Workflow and Software Documentation

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1 Resampling Workflow

Because it takes significant time to generate all the resampling data, this data is cached to save model coefficients generated from resampled data into files for each country and each model. The files are stored in a directory called `data_resample`.

A reasonable workflow is this:

1. `source("Econ-Growth-Resampling.R")`

2. Execute the function called `genAllResampleData()`.

   A typical call would be

   ```
   genAllResampleData(method="wild", n=100)
   ```

3. Reload the data using one of the various "load" functions from file `Econ-Growth-Functions2.R`:

   ```
   loadResampleData <- function(modelType, countryAbbrev, energyType, factor)
   loadAllResampleData <- function(modelType, energyType, factor)
   loadResampleDataRefitsOnly <- function(modelType, countryAbbrev, energyType,  factor)
   loadResampleDataBaseFitOnly <- function(modelType, countryAbbrev, energyType, factor)
   ```

   (a) A typical call for loadAllResampleData would be

   ```
   loadAllResampleData(modelType="cde", energyType="Q")
   ```

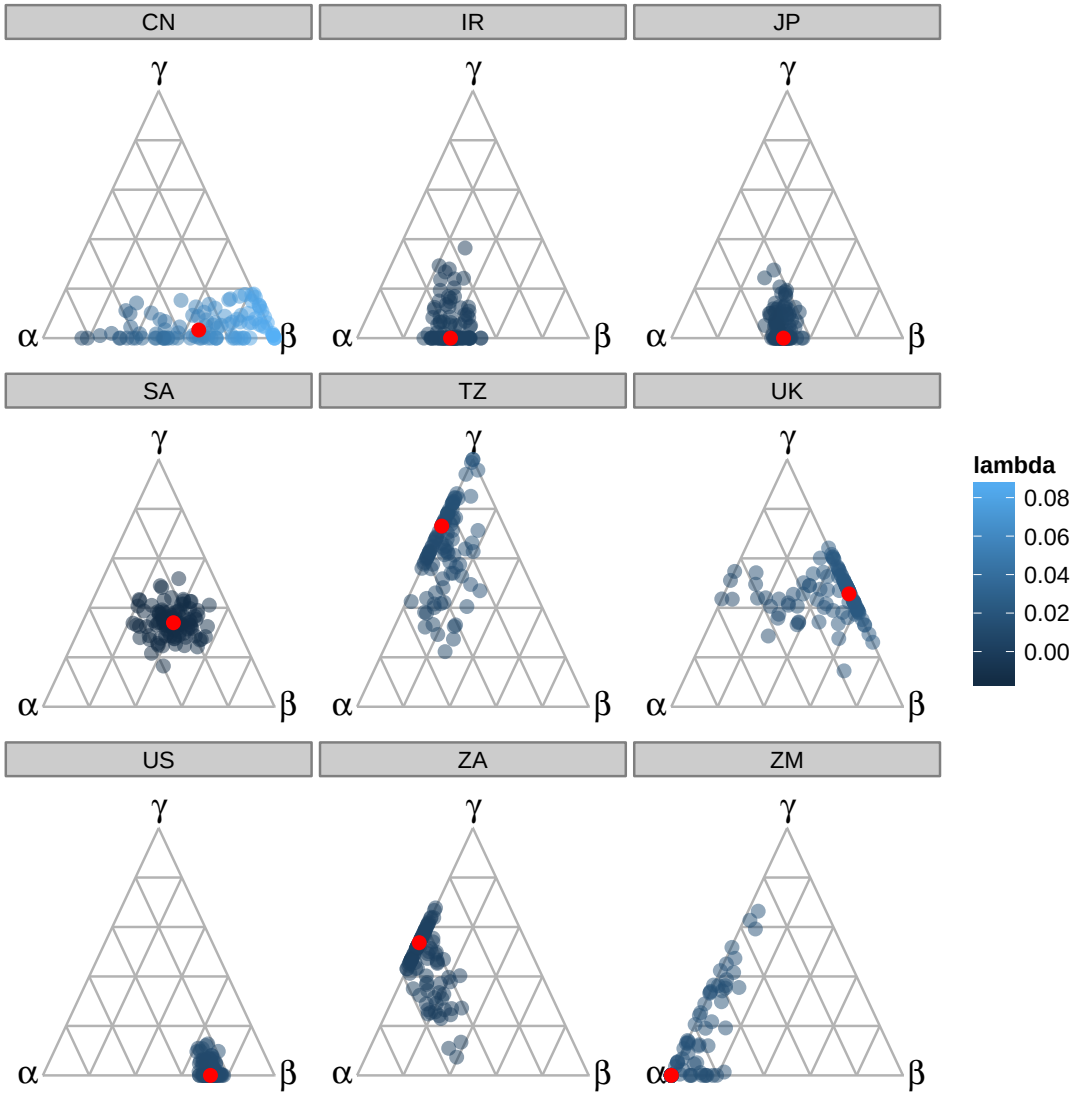
   (b) Another example:

   ```
   head(loadAllResampleData(model="sf", factor="K"), n=5)

   ##       lambda      m    sse isConv method countryAbbrev
   ## CN.1 0.06441 0.3224 0.1682      1   orig            CN
   ## CN.2 0.03082 0.6256 0.1373      1   wild            CN
   ## CN.3 0.06157 0.3499 0.1654      1   wild            CN
   ## CN.4 0.04590 0.4901 0.1918      1   wild            CN
   ## CN.5 0.04741 0.4768 0.1658      1   wild            CN
   ```

4. Plots of resampling distributions can be made with `triPlot()`.

```
source("Graphics.R")
resData <- loadAllResampleData(modelType="cde", energyType="Q")
triPlot( subset(resData, method=="wild"),
         gamma, alpha, beta,
         labels=c("gamma", "alpha", "beta"),
         n.grid=5,  aes_string="color=lambda",
         size=3, alpha=.5 ) +
     geom_point( data=subset(resData, method=="orig"),
                 color="red", alpha=1, size=3) +
     facet_wrap( ~ countryAbbrev )
```



Eventually, we can build a wrapper that loads the data and builds the plot with our favorite settings.