.00169737  -0.7320  0.46540
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m31)

Call:
lm(formula = m8.4, data = data1[data1$parl31 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.159738  0.000000  0.006929  0.006929  0.015603

Coefficients: (1 not defined because of singularities)
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.0005897  0.0053773 186.077   <2e-16 ***
prairie     -0.0005897  0.0207956  -0.028    0.977
cabinet             NA         NA      NA       NA
maritime    -0.0139073  0.0096589  -1.440    0.153
quebec      -0.0052335  0.0071459  -0.732    0.466
west        -0.0005897  0.0289137  -0.020    0.984
french      -0.0022849  0.0065761  -0.347    0.729
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02841 on 107 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.02299,
  Adjusted R-squared:  -0.02267
F-statistic: 0.5035 on 5 and 107 DF,  p-value: 0.773

> nobs(m31)
[1] 113
```

```
> mm31

t test of coefficients:

               Estimate  Std. Error   t value Pr(>|t|)
(Intercept)  1.00058966  0.00097457 1026.6944  < 2e-16 ***
prairie     -0.00058966  0.00097457   -0.6050  0.54643
maritime    -0.01390732  0.01376950   -1.0100  0.31477
quebec      -0.00523350  0.00275390   -1.9004  0.06007 .
west        -0.00058966  0.00097457   -0.6050  0.54643
french      -0.00228493  0.00369995   -0.6176  0.53818
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m32)

Call:
lm(formula = m8.4, data = data1[data1$parl32 == 1, ])

Residuals:
       Min         1Q     Median         3Q        Max
-0.0141571  0.0000261  0.0001711  0.0007329  0.0025709

Coefficients:
             Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9974291  0.0004538 2198.175  < 2e-16 ***
prairie     -0.0010577  0.0015553   -0.680    0.498
cabinet      0.0018380  0.0004191    4.386 2.22e-05 ***
maritime     0.0003963  0.0005661    0.700    0.485
quebec       0.0005617  0.0004988    1.126    0.262
west         0.0025709  0.0022021    1.167    0.245
french       0.0001451  0.0004737    0.306    0.760
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.002155 on 144 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1322,
  Adjusted R-squared:  0.09603
F-statistic: 3.656 on 6 and 144 DF,  p-value: 0.00208

> nobs(m32)
[1] 151
> mm32

t test of coefficients:

               Estimate  Std. Error   t value  Pr(>|t|)
(Intercept)  0.99742914  0.00081390 1225.4872 < 2.2e-16 ***
prairie     -0.00105771  0.00029386   -3.5994 0.0004379 ***
cabinet      0.00183800  0.00067168    2.7364 0.0069938 **
maritime     0.00039634  0.00051931    0.7632 0.4465853
quebec       0.00056171  0.00067570    0.8313 0.4071821
west         0.00257086  0.00081390    3.1587 0.0019315 **
french       0.00014506  0.00064712    0.2242 0.8229481
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m33)

Call:
lm(formula = m8.4, data = data1[data1$parl33 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.16992  0.00000  0.00531  0.01229  0.01635

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.987054   0.008930 110.526   <2e-16 ***
prairie      0.010854   0.033908   0.320    0.751
```

```
cabinet            NA         NA      NA       NA
maritime     0.007835   0.015142   0.517    0.608
quebec      -0.001999   0.013437  -0.149    0.883
west         0.012946   0.033908   0.382    0.705
french      -0.001406   0.012760  -0.110    0.913
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03271 on 35 degrees of freedom
Multiple R-squared:  0.02221,
  Adjusted R-squared:  -0.1175
F-statistic: 0.159 on 5 and 35 DF,  p-value: 0.9758

> nobs(m33)
[1] 41
> mm33

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9870543  0.0059217 166.6831  < 2e-16 ***
prairie      0.0108536  0.0059217   1.8328  0.07534 .
maritime     0.0078352  0.0055897   1.4017  0.16980
quebec      -0.0019987  0.0081296  -0.2459  0.80723
west         0.0129457  0.0059217   2.1861  0.03558 *
french      -0.0014057  0.0103251  -0.1361  0.89249
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m34)

Call:
lm(formula = m8.4, data = data1[data1$parl34 == 1, ])

Residuals:
     Min       1Q   Median       3Q      Max
-0.40502 -0.00305  0.00051  0.00481  0.20927

Coefficients: (1 not defined because of singularities)
              Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.930e-01  8.777e-03 113.133  < 2e-16 ***
prairie      4.052e-03  2.454e-02   0.165    0.869
cabinet             NA         NA      NA       NA
maritime     2.094e-05  1.508e-02   0.001    0.999
quebec       2.098e-03  1.942e-02   0.108    0.914
west        -2.023e-01  3.357e-02  -6.025 5.07e-08 ***
french       6.362e-04  1.675e-02   0.038    0.970
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.05612 on 79 degrees of freedom
Multiple R-squared:  0.3242,
  Adjusted R-squared:  0.2815
F-statistic: 7.581 on 5 and 79 DF,  p-value: 7.373e-06

