

Extension and Robustness Checks: The Structure of Inequality and the Politics of Redistribution

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Extension

```
library('haven')
# Loading data that contains disaggregated data for disaggregated categories of social spending
disag_data <- read_dta("disag_spending.dta")

# Imputing missing values using `mice`
library('zoo')

##
## Attaching package: 'zoo'

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

disagdata_countries <- lapply(unique(disag_data$country), function(x)
  subset(disag_data, disag_data$country==x)
)

library(mice)

## Loading required package: lattice

##
## Attaching package: 'mice'

## The following objects are masked from 'package:base':
##
##   cbind, rbind

data_imputed<-complete(mice(disag_data,m=5,maxit=50,meth='pmm',seed=500))

##
## iter imp variable
## 1 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 1 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 1 3 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 1 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 1 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 2 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 2 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 2 3 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 2 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 2 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 3 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 3 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
```

[illegible]

[illegible]

[illegible]

[illegible]

```
## 46 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 46 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 47 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 47 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 47 3 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 47 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 47 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 48 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 48 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 48 3 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 48 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 48 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 49 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 49 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 49 3 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 49 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 49 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 50 1 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 50 2 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 50 3 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 50 4 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp
## 50 5 hh_kind hh_cash fambenefits incapacity pubspending_labor public_unemp

## Warning: Number of logged events: 1
```

Merging and cleaning merged data

```
load("data_socspend.Rdata")
merged <- merge(data_socspend, data_imputed, by=c("country", "year"))

#Creating lags for each dependent variable
merged$fambenefits_lag <- unlist(by(merged, merged$id,
                                   function(x){c(NA, x[, "fambenefits"] [1:(length(x[, "fambenefits"])-1)]})

merged$incapacity_lag <- unlist(by(merged, merged$id,
                                   function(x){c(NA, x[, "incapacity"] [1:(length(x[, "incapacity"])-1)]})})

merged$pubspendinglbr_lag <- unlist(by(merged, merged$id,
                                   function(x){c(NA, x[, "pubspending_labor"] [1:(length(x[, "pubspending_labor"])-1)]})})

merged$pubunemplag <- unlist(by(merged, merged$id,
                                   function(x){c(NA, x[, "public_unemp"] [1:(length(x[, "public_unemp"])-1)]})})

#Setting up time-series conditions on merged data:

merged <- merged[with(merged, order(id, year)),]

merged$time <- unlist(by(merged, merged$id, function(x) seq(1:nrow(x))))
```

Running models from table 3 on disaggregated outcomes

```
library('panelAR')
#Main model (using 90/50 and 50/10 ratios)
ext1a <- panelAR(fambenefits ~ fambenefits_lag + ma_pratio9050s + ma_pratio5010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged , panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

The following units have non-consecutive observations. Use runs.analysis() on output for additional

Panel-specific correlations bounded to [-1,1]

```
summary(ext1a)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -2.741111   0.881018  -3.111 0.002043 **
## fambenefits_lag -0.031648   0.020091  -1.575 0.116271
## ma_pratio9050s   2.143480   0.397023   5.399 1.37e-07 ***
## ma_pratio5010s  -1.620750   0.348647  -4.649 5.02e-06 ***
## ma_pop65         0.027826   0.028019   0.993 0.321471
## ma_turnout       0.025558   0.003760   6.798 5.77e-11 ***
## ma_fempar        0.019703   0.006963   2.830 0.004974 **
## ma_stddisp_gall -0.712527   0.183605  -3.881 0.000128 ***
## ma_pvoc          0.015667   0.006085   2.575 0.010514 *
## ma_union         0.015502   0.003810   4.069 6.05e-05 ***
## ma_unempl       -0.037366   0.012611  -2.963 0.003291 **
## ma_dreher        0.002557   0.006473   0.395 0.693118
## gdpgrowth       -0.007387   0.005257  -1.405 0.161025
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.8299
## Wald statistic: 875.534, Pr(>Chisq(12)): 0
```

```
ext1b <- panelAR(incapacity ~ incapacity_lag + ma_pratio9050s + ma_pratio5010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged , panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

The following units have non-consecutive observations. Use runs.analysis() on output for additional

