```
# Replicate parts of Table 4 in Arellano and Bond,
# "Some Tests of Specification for Panel Data: Monte Carlo
# Evidence and an Application to Employment Equations",
# Review of Economic Studies, 58 (1991), pp. 277-297.

open abdata.gdt

# Take first differences of the independent variables
genr Dw = diff(w)
genr Dk = diff(k)
genr Dys = diff(ys)

# We first treat all the independent variables as
# exogenous (Table 4, column b)

# 1-step GMM estimation
arbond 2 ; n Dw Dw(-1) Dk Dys Dys(-1) 0 --time-dummies
# 2-step estimation
arbond 2 ; n Dw Dw(-1) Dk Dys Dys(-1) 0 --time-dummies --two-step

# Then we treat the wage and capital stock as predetermined,
# not exogenous.  This gives an approximation to Table 4,
# column c.  But note that some of the data used in that
# model are not available.  In addition, we're using
# finite-sample corrected standard errors.

list pred = Dw Dw(-1) Dk
list exog = Dys Dys(-1) 0
arbond 2 ; n pred exog ; exog GMM(k,2,3) GMM(w,2,3) --time-dummies
arbond 2 ; n pred exog ; exog GMM(k,2,3) GMM(w,2,3) --time --two-step


# Replicate Table V in Mankiw, Romer and Weil, QJE 1992,
# plus the quantile regressions in R. Ram, "Parametric
# variability in cross-country growth regressions: An
# application of quantile-regression methodology",
# Economics Letters 99 (2008) pp. 387-9.
open mrw.gdt
genr ly60 = log(gdp60)
genr dlny = log(gdp85) - ly60
genr ngd = 0.05 + (popgrow/100)
genr lngd = log(ngd)
genr linv = log(inv/100)
genr lschool = log(school/100)
# set sample to non-oil producing countries
smpl nonoil --dummy
# OLS, as per M, R & W
```

```
ols dlny const ly60 linv lngd lschool

# Top quartile
quantreg 0.75 dlny const ly60 linv lngd lschool
# Bottom quartile
quantreg 0.25 dlny const ly60 linv lngd lschool

# Top quartile (robust)
quantreg 0.75 dlny const ly60 linv lngd lschool --robust
# Bottom quartile (robust)
quantreg 0.25 dlny const ly60 linv lngd lschool --robust


# Replicate Alastair Hall's estimation of the Hansen-Singleton
# Consumption-Based Asset Pricing model.  See Hall's "Generalized
# Method of Moments" (Oxford University Press, 2005, chapter 3).

open hall.gdt
set force_hc on

scalar alpha = 0.5
scalar delta = 0.5
series e = 0

list inst = const consrat(-1) consrat(-2) ewr(-1) ewr(-2)

matrix V0 = 100000*I(nelem(inst))
matrix Z = { inst }
matrix V1 = $nobs*inv(Z'Z)

# one-step estimation, identity matrix for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V0
  params alpha delta
end gmm

# one-step estimation, T(Z'Z)^{-1} for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V1
  params alpha delta
end gmm

# iterated estimation, identity matrix for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
```

```
  weights V0
  params alpha delta
end gmm --iterate

# iterated estimation, T(Z'Z)^{-1} for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V1
  params alpha delta
end gmm --iterate


# Replicate parts of Table 4 in Arellano and Bond,
# "Some Tests of Specification for Panel Data: Monte Carlo
# Evidence and an Application to Employment Equations",
# Review of Economic Studies, 58 (1991), pp. 277-297.

open abdata.gdt

# Take first differences of the independent variables
genr Dw = diff(w)
genr Dk = diff(k)
genr Dys = diff(ys)

# We first treat all the independent variables as
# exogenous (Table 4, column b)

# 1-step GMM estimation
arbond 2 ; n Dw Dw(-1) Dk Dys Dys(-1) 0 --time-dummies
# 2-step estimation
arbond 2 ; n Dw Dw(-1) Dk Dys Dys(-1) 0 --time-dummies --two-step

# Then we treat the wage and capital stock as predetermined,
# not exogenous.  This gives an approximation to Table 4,
# column c.  But note that some of the data used in that
# model are not available.  In addition, we're using
# finite-sample corrected standard errors.

list pred = Dw Dw(-1) Dk
list exog = Dys Dys(-1) 0
arbond 2 ; n pred exog ; exog GMM(k,2,3) GMM(w,2,3) --time-dummies
arbond 2 ; n pred exog ; exog GMM(k,2,3) GMM(w,2,3) --time --two-step


# Replicate Table V in Mankiw, Romer and Weil, QJE 1992,
# plus the quantile regressions in R. Ram, "Parametric
# variability in cross-country growth regressions: An
```

```
# application of quantile-regression methodology",
# Economics Letters 99 (2008) pp. 387-9.
open mrw.gdt
genr ly60 = log(gdp60)
genr dlny = log(gdp85) - ly60
genr ngd = 0.05 + (popgrow/100)
genr lngd = log(ngd)
genr linv = log(inv/100)
genr lschool = log(school/100)
# set sample to non-oil producing countries
smpl nonoil --dummy
# OLS, as per M, R & W
ols dlny const ly60 linv lngd lschool

# Top quartile
quantreg 0.75 dlny const ly60 linv lngd lschool
# Bottom quartile
quantreg 0.25 dlny const ly60 linv lngd lschool

# Top quartile (robust)
quantreg 0.75 dlny const ly60 linv lngd lschool --robust
# Bottom quartile (robust)
quantreg 0.25 dlny const ly60 linv lngd lschool --robust


# Replicate Alastair Hall's estimation of the Hansen-Singleton
# Consumption-Based Asset Pricing model.  See Hall's "Generalized
# Method of Moments" (Oxford University Press, 2005, chapter 3).

open hall.gdt
set force_hc on

scalar alpha = 0.5
scalar delta = 0.5
series e = 0

list inst = const consrat(-1) consrat(-2) ewr(-1) ewr(-2)

matrix V0 = 100000*I(nelem(inst))
matrix Z = { inst }
matrix V1 = $nobs*inv(Z'Z)

# one-step estimation, identity matrix for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V0
  params alpha delta
```

```
end gmm

# one-step estimation, T(Z'Z)^{-1} for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V1
  params alpha delta
end gmm

# iterated estimation, identity matrix for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V0
  params alpha delta
end gmm --iterate

# iterated estimation, T(Z'Z)^{-1} for initial weights
gmm e = delta*ewr*consrat^(alpha-1) - 1
  orthog e ; inst
  weights V1
  params alpha delta
end gmm --iterate
```