> nobs(m34)
[1] 85
> mm34

t test of coefficients:

               Estimate  Std. Error  t value Pr(>|t|)
(Intercept)  9.9300e-01  1.0317e-03 962.5312  < 2e-16 ***
prairie      4.0517e-03  2.1000e-03   1.9294  0.05727 .
maritime     2.0936e-05  1.4271e-03   0.0147  0.98833
quebec       2.0979e-03  1.8379e-03   1.1415  0.25712
west        -2.0226e-01  1.7155e-01  -1.1791  0.24191
french       6.3615e-04  1.6064e-03   0.3960  0.69316
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

```
> summary(m36)

Call:
lm(formula = m8.4, data = data1[data1$parl36 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.075951 -0.002402  0.002224  0.004191  0.011074

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  9.889e-01  1.335e-03 740.995  < 2e-16 ***
prairie     -8.210e-04  3.142e-03  -0.261    0.794
cabinet      6.882e-03  1.562e-03   4.405 1.95e-05 ***
maritime     9.347e-04  2.884e-03   0.324    0.746
quebec       1.955e-06  2.272e-03   0.001    0.999
west         4.308e-03  3.279e-03   1.314    0.191
french       1.413e-03  2.214e-03   0.638    0.524
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.009374 on 157 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1285,
  Adjusted R-squared:  0.09524
F-statistic:  3.86 on 6 and 157 DF,  p-value: 0.001277

> nobs(m36)
[1] 164
> mm36

t test of coefficients:

               Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  9.8893e-01  2.1117e-03 468.2976 < 2.2e-16 ***
prairie     -8.2102e-04  2.8007e-03  -0.2931 0.7697965
cabinet      6.8821e-03  1.9845e-03   3.4680 0.0006768 ***
maritime     9.3467e-04  1.6850e-03   0.5547 0.5798844
quebec       1.9554e-06  1.9587e-03   0.0010 0.9992047
west         4.3077e-03  1.2944e-03   3.3280 0.0010897 **
french       1.4131e-03  1.8446e-03   0.7661 0.4447862
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m37)

Call:
lm(formula = m8.4, data = data1[data1$parl37 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.114292 -0.003924  0.007415  0.016373  0.040482

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.957557   0.004640 206.348  < 2e-16 ***
prairie     0.016993   0.009264   1.834  0.06835 .
cabinet     0.018333   0.004900   3.742  0.00025 ***
maritime    0.003643   0.006796   0.536  0.59259
quebec      0.012696   0.006207   2.045  0.04235 *
west        0.012588   0.009748   1.291  0.19833
french      0.000546   0.005918   0.092  0.92660
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.02783 on 170 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1209,
  Adjusted R-squared:  0.08988
F-statistic: 3.897 on 6 and 170 DF,  p-value: 0.001132
```

```
> nobs(m37)
[1] 177
> mm37

t test of coefficients:

             Estimate Std. Error  t value  Pr(>|t|)
(Intercept) 0.95755684 0.00634451 150.9267 < 2.2e-16 ***
prairie     0.01699296 0.00511997   3.3190  0.001105 **
cabinet     0.01833346 0.00559142   3.2789  0.001264 **
maritime    0.00364307 0.00600548   0.6066  0.544910
quebec      0.01269597 0.00614579   2.0658  0.040365 *
west        0.01258786 0.00417899   3.0122  0.002990 **
french      0.00054601 0.00566153   0.0964  0.923282
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m38)

Call:
lm(formula = m8.4, data = data1[data1$parl38 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.120720 -0.012621  0.008066  0.022137  0.054522

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.9460888  0.0050877 185.955  < 2e-16 ***
prairie     -0.0036842  0.0155120  -0.238    0.813
cabinet      0.0317738  0.0063406   5.011 1.74e-06 ***
maritime    -0.0006109  0.0086531  -0.071    0.944
quebec       0.0068211  0.0096536   0.707    0.481
west         0.0108606  0.0118293   0.918    0.360
french      -0.0002339  0.0088771  -0.026    0.979
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.03607 on 129 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1825,
  Adjusted R-squared:  0.1445
F-statistic: 4.799 on 6 and 129 DF,  p-value: 0.0001886

> nobs(m38)
[1] 136
> mm38

t test of coefficients:

              Estimate  Std. Error  t value  Pr(>|t|)
(Intercept)  0.94608880  0.00615707 153.6588 < 2.2e-16 ***
prairie     -0.00368422  0.01631680  -0.2258    0.8217
cabinet      0.03177385  0.00663019   4.7923 4.462e-06 ***
maritime    -0.00061086  0.00790441  -0.0773    0.9385
quebec       0.00682110  0.00724373   0.9417    0.3481