Panel-specific correlations bounded to [-1,1]

```
summary(ext1b)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -4.705971   1.381814  -3.406  0.00075 ***
## incapacity_lag -0.064535   0.019669  -3.281  0.00116 **
## ma_pratio9050s  1.767910   0.634741   2.785  0.00569 **
## ma_pratio5010s  0.217467   0.329324   0.660  0.50954
## ma_pop65       -0.018773   0.033739  -0.556  0.57834
## ma_turnout      0.026761   0.005476   4.887 1.67e-06 ***
## ma_fempar       0.006934   0.009469   0.732  0.46458
## ma_stddisp_gall 0.415946   0.296824   1.401  0.16216
## ma_pvoc         0.069217   0.008178   8.464 1.18e-15 ***
## ma_union        0.021447   0.004599   4.663 4.70e-06 ***
## ma_unempl       -0.048286   0.019667  -2.455  0.01465 *
## ma_dreher       -0.004504   0.007733  -0.582  0.56072
## gdpgrowth       -0.006491   0.008608  -0.754  0.45144
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.8272
## Wald statistic: 828.2537, Pr(>Chisq(12)): 0
```

```
ext1c <- panelAR(pubspending_labor ~ pubspendinglbr_lag + ma_pratio9050s + ma_pratio5010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(ext1c)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -0.608834   1.818069  -0.335  0.73795
## pubspendinglbr_lag 0.069438   0.044353   1.566  0.11851
```



```
## ma_pratio9050s      -0.301039    0.699215   -0.431   0.66711
## ma_pratio5010s      0.682433    0.521649    1.308   0.19180
## ma_pop65            -0.086223    0.054531   -1.581   0.11490
## ma_turnout           0.007198    0.007053    1.021   0.30829
## ma_fempar            0.006841    0.016399    0.417   0.67686
## ma_stddisp_gall      0.295751    0.473345    0.625   0.53257
## ma_pvoc              0.038855    0.011852    3.278   0.00117 **
## ma_union             0.028575    0.006430    4.444 1.25e-05 ***
## ma_unempl            0.055966    0.037739    1.483   0.13913
## ma_dreher            -0.002955    0.010201   -0.290   0.77227
## gdpgrowth            -0.047615    0.018791   -2.534   0.01179 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.5382
## Wald statistic: 107.2323, Pr(>Chisq(12)): 0
```

```
extld <- panelAR(public_unemp ~ pubunemplag + ma_pratio9050s + ma_pratio5010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(extld)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   1.445474   1.186238   1.219 0.22398
## pubunemplag   0.020205   0.032232   0.627 0.53123
## ma_pratio9050s -0.188800   0.479286  -0.394 0.69392
## ma_pratio5010s  0.342602   0.387009   0.885 0.37673
## ma_pop65      -0.034183   0.033712  -1.014 0.31142
## ma_turnout     0.004814   0.004049   1.189 0.23543
## ma_fempar      -0.027990   0.010485  -2.669 0.00801 **
## ma_stddisp_gall -0.256487   0.300435  -0.854 0.39394
## ma_pvoc         0.027393   0.006749   4.059 6.31e-05 ***
## ma_union       0.005212   0.005164   1.009 0.31363
## ma_unempl      0.032355   0.025698   1.259 0.20899
## ma_dreher      0.011233   0.007408   1.516 0.13049
## gdpgrowth      -0.028079   0.008965  -3.132 0.00191 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
```

```
## R-squared: 0.5609
## Wald statistic: 326.6436, Pr(>Chisq(12)): 0
##Model without controls

ext2a <- panelAR(fambenefits ~ ma_pratio9050s + ma_pratio5010s +gdpgrowth + as.factor(id), data=merged
summary(ext2a)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    2.649786   0.623495   4.250 2.85e-05 ***
## ma_pratio9050s  0.776420   0.298096   2.605 0.009652 **
## ma_pratio5010s -1.221051   0.260027  -4.696 4.03e-06 ***
## gdpgrowth      -0.015303   0.004946  -3.094 0.002161 **
## as.factor(id)3   0.288431   0.400548   0.720 0.472023
## as.factor(id)4  -0.514921   0.421071  -1.223 0.222324
## as.factor(id)5   1.105313   0.428434   2.580 0.010354 *
## as.factor(id)6   0.708520   0.542045   1.307 0.192161
## as.factor(id)7   0.557018   0.401675   1.387 0.166541
## as.factor(id)8  -0.026533   0.403055  -0.066 0.947557
## as.factor(id)9   0.557961   0.394732   1.414 0.158530
## as.factor(id)12 -0.278555   0.403129  -0.691 0.490105
## as.factor(id)14  1.000562   0.392753   2.548 0.011342 *
## as.factor(id)15  1.242074   0.525645   2.363 0.018761 *
## as.factor(id)16 -0.533626   0.388077  -1.375 0.170131
## as.factor(id)17  0.558263   0.416876   1.339 0.181523
## as.factor(id)18 -1.135055   0.412228  -2.753 0.006253 **
## as.factor(id)19 -1.519238   0.388717  -3.908 0.000115 ***
## as.factor(id)20 -1.050362   0.415611  -2.527 0.012004 *
## as.factor(id)22 -1.428563   0.384994  -3.711 0.000246 ***
## as.factor(id)23  0.510335   0.426655   1.196 0.232580
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.9076
## Wald statistic: 34860.0999, Pr(>Chisq(20)): 0

ext2b <- panelAR(incapacity ~ ma_pratio9050s + ma_pratio5010s +gdpgrowth + as.factor(id), data=merged ,
summary(ext2b)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
```

```

## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept) -3.441518  1.268782 -2.712 0.007060 **
## ma_pratio9050s  0.626915  0.617905  1.015 0.311115
## ma_pratio5010s  2.503515  0.669806  3.738 0.000222 ***
## gdpgrowth      -0.011276  0.006687 -1.686 0.092787 .
## as.factor(id)3  1.544016  0.468661  3.295 0.001103 **
## as.factor(id)4 -2.194599  0.543685 -4.037 6.88e-05 ***
## as.factor(id)5  2.695752  0.432236  6.237 1.50e-09 ***
## as.factor(id)6  2.686416  0.577822  4.649 4.98e-06 ***
## as.factor(id)7  0.529683  0.450133  1.177 0.240229
## as.factor(id)8  0.320084  0.409192  0.782 0.434688
## as.factor(id)9 -1.053119  0.427465 -2.464 0.014309 *
## as.factor(id)12 3.151915  0.998339  3.157 0.001754 **
## as.factor(id)14 4.266418  0.435724  9.792 < 2e-16 ***
## as.factor(id)15 3.921971  0.429226  9.137 < 2e-16 ***
## as.factor(id)16 0.724343  0.393869  1.839 0.066886 .
## as.factor(id)17 -0.319799  0.485165 -0.659 0.510297
## as.factor(id)18 -1.721533  0.487960 -3.528 0.000484 ***
## as.factor(id)19 0.545321  0.441345  1.236 0.217568
## as.factor(id)20 -0.112563  0.445403 -0.253 0.800654
## as.factor(id)22 -1.179105  0.394281 -2.991 0.003014 **
## as.factor(id)23 1.290593  0.445682  2.896 0.004057 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.9235
## Wald statistic: 45383.9662, Pr(>Chisq(20)): 0

ext2c <- panelAR(pubspending_labor ~ ma_pratio9050s + ma_pratio5010s +gdpgrowth + as.factor(id), data=m

## Panel-specific correlations bounded to [-1,1]

summary(ext2c)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  6.66859  1.15920  5.753 2.15e-08 ***
## ma_pratio9050s -5.70667  0.69137 -8.254 4.77e-15 ***
## ma_pratio5010s  2.94366  0.65529  4.492 1.00e-05 ***
## gdpgrowth     -0.03334  0.01800 -1.852 0.06496 .
## as.factor(id)3  1.47948  0.35586  4.158 4.19e-05 ***
## as.factor(id)4 -0.91589  0.39080 -2.344 0.01974 *
## as.factor(id)5  2.67824  0.60181  4.450 1.21e-05 ***

```

```
## as.factor(id)6    2.18849    0.78000    2.806  0.00534 **
## as.factor(id)7    2.56397    0.26454    9.692 < 2e-16 ***
## as.factor(id)8    1.72023    0.29227    5.886 1.05e-08 ***
## as.factor(id)9    0.99710    0.23876    4.176 3.88e-05 ***
## as.factor(id)12   1.84007    0.23422    7.856 6.94e-14 ***
## as.factor(id)14  -1.14885    0.22806   -5.037 8.12e-07 ***
## as.factor(id)15   1.84447    0.39576    4.661 4.73e-06 ***
## as.factor(id)16  -0.22622    0.25483   -0.888 0.37539
## as.factor(id)17   0.02032    0.20819    0.098 0.92233
## as.factor(id)18   0.20951    0.29250    0.716 0.47437
## as.factor(id)19   0.30603    0.45068    0.679 0.49764
## as.factor(id)20   2.26648    0.30222    7.499 7.14e-13 ***
## as.factor(id)22  -0.18319    0.16871   -1.086 0.27844
## as.factor(id)23  -0.30467    0.15593   -1.954 0.05164 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.5209
## Wald statistic: 716.3636, Pr(>Chisq(20)): 0
```

```
ext2d <- panelAR(public_unemp ~ ma_pratio9050s + ma_pratio5010s +gdpgrowth + as.factor(id), data=merged
summary(ext2d)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    4.518711   0.850181   5.315 2.07e-07 ***
## ma_pratio9050s -2.207506   0.462957  -4.768 2.89e-06 ***
## ma_pratio5010s  0.254155   0.556420   0.457 0.648165
## gdpgrowth      -0.022864   0.008888  -2.572 0.010574 *
## as.factor(id)3   1.656199   0.185393   8.933 < 2e-16 ***
## as.factor(id)4   0.198613   0.470035   0.423 0.672923
## as.factor(id)5  -1.282993   0.139189  -9.218 < 2e-16 ***
## as.factor(id)6   0.844997   0.651355   1.297 0.195518
## as.factor(id)7   1.151888   0.191602   6.012 5.27e-09 ***
## as.factor(id)8   0.414727   0.150053   2.764 0.006062 **
## as.factor(id)9   0.430542   0.186212   2.312 0.021442 *
## as.factor(id)12  1.092179   0.471592   2.316 0.021229 *
## as.factor(id)14 -1.012977   0.160537  -6.310 9.89e-10 ***
## as.factor(id)15 -0.199170   0.379293  -0.525 0.599892
## as.factor(id)16 -0.206734   0.194260  -1.064 0.288081
## as.factor(id)17 -0.025917   0.260347  -0.100 0.920769
## as.factor(id)18  0.170734   0.229414   0.744 0.457321
## as.factor(id)19 -0.535466   0.144758  -3.699 0.000257 ***
## as.factor(id)20  1.539704   0.196107   7.851 7.17e-14 ***
## as.factor(id)22 -0.417381   0.117826  -3.542 0.000459 ***
## as.factor(id)23 -0.103711   0.158954  -0.652 0.514599
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.6696
## Wald statistic: 1832.62, Pr(>Chisq(20)): 0
```

