GMM code

Stata code

## compute\_gmm.do

This do file creates the dataset I need to execute the GMM code in Matlab

Matlab code

# Main functions

## get\_quadratic\_form

This function creates the quadratic form in GMM .

**Functions it requires:**

* create\_moment\_error

## create\_moment\_error

This function creates the error vector for the GMM equation.

**Functions it requires:**

* create\_linear\_vector
* assign\_thetas

## create\_linear\_vector

This function takes a vector of GMM parameters and assigns them to the proper places so that the GMM error is **linear** in these parameters.

**Functions it requires:**

* assign\_parameters
* assign\_sigmas
* assign\_thetas

# assign\_parameters

This function takes the vector of parameters in the model and splits them by parameter type.

# assign\_thetas

This function takes the vector of thetas and creates a vector the size of educ\_index. Theta parameters are assigned according to the positions indicated in educ\_index.

# Miscellaneous functions

# extract\_data\_matrices

This function extracts all the necessary matrices from the data output from stata.

**Description of the output:**

* z\_matrix: matrix of instruments.
* y\_matrix: vector with the dependent variable in GMM.
* s\_matrix: matrix to create the GMM error term. The error term is given by y\_matrix-s\_matrix\*linear\_parameter\_vector.
* lower\_bound and upper\_bound: matrix of constraints for the parameter.

## get\_occ\_indexes

This function generates a series of indexes that allows me to assign dlnAs in the appropriate location in the full linearized vector.