west         0.01086059  0.00844861   1.2855    0.2009
french      -0.00023387  0.00687094  -0.0340    0.9729
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m39)

Call:
lm(formula = m8.4, data = data1[data1$parl39 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.055004 -0.007188  0.002093  0.012140  0.032687

Coefficients: (1 not defined because of singularities)
```

```
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.970258   0.002476 391.841   <2e-16 ***
prairie      0.009847   0.008647   1.139   0.2575
cabinet            NA         NA      NA       NA
maritime     0.007331   0.004821   1.521   0.1315
quebec       0.012642   0.006053   2.089   0.0393 *
west        -0.002945   0.006115  -0.482   0.6311
french       0.005259   0.005348   0.983   0.3279
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01848 on 100 degrees of freedom
  (2 observations deleted due to missingness)
Multiple R-squared:  0.09645,
  Adjusted R-squared:  0.05128
F-statistic: 2.135 on 5 and 100 DF,  p-value: 0.06735

> nobs(m39)
[1] 106
> mm39

t test of coefficients:

              Estimate Std. Error  t value  Pr(>|t|)
(Intercept)  0.9702578  0.0028762 337.3432 < 2.2e-16 ***
prairie      0.0098468  0.0068467   1.4382  0.153502
maritime     0.0073314  0.0033912   2.1619  0.033015 *
quebec       0.0126424  0.0040347   3.1334  0.002268 **
west        -0.0029449  0.0082706  -0.3561  0.722538
french       0.0052586  0.0029935   1.7567  0.082038 .
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> summary(m40)

Call:
lm(formula = m8.4, data = data1[data1$parl40 == 1, ])

Residuals:
      Min        1Q    Median        3Q       Max
-0.046451 -0.004527  0.006133  0.012061  0.037483

Coefficients: (1 not defined because of singularities)
             Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.980271   0.002964 330.742  < 2e-16 ***
prairie      0.007590   0.010801   0.703  0.48454
cabinet            NA         NA      NA       NA
maritime     0.003657   0.005312   0.689  0.49334
quebec       0.008172   0.006886   1.187  0.23929
west        -0.021377   0.007920  -2.699  0.00868 **
french      -0.004153   0.007244  -0.573  0.56826
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.01799 on 71 degrees of freedom
  (1 observation deleted due to missingness)
Multiple R-squared:  0.1372,
  Adjusted R-squared:  0.07648
F-statistic: 2.259 on 5 and 71 DF,  p-value: 0.05772

> nobs(m40)
[1] 77
> mm40

t test of coefficients:

              Estimate Std. Error  t value Pr(>|t|)
(Intercept)  0.9802710  0.0031338 312.8039   <2e-16 ***
prairie      0.0075895  0.0042411   1.7895   0.0778 .
maritime     0.0036574  0.0047710   0.7666   0.4459
quebec       0.0081716  0.0066144   1.2354   0.2207
```

```
west        -0.0213774  0.0119584  -1.7876   0.0781 .
french      -0.0041531  0.0066240  -0.6270   0.5327
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

>
> all2 <-
rbind(conf40,conf39,conf38,conf37,conf36,conf34,conf33,conf32,conf30,conf29,conf28,conf27,conf26,conf24,conf22,
conf21,conf20,conf19,conf18,conf17,conf16,conf14,conf13,conf12,conf11,conf10,conf9,conf8,conf7,conf6,conf5,conf
4,conf3,conf2)
>
> colnames(all2) <- c("low","high","coef","V1")
> all2 <- data.frame(all2)
> all2$low <- as.numeric(as.character(all2$low))
> all2$high <- as.numeric(as.character(all2$high))
> all2$coef <- as.numeric(as.character(all2$coef))
>
> all1$party  <- paste("Conservative")
> all2$party  <- paste("Liberal")
>
> all <- rbind(all1,all2)
> all$specification <- 1:34
> pd <- position_dodge(width=0.5)
>
> #tiff(file = "~/Dropbox/Canada-Manuscript/Figures-Final/Figure-8.4.2.jpg", width = 8, height = 8, units =
'in', res = 200)
> #ggplot(all, aes(specification,coef, color=party,ymin = low,ymax = high)) +
> #geom_point(aes(shape=party),size=2, position=pd) +
> #scale_color_manual(name="Party",values=c("black","gray")) +
> #scale_shape_manual(name="Party",values=c(16,16)) +
> #theme_bw() +
> #scale_x_discrete('Parliaments (1867-2011)',limits=all$V1) +
> #scale_y_continuous("95% Confidence Intervals for Prairie MPs",limits = c(-.9,.5)) +
> #geom_errorbar(aes(ymin=low,ymax=high),width=0.2,size=.3,position=pd)+
> #geom_hline(yintercept=0) +
> #coord_flip() +
> #ggtitle("Prairie MPs") +
> #theme(plot.title = element_text(hjust = 0.5))
> #dev.off()
>
>
```