#Using skew and 90/10 ratios:

```
ext3a <- panelAR(fambenefits ~ fambenefits_lag + ma_skews + ma_pratio9010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(ext3a)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -5.0015601  0.7441123  -6.722 9.10e-11 ***
## fambenefits_lag -0.0316655  0.0202615  -1.563 0.119147
## ma_skews       3.0995176  0.5923491   5.233 3.15e-07 ***
## ma_pratio9010s  0.0790708  0.1109505   0.713 0.476607
## ma_pop65       0.0377680  0.0281918   1.340 0.181367
## ma_turnout     0.0249651  0.0037994   6.571 2.22e-10 ***
## ma_fempar      0.0195327  0.0071151   2.745 0.006412 **
## ma_stddisp_gall -0.6733733  0.1873051  -3.595 0.000379 ***
## ma_pvoc        0.0128510  0.0061472   2.091 0.037413 *
## ma_union       0.0139808  0.0037920   3.687 0.000269 ***
## ma_unempl     -0.0395821  0.0126063  -3.140 0.001859 **
## ma_dreher      0.0001333  0.0067736   0.020 0.984312
## gdpgrowth     -0.0072416  0.0052662  -1.375 0.170128
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.8126
## Wald statistic: 839.3539, Pr(>Chisq(12)): 0
```

```
ext3b <- panelAR(incapacity ~ incapacity_lag + ma_skews + ma_pratio9010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(ext3b)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -3.812268   1.300311  -2.932  0.00363 **
## incapacity_lag -0.065306   0.019947  -3.274  0.00118 **
## ma_skews       1.183289   0.755720   1.566  0.11846
## ma_pratio9010s  0.507928   0.169237   3.001  0.00291 **
## ma_pop65      -0.003949   0.032448  -0.122  0.90321
## ma_turnout     0.025530   0.005442   4.692 4.13e-06 ***
## ma_fempar      0.004448   0.008918   0.499  0.61829
## ma_stddisp_gall 0.436557   0.286222   1.525  0.12826
## ma_pvoc        0.069227   0.008614   8.036 2.16e-14 ***
## ma_union       0.020186   0.004517   4.469 1.12e-05 ***
## ma_unempl     -0.049854   0.019160  -2.602  0.00973 **
## ma_dreher     -0.005534   0.007609  -0.727  0.46761
## gdpgrowth     -0.006301   0.008468  -0.744  0.45743
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.8294
## Wald statistic: 853.7354, Pr(>Chisq(12)): 0
```

```
ext3c <- panelAR(pubspending_labor ~ pubspendinglbr_lag + ma_skews + ma_pratio9010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(ext3c)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.029025   1.588075   0.018  0.98543
```

```
## pubspendinglbr_lag 0.077366 0.044458 1.740 0.08285 .
## ma_skews -0.413653 0.902844 -0.458 0.64717
## ma_pratio9010s 0.152731 0.214658 0.712 0.47732
## ma_pop65 -0.100053 0.054168 -1.847 0.06572 .
## ma_turnout 0.008191 0.007235 1.132 0.25846
## ma_fempar 0.007806 0.015592 0.501 0.61699
## ma_stddisp_gall 0.201683 0.478546 0.421 0.67373
## ma_pvoc 0.038244 0.012130 3.153 0.00178 **
## ma_union 0.029793 0.006395 4.659 4.79e-06 ***
## ma_unempl 0.058226 0.037226 1.564 0.11885
## ma_dreher -0.002803 0.010253 -0.273 0.78476
## gdpgrowth -0.050035 0.018743 -2.669 0.00801 **
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.5355
## Wald statistic: 107.3005, Pr(>Chisq(12)): 0
```

```
ext3d <- panelAR(public_unemp ~ pubunemplag + ma_skews + ma_pratio9010s + ma_pop65 +
  ma_turnout + ma_fempar + ma_stddisp_gall + ma_pvoc + ma_union +
  ma_unempl + ma_dreher + gdpgrowth,
  data=merged, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(ext3d)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.: 312 Avg obs. per panel 17.3333
## Number of panels: 18 Max obs. per panel 26
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
## Estimate Std. Error t value Pr(>|t|)
## (Intercept) 1.762184 0.979536 1.799 0.07303 .
## pubunemplag 0.018705 0.032444 0.577 0.56468
## ma_skews -0.199521 0.665705 -0.300 0.76460
## ma_pratio9010s 0.058708 0.140190 0.419 0.67568
## ma_pop65 -0.039634 0.033692 -1.176 0.24039
## ma_turnout 0.004671 0.004067 1.149 0.25168
## ma_fempar -0.028538 0.010450 -2.731 0.00669 **
## ma_stddisp_gall -0.282478 0.299757 -0.942 0.34677
## ma_pvoc 0.027218 0.006640 4.099 5.36e-05 ***
## ma_union 0.006172 0.005027 1.228 0.22045
## ma_unempl 0.031986 0.025408 1.259 0.20905
## ma_dreher 0.012083 0.007367 1.640 0.10204
## gdpgrowth -0.028175 0.009015 -3.126 0.00195 **
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
## R-squared: 0.5595
## Wald statistic: 322.6147, Pr(>Chisq(12)): 0
#Using skew and ratio and no other controls

ext4a <- panelAR(fambenefits ~ ma_skews + ma_pratio9010s + gdpgrowth,
                 data=merged , panelVar='id', timeVar='time',
                 autoCorr='psar1', panelCorrMethod='pcse',
                 rho.na.rm=TRUE, bound.rho=TRUE)

## Panel-specific correlations bounded to [-1,1]
summary(ext4a)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   1.874003   0.772713   2.425  0.01585 *
## ma_skews       1.731591   0.597152   2.900  0.00399 **
## ma_pratio9010s -0.582327   0.113154  -5.146 4.64e-07 ***
## gdpgrowth     -0.013465   0.004745  -2.838  0.00483 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.6889
## Wald statistic: 49.7573, Pr(>Chisq(3)): 0

ext4b <- panelAR(incapacity ~ ma_skews + ma_pratio9010s + gdpgrowth,
                 data=merged , panelVar='id', timeVar='time',
                 autoCorr='psar1', panelCorrMethod='pcse',
                 rho.na.rm=TRUE, bound.rho=TRUE)

## Panel-specific correlations bounded to [-1,1]
summary(ext4b)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    3.58964    1.03371   3.473 0.000586 ***
## ma_skews       -1.48081    0.98898  -1.497 0.135298
## ma_pratio9010s  0.18308    0.16369   1.118 0.264228
```



```
## gdpgrowth      -0.01413    0.00657  -2.151 0.032219 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.7103
## Wald statistic: 7.9253, Pr(>Chisq(3)): 0.0476

ext4c <- panelAR(pubspending_labor ~ ma_skews + ma_pratio9010s + gdpgrowth,
  data=merged , panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)

## Panel-specific correlations bounded to [-1,1]

summary(ext4c)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    7.13437    1.48839   4.793 2.52e-06 ***
## ma_skews       -1.37165    1.02647  -1.336  0.1824
## ma_pratio9010s -1.11028    0.14702  -7.552 4.52e-13 ***
## gdpgrowth      -0.03238    0.01875  -1.727  0.0851 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.3622
## Wald statistic: 73.8431, Pr(>Chisq(3)): 0

ext4d <- panelAR(public_unemp ~ ma_skews + ma_pratio9010s + gdpgrowth,
  data=merged , panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',
  rho.na.rm=TRUE, bound.rho=TRUE)

## Panel-specific correlations bounded to [-1,1]

summary(ext4d)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      324 Avg obs. per panel 18
## Number of panels: 18 Max obs. per panel 27
## Number of times: 35 Min obs. per panel 2
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    2.127963    1.314588   1.619  0.106
## ma_skews       -0.361963    1.004375  -0.360  0.719
```

```
## ma_ratio9010s -0.186095    0.123713  -1.504    0.134
## gdpgrowth      -0.020003    0.008414  -2.377    0.018 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.2677
## Wald statistic: 8.5893, Pr(>Chisq(3)): 0.0353
```

Robustness checks

```
load("redistsample.Rdata")
```

Table 2a: AR(1)-type autocorrelation with a unique correlation coefficient for each panel

Specification 1

```
mod1_out1 <- panelAR(redist ~ redist_lag + dvpratio9050 + dvpratio5010 + dvturnout +
  dvfempar + dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample, panelVar='id', timeVar='time', autoCorr='psar1',
  panelCorrMethod='pcse', rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```

```
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel.
```

```
summary(mod1_out1)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.5333
## Number of panels: 15 Max obs. per panel 9
## Number of times:  9 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -0.889158  10.440069  -0.085 0.932421
## redist_lag    0.468853   0.123259   3.804 0.000345 ***
## dvpratio9050  1.940915   2.865078   0.677 0.500821
## dvpratio5010 -4.442935   2.093799  -2.122 0.038125 *
## dvturnout     0.092600   0.039346   2.353 0.022011 *
## dvfempar      0.093881   0.043732   2.147 0.036010 *
## dvstddisp_gall 2.592477   2.185722   1.186 0.240420
## dvpvoc        -0.001136   0.043109  -0.026 0.979066
## dvunion       0.087648   0.029612   2.960 0.004451 **
## dvunempl      0.123095   0.121337   1.014 0.314565
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.9673
```

```
## Wald statistic: 1851.9283, Pr(>Chisq(9)): 0
```

Specification 2 (remove outliers):

```
# defining outliers
mod1.resid <- mod1_out1$residuals
index <- which(abs((mod1.resid-mean(mod1.resid))/sd(mod1.resid)) <= 1.5)
# creating a new subset without these observations
redistsample_noout<- mod1_out1$model[index,]

# running same model as spec1 with new subset
mod1_out2 <- panelAR(redist ~ redist_lag + dvpratio9050 + dvpratio5010 + dvturnout +
  dvfempar + dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse',rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
```

```
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod1_out2)
```

```
##
```

```
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
```

```
##
```

```
## Unbalanced Panel Design:
```

```
## Total obs.:      59 Avg obs. per panel 3.9333
```

```
## Number of panels: 15 Max obs. per panel 8
```

```
## Number of times: 9 Min obs. per panel 1
```

```
##
```

```
## Coefficients:
```

	Estimate	Std. Error	t value	Pr(> t)
## (Intercept)	1.71591	7.50941	0.229	0.82021
## redist_lag	0.32296	0.10134	3.187	0.00250 **
## dvpratio9050	1.57979	1.79939	0.878	0.38425
## dvpratio5010	-4.65251	1.51738	-3.066	0.00352 **
## dvturnout	0.07309	0.02829	2.584	0.01281 *
## dvfempar	0.12698	0.03803	3.339	0.00161 **
## dvstddisp_gall	2.04495	1.23516	1.656	0.10419
## dvpvoc	-0.01341	0.03550	-0.378	0.70722
## dvunion	0.13924	0.02166	6.428	5.11e-08 ***
## dvunempl	0.07081	0.08315	0.852	0.39862

```
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
```

```
## R-squared: 0.976
```

```
## Wald statistic: -5868.7295, Pr(>Chisq(9)): 1
```

Specification 3 (no controls, no country dummies):

```
mod1_out3 <- panelAR(redist ~ dvpratio9050 + dvpratio5010,
  data=redistsample, panelVar='id', timeVar='time', autoCorr='psar1',
  panelCorrMethod='pcse', rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```

```
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel.
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod1_out3)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      77 Avg obs. per panel 5.1333
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   31.006      1.852  16.742  <2e-16 ***
## dvpratio9050   10.004      5.168   1.936   0.0567 .
## dvpratio5010  -12.588      5.389  -2.336   0.0222 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.811
## Wald statistic: 15.9946, Pr(>Chisq(2)): 3e-04
```

Specification 4 (no controls, no outliers, no country dummies):

```
# defining outliers
mod3.resid <- mod1_out3$residuals
index <- which(abs((mod3.resid-mean(mod3.resid))/sd(mod3.resid)) <= 1.5)
# creating a new subset without these observations
redistsample_noout<- mod1_out3$model[index,]
# running same model as spec3 with new subset
mod1_out4 <- panelAR(redist ~ dvpratio9050 + dvpratio5010,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse', rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional c
```

```
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel.
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod1_out4)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
```

```
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.8571
## Number of panels: 14 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)   31.465      1.827  17.224 < 2e-16 ***
## dvpratio9050   13.655      4.027   3.391 0.001190 **
## dvpratio5010  -16.604      4.107  -4.043 0.000142 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.9034
## Wald statistic: 25.3548, Pr(>Chisq(2)): 0
```

Specification 5 (using skew as main inequality measure):

```
mod1_out5 <- panelAR(redist ~ redist_lag + dvratio9010 + dvskew + dvturnout + dvfempar +
  dvstddisp_gall + dvpvoc + dvunion + dvunempl, data=redistsample,
  panelVar='id', timeVar='time', autoCorr='psar1',
  panelCorrMethod='pcse', rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```

```
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel.
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod1_out5)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.5333
## Number of panels: 15 Max obs. per panel 9
## Number of times:  9 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept) -10.050596   8.524447  -1.179  0.24320
## redist_lag    0.457597   0.120710   3.791  0.00036 ***
## dvratio9010  -0.714401   1.036358  -0.689  0.49336
## dvskew        7.933199   3.385636   2.343  0.02257 *
## dvturnout     0.091199   0.038515   2.368  0.02124 *
## dvfempar      0.088379   0.043977   2.010  0.04913 *
## dvstddisp_gall 2.280947   2.126627   1.073  0.28791
## dvpvoc       -0.002756   0.043604  -0.063  0.94983
## dvunion       0.085616   0.028925   2.960  0.00445 **
## dvunempl      0.120609   0.121091   0.996  0.32337
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.9683
```

```
## Wald statistic: 1704.8022, Pr(>Chisq(9)): 0
```

Specification 6 (skew as main measure, no outliers):

```
mod5.resid <- mod1_out5$residuals
index <- which(abs((mod5.resid-mean(mod5.resid))/sd(mod5.resid)) <= 1.5)
#creating a new subset without these observations
redistsample_noout<- mod1_out5$model[index,]
#running same model as spec5 with new subset
mod1_out6 <- panelAR(redist ~ redist_lag + dvratio9010 + dvskeew + dvturnout + dvfempar +
  dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='psar1', panelCorrMethod='pcse', rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
```

```
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod1_out6)
```

```
##
```

```
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
```

```
##
```

```
## Unbalanced Panel Design:
```

```
## Total obs.:          59 Avg obs. per panel 3.9333
```

```
## Number of panels: 15 Max obs. per panel 8
```

```
## Number of times: 9 Min obs. per panel 1
```

```
##
```

```
## Coefficients:
```

```
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -7.63293    4.87188  -1.567  0.12361
## redist_lag    0.31689    0.09616   3.295  0.00183 **
## dvratio9010  -0.93883    0.73311  -1.281  0.20636
## dvskeew       7.94766    1.79869   4.419 5.49e-05 ***
## dvturnout     0.06998    0.02648   2.643  0.01101 *
## dvfempar      0.11987    0.03633   3.299  0.00181 **
## dvstddisp_gall 1.74130    1.18878   1.465  0.14937
## dvpvoc        -0.01809    0.03421  -0.529  0.59941
## dvunion       0.13593    0.02197   6.188 1.20e-07 ***
## dvunempl      0.07654    0.08089   0.946  0.34865
```

```
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##
```

```
## R-squared: 0.9818
```

```
## Wald statistic: 539.0851, Pr(>Chisq(9)): 0
```

Specification 7 (skew as main measure, no controls, no country dummies):

```
mod1_out7 <- panelAR(redist ~ dvratio9010 + dvskeew,
  data=redistsample, panelVar='id', timeVar='time',
```

```

autoCorr='psar1', panelCorrMethod='pcse',rho.na.rm=TRUE,
panel.weight='t-1', bound.rho=TRUE)

## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel
summary(mod1_out7)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      77 Avg obs. per panel 5.1333
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  50.7138      3.8235  13.264 < 2e-16 ***
## dvratio9010  -7.8740      1.3132  -5.996 6.83e-08 ***
## dvskew       -0.4806      0.3392  -1.417  0.161
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.8056
## Wald statistic: 43.4831, Pr(>Chisq(2)): 0

```

Specification 8 (skew as main measure, no controls, no country dummies without outliers):

```

mod7.resid <- mod1_out7$residuals
index <- which(abs((mod7.resid-mean(mod7.resid))/sd(mod7.resid)) <= 1.5)
#creating a new subset without these observations
redistsample_noout<- mod1_out7$model[index,]
#running same model as spec7 with new subset
mod1_out8 <- panelAR(redist ~ dvratio9010 + dvskew,
                     data=redistsample_noout, panelVar='id', timeVar='time',
                     autoCorr='psar1', panelCorrMethod='pcse',rho.na.rm=TRUE,
                     panel.weight='t-1', bound.rho=TRUE)

## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Setting panel-specific correlation to 0 for at least one panel because unable to estimate autocorrel
## Panel-specific correlations bounded to [-1,1]
summary(mod1_out8)

##
## Panel Regression with AR(1) Prais-Winsten correction and panel-corrected standard errors
##
## Unbalanced Panel Design:
## Total obs.:      70 Avg obs. per panel 5
## Number of panels: 14 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:

```

```
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  50.7945      2.5406  19.993 < 2e-16 ***
## dvratio9010  -7.7126      0.9437  -8.173 1.17e-11 ***
## dvskeew      -0.5673      0.5368  -1.057  0.294
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.8939
## Wald statistic: 89.6022, Pr(>Chisq(2)): 0
```

Table 2b: different panel correction methods (a = Huber-White sandiwch estimator, b = panel-weighted least squares)

Specification 1

```
mod2a_out1 <- panelAR(redist ~ redist_lag + dvpratio9050 + dvpratio5010 + dvturnout +
  dvfempar + dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample, panelVar='id', timeVar='time', autoCorr='ar1',
  panelCorrMethod='phet',rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
summary(mod2a_out1)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.5333
## Number of panels: 15 Max obs. per panel 9
## Number of times: 9 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -3.26666   10.91396  -0.299  0.76577
## redist_lag     0.50658    0.09506   5.329 1.69e-06 ***
## dvpratio9050   3.81044    3.90005   0.977  0.33262
## dvpratio5010  -4.76833    2.28166  -2.090  0.04103 *
## dvturnout      0.09781    0.03609   2.710  0.00883 **
## dvfempar       0.09134    0.05399   1.692  0.09608 .
## dvstddisp_gall 0.07253    2.22174   0.033  0.97407
## dvpvoc         0.01860    0.03952   0.471  0.63957
## dvunion        0.08862    0.03434   2.581  0.01242 *
## dvunempl       0.12415    0.18041   0.688  0.49410
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.8886
## Wald statistic: 473.093, Pr(>Chisq(9)): 0
```

```
mod2b_out1 <- panelAR(redist ~ redist_lag + dvpratio9050 + dvpratio5010 + dvturnout +
  dvfempar + dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample, panelVar='id', timeVar='time', autoCorr='ar1',
  panelCorrMethod='ppls',rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```



```
summary(mod2b_out1)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.5333
## Number of panels: 15 Max obs. per panel 9
## Number of times: 9 Min obs. per panel 1
##
## Coefficients:
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -3.67895    9.54564  -0.385  0.70135
## redist_lag     0.50778    0.07963   6.376 3.24e-08 ***
## dvpratio9050   3.98065    3.50864   1.135  0.26124
## dvpratio5010  -4.53051    2.12080  -2.136  0.03689 *
## dvturnout      0.07903    0.03043   2.597  0.01190 *
## dvfempar       0.11287    0.04781   2.361  0.02161 *
## dvstddisp_gall -0.89904    2.10122  -0.428  0.67034
## dvpvoc         0.02742    0.03350   0.818  0.41643
## dvunion        0.08506    0.02974   2.860  0.00587 **
## dvunempl       0.17380    0.15891   1.094  0.27860
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 1557.2036, Pr(>Chisq(9)): 0
```

Specification 2 (remove outliers):

```
# defining outliers
mod1.resid <- mod2a_out1$residuals
index <- which(abs((mod1.resid-mean(mod1.resid))/sd(mod1.resid)) <= 1.5)
# creating a new subset without these observations
redistsample_noout<- mod2a_out1$model[index,]

# running same model as spec1 with new subset
mod2a_out2 <- panelAR(redist ~ redist_lag + dvpratio9050 + dvpratio5010 + dvturnout +
  dvfempar + dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='ar1', panelCorrMethod='phet',rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

The following units have non-consecutive observations. Use runs.analysis() on output for additional

Panel-specific correlations bounded to [-1,1]

```
summary(mod2a_out2)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      58 Avg obs. per panel 3.8667
## Number of panels: 15 Max obs. per panel 8
```

```
## Number of times: 9 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)    0.57080    9.35116   0.061  0.95158
## redist_lag      0.49404    0.07608   6.493 4.40e-08 ***
## dvpratio9050    6.04188    3.09223   1.954  0.05655 .
## dvpratio5010   -6.58628    2.19612  -2.999  0.00428 **
## dvturnout       0.06427    0.02974   2.161  0.03572 *
## dvfempar        0.07852    0.04557   1.723  0.09135 .
## dvstddisp_gall -2.46670    1.69683  -1.454  0.15253
## dvpvoc          0.01582    0.03227   0.490  0.62613
## dvunion         0.12558    0.02376   5.285 3.04e-06 ***
## dvunempl        0.04132    0.14843   0.278  0.78192
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.931
## Wald statistic: 696.0601, Pr(>Chisq(9)): 0
```

```
# defining outliers
mod1.resid <- mod2b_out1$residuals
index <- which(abs((mod1.resid-mean(mod1.resid))/sd(mod1.resid)) <= 1.5)
# creating a new subset without these observations
redistsample_noout<- mod2b_out1$model[index,]

# running same model as spec1 with new subset
mod2b_out2 <- panelAR(redist ~ redist_lag + dvpratio9050 + dvpratio5010 + dvturnout +
  dvfempar + dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='ar1', panelCorrMethod='ppls',rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

The following units have non-consecutive observations. Use runs.analysis() on output for additional
Panel-specific correlations bounded to [-1,1]

```
summary(mod2b_out2)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
## Total obs.:      59 Avg obs. per panel 3.9333
## Number of panels: 15 Max obs. per panel 9
## Number of times: 9 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -8.52916    8.61936  -0.990  0.32726
## redist_lag      0.46083    0.06873   6.704 1.90e-08 ***
## dvpratio9050    6.15220    3.13002   1.966  0.05503 .
## dvpratio5010   -5.01328    2.02236  -2.479  0.01667 *
## dvturnout       0.08339    0.02747   3.035  0.00384 **
## dvfempar        0.14808    0.04366   3.392  0.00138 **
## dvstddisp_gall -2.41379    1.90507  -1.267  0.21113
```

```
## dvpvoc          0.04693    0.02984    1.573  0.12221
## dvunion         0.10807    0.02244    4.816 1.45e-05 ***
## dvunempl        0.21447    0.13575    1.580  0.12056
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 1048.9421, Pr(>Chisq(9)): 0
```

Specification 3 (no controls):

```
mod2a_out3 <- panelAR(redist ~ dvpratio9050 + dvpratio5010 + as.factor(id),
  data=redistsample, panelVar='id', timeVar='time', autoCorr='ar1',
  panelCorrMethod='phet', rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out3)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      77 Avg obs. per panel 5.1333
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   28.6464    1.4545  19.696 < 2e-16 ***
## dvpratio9050    3.1021    3.3236   0.933 0.354374
## dvpratio5010   -5.2122    3.1775  -1.640 0.106169
## as.factor(id)3  13.0196    1.7770   7.327 6.92e-10 ***
## as.factor(id)4  -1.7132    1.6810  -1.019 0.312244
## as.factor(id)5  11.3941    1.9684   5.788 2.76e-07 ***
## as.factor(id)6  10.5042    1.5321   6.856 4.40e-09 ***
## as.factor(id)7   1.0597    1.0074   1.052 0.297077
## as.factor(id)8  -2.2701    1.3222  -1.717 0.091157 .
## as.factor(id)9   0.8848    1.0531   0.840 0.404150
## as.factor(id)12  5.2643    1.7025   3.092 0.003014 **
## as.factor(id)14  5.4071    1.4480   3.734 0.000421 ***
## as.factor(id)15 12.4256    1.7549   7.081 1.82e-09 ***
## as.factor(id)16 -13.8440    1.7871  -7.747 1.33e-10 ***
## as.factor(id)17 -2.5672    1.2510  -2.052 0.044524 *
## as.factor(id)18 -7.1873    0.8053  -8.925 1.32e-12 ***
## as.factor(id)20 -11.2544    0.6560 -17.155 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.8907
## Wald statistic: 2837.9589, Pr(>Chisq(16)): 0
```

```
# no country dummies
```

```
mod2b_out3 <- panelAR(redist ~ dvpratio9050 + dvpratio5010,
```

```
data=redistsample, panelVar='id', timeVar='time', autoCorr='ar1',
panelCorrMethod='ppls',rho.na.rm=TRUE, panel.weight='t-1',
bound.rho=TRUE)
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2b_out3)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
## Total obs.:      77 Avg obs. per panel 5.1333
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   29.062      1.711   16.988 < 2e-16 ***
## dvpratio9050    9.103      3.393    2.683 0.00900 **
## dvpratio5010  -11.347      3.371   -3.366 0.00121 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 18.6639, Pr(>Chisq(2)): 1e-04
```

Specification 4 (no controls, no outliers):

```
# defining outliers
mod3.resid <- mod2a_out3$residuals
index <- which(abs((mod3.resid-mean(mod3.resid))/sd(mod3.resid)) <= 1.5)
# creating a new subset without these observations
redistsample_noout<- mod2a_out3$model[index,]
# running same model as spec3 with new subset
mod2a_out4 <- panelAR(redist ~ dvpratio9050 + dvpratio5010 + as.factor(id),
                      data=redistsample_noout, panelVar='id', timeVar='time',
                      autoCorr='ar1', panelCorrMethod='phet',rho.na.rm=TRUE,
                      panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out4)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      67 Avg obs. per panel 4.4667
## Number of panels: 15 Max obs. per panel 8
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
```

```
## (Intercept)      28.6063      1.0668  26.815 < 2e-16 ***
## dvpratio9050      0.5803      2.5489   0.228 0.820840
## dvpratio5010     -2.5564      2.4107  -1.060 0.294040
## as.factor(id)12    5.4961      1.2921   4.254 9.21e-05 ***
## as.factor(id)14    5.2873      1.2971   4.076 0.000164 ***
## as.factor(id)15   11.5201      1.1473  10.041 1.40e-13 ***
## as.factor(id)16  -14.0451      1.5808  -8.885 7.35e-12 ***
## as.factor(id)17   -2.4030      0.8010  -3.000 0.004201 **
## as.factor(id)18   -7.2720      0.7652  -9.503 8.67e-13 ***
## as.factor(id)20  -11.2567      0.6716 -16.761 < 2e-16 ***
## as.factor(id)3     12.9580      1.5001   8.638 1.74e-11 ***
## as.factor(id)4     -3.8450      1.2436  -3.092 0.003249 **
## as.factor(id)5     12.6117      0.7588  16.620 < 2e-16 ***
## as.factor(id)6      9.4638      0.7359  12.861 < 2e-16 ***
## as.factor(id)7      1.4003      0.8863   1.580 0.120452
## as.factor(id)8     -2.2843      1.3323  -1.715 0.092609 .
## as.factor(id)9      0.4146      0.9673   0.429 0.670013
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.9572
## Wald statistic: 46998.1131, Pr(>Chisq(16)): 0
```

```
# no country fixed effects
```

```
# defining outliers
```

```
mod3.resid <- mod2b_out3$residuals
index <- which(abs((mod3.resid-mean(mod3.resid))/sd(mod3.resid)) <= 1.5)
# creating a new subset without these observations
redistsample_noout<- mod2a_out3$model[index,]
# running same model as spec3 with new subset
mod2b_out4 <- panelAR(redist ~ dvpratio9050 + dvpratio5010,
                      data=redistsample_noout, panelVar='id', timeVar='time',
                      autoCorr='ar1', panelCorrMethod='pwlsl', rho.na.rm=TRUE,
                      panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2b_out4)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.8571
## Number of panels: 14 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    31.640      1.799  17.592 < 2e-16 ***
## dvpratio9050    13.151      3.380   3.891 0.000238 ***
## dvpratio5010   -16.192      3.325  -4.871 7.46e-06 ***
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 34.8894, Pr(>Chisq(2)): 0
```

Specification 5 (using skew as main inequality measure):

```
mod2a_out5<- panelAR(redist ~ redist_lag + dvratio9010 + dvskew + dvturnout + dvfempar +
  dvstddisp_gall + dvpvoc + dvunion + dvunempl, data=redistsample,
  panelVar='id', timeVar='time', autoCorr='ar1',
  panelCorrMethod='phet',rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out5)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.5333
## Number of panels: 15 Max obs. per panel 9
## Number of times:  9 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -14.73371    9.83410  -1.498  0.13950
## redist_lag     0.49211    0.09766   5.039 4.88e-06 ***
## dvratio9010   -0.01548    1.18241  -0.013  0.98960
## dvskew        10.17135    4.59212   2.215  0.03070 *
## dvturnout      0.10182    0.03657   2.785  0.00722 **
## dvfempar       0.08536    0.05331   1.601  0.11474
## dvstddisp_gall -0.06816    2.17344  -0.031  0.97509
## dvpvoc         0.01991    0.03930   0.507  0.61440
## dvunion        0.09013    0.03337   2.701  0.00904 **
## dvunempl       0.11177    0.18135   0.616  0.54010
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.8918
## Wald statistic: 486.2621, Pr(>Chisq(9)): 0
```

```
mod2b_out5<- panelAR(redist ~ redist_lag + dvratio9010 + dvskew + dvturnout + dvfempar +
  dvstddisp_gall + dvpvoc + dvunion + dvunempl, data=redistsample,
  panelVar='id', timeVar='time', autoCorr='ar1',
  panelCorrMethod='ppls',rho.na.rm=TRUE, panel.weight='t-1',
  bound.rho=TRUE)
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2b_out5)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
```

```
## Unbalanced Panel Design:
## Total obs.:      68 Avg obs. per panel 4.5333
## Number of panels: 15 Max obs. per panel 9
## Number of times: 9 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -15.60222    8.38141  -1.862  0.06774 .
## redist_lag    0.48528    0.07974   6.086 9.82e-08 ***
## dvratio9010   0.19907    1.03885   0.192  0.84871
## dvskeew       11.29503    4.05135   2.788  0.00716 **
## dvturnout     0.08291    0.03040   2.728  0.00843 **
## dvfempar      0.10301    0.04684   2.199  0.03187 *
## dvstddisp_gall -1.66346    2.00869  -0.828  0.41099
## dvpvoc        0.03616    0.03210   1.127  0.26454
## dvunion       0.09072    0.02877   3.153  0.00256 **
## dvunempl      0.16482    0.15723   1.048  0.29886
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 2503.3259, Pr(>Chisq(9)): 0
```

Specification 6 (skew as main measure, no outliers):

```
mod5.resid <- mod2a_out5$residuals
index <- which(abs((mod5.resid-mean(mod5.resid))/sd(mod5.resid)) <= 1.5)
#creating a new subset without these observations
redistsample_noout<- mod2a_out5$model[index,]
#running same model as spec5 with new subset
mod2a_out6<- panelAR(redist ~ redist_lag + dvratio9010 + dvskeew + dvturnout + dvfempar +
  dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='ar1', panelCorrMethod='phet',rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out6)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      58 Avg obs. per panel 3.8667
## Number of panels: 15 Max obs. per panel 8
## Number of times: 9 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -12.43089    7.76434  -1.601 0.115934
## redist_lag    0.48096    0.07757   6.201 1.24e-07 ***
## dvratio9010  -0.16200    1.01402  -0.160 0.873738
```

```
## dvskew          12.98571      3.59591      3.611 0.000727 ***
## dvturnout       0.06363      0.02969      2.143 0.037214 *
## dvfempar        0.07440      0.04465      1.666 0.102222
## dvstddisp_gall -2.37649      1.63320     -1.455 0.152147
## dvpvoc          0.01183      0.03175      0.373 0.711155
## dvunion         0.12312      0.02277      5.408 1.98e-06 ***
## dvunempl        0.05119      0.14807      0.346 0.731085
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.9346
## Wald statistic: 712.8761, Pr(>Chisq(9)): 0
```

```
mod5.resid <- mod2b_out5$residuals
index <- which(abs((mod5.resid-mean(mod5.resid))/sd(mod5.resid)) <= 1.5)
#creating a new subset without these observations
redistsample_noout<- mod2b_out5$model[index,]
#running same model as spec5 with new subset
mod2b_out6<- panelAR(redist ~ redist_lag + dvratio9010 + dvskew + dvturnout + dvfempar +
  dvstddisp_gall + dvpvoc + dvunion + dvunempl,
  data=redistsample_noout, panelVar='id', timeVar='time',
  autoCorr='ar1', panelCorrMethod='ppls', rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2b_out6)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
## Total obs.:      58 Avg obs. per panel 4.1429
## Number of panels: 14 Max obs. per panel 9
## Number of times:  9 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -24.05258    7.51008  -3.203 0.002418 **
## redist_lag     0.36040    0.07002   5.147 4.87e-06 ***
## dvratio9010    0.44777    0.93029   0.481 0.632471
## dvskew        15.33178    3.59821   4.261 9.45e-05 ***
## dvturnout      0.08895    0.02687   3.311 0.001773 **
## dvfempar       0.16311    0.04197   3.887 0.000311 ***
## dvstddisp_gall -2.63228    1.71690  -1.533 0.131803
## dvpvoc         0.05528    0.02733   2.023 0.048670 *
## dvunion        0.11943    0.02300   5.192 4.19e-06 ***
## dvunempl       0.38784    0.13406   2.893 0.005722 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 2373.5563, Pr(>Chisq(9)): 0
```


Specification 7 (skew as main measure, no controls, country dummies):

```
mod2a_out7 <- panelAR(redist ~ dvratio9010 + dvskeew + as.factor(id),
  data=redistsample, panelVar='id', timeVar='time',
  autoCorr='ar1', panelCorrMethod='phet', rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out7)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      77 Avg obs. per panel 5.1333
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    26.1460    4.0477   6.460 2.07e-08 ***
## dvratio9010     0.2668    1.3490   0.198 0.84391
## dvskeew        -1.4132    0.4192  -3.371 0.00131 **
## as.factor(id)3   13.5290    1.8401   7.352 6.26e-10 ***
## as.factor(id)4   -4.5807    1.7907  -2.558 0.01307 *
## as.factor(id)5   12.2500    2.2596   5.421 1.11e-06 ***
## as.factor(id)6   11.5595    1.7168   6.733 7.12e-09 ***
## as.factor(id)7    1.4686    1.0575   1.389 0.17006
## as.factor(id)8   -2.3365    1.5422  -1.515 0.13501
## as.factor(id)9   -0.8564    1.8791  -0.456 0.65022
## as.factor(id)12   5.5030    1.8136   3.034 0.00356 **
## as.factor(id)14    6.0782    1.8941   3.209 0.00214 **
## as.factor(id)15   13.8717    2.0220   6.860 4.33e-09 ***
## as.factor(id)16  -14.3658    1.4767  -9.728 6.00e-14 ***
## as.factor(id)17   -3.4290    1.5685  -2.186 0.03272 *
## as.factor(id)18   -8.3412    1.9955  -4.180 9.62e-05 ***
## as.factor(id)20  -12.3655    1.9466  -6.352 3.14e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared: 0.8823
## Wald statistic: 2735.9323, Pr(>Chisq(16)): 0
```

```
# no country dummies
```

```
mod2b_out7 <- panelAR(redist ~ dvratio9010 + dvskeew,
  data=redistsample, panelVar='id', timeVar='time',
  autoCorr='ar1', panelCorrMethod='ppls', rho.na.rm=TRUE,
  panel.weight='t-1', bound.rho=TRUE)
```

```
summary(mod2b_out7)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
```

```
## Total obs.:      77 Avg obs. per panel 5.1333
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  47.5996      3.1232  15.241 < 2e-16 ***
## dvratio9010  -6.7115      0.9137  -7.346 2.22e-10 ***
## dvskeew      -0.6220      0.3839  -1.620  0.109
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 60.3615, Pr(>Chisq(2)): 0
```

Specification 8 (skew as main measure, no controls, fixed effects without outliers):

```
mod7.resid <- mod2a_out7$residuals
index <- which(abs((mod7.resid-mean(mod7.resid))/sd(mod7.resid)) <= 1.5)
#creating a new subset without these observations
redistsample_noout<- mod2a_out7$model[index,]
#running same model as spec7 with new subset
mod2a_out8 <- panelAR(redist ~ dvratio9010 + dvskeew + as.factor(id),
                      data=redistsample_noout, panelVar='id', timeVar='time',
                      autoCorr='ar1', panelCorrMethod='phet',rho.na.rm=TRUE,
                      panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out8)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel heteroskedasticity-robust standard errors
##
## Unbalanced Panel Design:
## Total obs.:      69 Avg obs. per panel 4.6
## Number of panels: 15 Max obs. per panel 10
## Number of times: 10 Min obs. per panel 1
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)   23.8616      3.2711   7.295 1.68e-09 ***
## dvratio9010    0.9970      1.0959   0.910 0.367113
## dvskeew       -1.2783      0.3020  -4.233 9.40e-05 ***
## as.factor(id)12  6.9216      1.5001   4.614 2.62e-05 ***
## as.factor(id)14  6.7963      1.7743   3.830 0.000346 ***
## as.factor(id)15 13.1220      1.4819   8.855 5.83e-12 ***
## as.factor(id)16 -14.3899      1.4200 -10.134 6.55e-14 ***
## as.factor(id)17  -3.4598      1.0340  -3.346 0.001528 **
## as.factor(id)18  -9.3134      1.7149  -5.431 1.50e-06 ***
## as.factor(id)20 -13.3046      1.6488  -8.069 9.90e-11 ***
## as.factor(id)3   13.9067      1.7364   8.009 1.23e-10 ***
## as.factor(id)4   -5.3429      1.5947  -3.350 0.001509 **
```

```
## as.factor(id)5    13.6265    0.9199   14.813 < 2e-16 ***
## as.factor(id)6    10.4516    0.9073   11.519 6.29e-16 ***
## as.factor(id)7     1.1046    1.0183    1.085 0.283022
## as.factor(id)8    -3.4456    1.3038   -2.643 0.010838 *
## as.factor(id)9    -1.6377    1.6692   -0.981 0.331060
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## R-squared:  0.9491
## Wald statistic: 64273.5973, Pr(>Chisq(16)): 0
```

```
# no country dummies
```

```
mod7.resid <- mod2a_out7$residuals
index <- which(abs((mod7.resid-mean(mod7.resid))/sd(mod7.resid)) <= 1.5)
#creating a new subset without these observations
redistsample_noout<- mod2a_out7$model[index,]
#running same model as spec7 with new subset
mod2a_out8 <- panelAR(redist ~ dvratio9010 + dvskeew,
                      data=redistsample_noout, panelVar='id', timeVar='time',
                      autoCorr='ar1', panelCorrMethod='ppls',rho.na.rm=TRUE,
                      panel.weight='t-1', bound.rho=TRUE)
```

```
## The following units have non-consecutive observations. Use runs.analysis() on output for additional
## Panel-specific correlations bounded to [-1,1]
```

```
summary(mod2a_out8)
```

```
##
## Panel Regression with AR(1) Prais-Winsten correction and panel weighted least squares
##
## Unbalanced Panel Design:
##   Total obs.:      69 Avg obs. per panel 4.6
##   Number of panels: 15 Max obs. per panel 10
##   Number of times:  10 Min obs. per panel 1
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)   51.6077      2.5389  20.327 < 2e-16 ***
## dvratio9010   -7.7794      0.7955  -9.780 1.83e-14 ***
## dvskeew       -0.7000      0.3609  -1.939  0.0567 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Wald statistic: 107.46, Pr(>Chisq(2)): 0
```