Tables for Multilevel Models in Stata

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2024-10-03

1 Introduction

This is a shorter working example to make tables in Stata.

2 Data Source

The data used in this example are derived from the R package *Functions and Datasets for "Forest Analytics with R"*.

According to the documentation, the source of these data are: "von Guttenberg's Norway spruce (Picea abies [L.] Karst) tree measurement data."

Figure 1: Old Tjikko, a 9,550 Year Old Norway Spruce in Sweden

The documentation goes on to further note that:

> "The data are measures from 107 trees. The trees were selected as being of average size from healthy and well stocked stands in the Alps."

3 Setup

```
clear all // clear workspace

use "gutten.dta", clear // use tree data as example
```

4 Variables

`site` Growth *quality* class of the tree's habitat. 5 levels.

`location` Distinguishes tree *location*. 7 levels.

`tree` An identifier for the tree within location.

`age_base` The tree age taken at ground level.

`height` Tree height, m.

`dbh_cm` Tree diameter, cm.

`volume` Tree volume.

`age_bh` Tree age taken at 1.3 m.

`tree_ID` A factor uniquely identifying the tree.

5 Estimate Multilevel Models

Use `quietly` To Suppress Output

For the sake of parsimony, I use `quietly:` to suppress the output of the `mixed` commands.

```
quietly: mixed height age_base i.site || tree_ID: // shorter mixed model

est store M1 // store the estimates

quietly: mixed height age_base i.site i.location || tree_ID: // longer mixed
model

est store M2 // store the estimates
```

6 Table With `etable`

6.1 Regression Coefficients With Significance Stars

```
etable, estimates(M1 M2) /// use these estimate(s)
novarlabel /// variable names only; could use variable labels
cstat(_r_b) /// beta's only
showstars showstarsnote /// show stars and note
column(estimate) // column is modelname
```

```
                           M1         M2
-----------------------------------------------
age_base                0.214 **   0.214 **
site
  2                    -3.316 **  -2.994 **
  3                    -8.095 **  -7.765 **
  4                   -11.510 ** -10.844 **
  5                   -15.866 ** -15.179 **
location
  2                             -0.322
  3                              0.475
  4                              0.060
  5                             -0.450
  6                             -0.255
  7                             -1.454
_cons                  8.233 **   8.181 **
var(_cons)             2.171      1.981
var(e)                 8.393      8.397
Number of observations    1200       1200
-----------------------------------------------
** p<.01, * p<.05
```

6.2 Regression Coefficients With p Values

```
etable, estimates(M1 M2) /// use these estimate(s)
novarlabel /// variable names only; could use variable labels
cstat(_r_b) cstat(_r_p) /// beta's and p values
column(estimate) // column is modelname
```

```
                         M1      M2
-------------------------------------
age_base                0.214   0.214
                         0.00    0.00
site
```

```
  2                     -3.316  -2.994
                          0.00    0.00
  3                     -8.095  -7.765
                          0.00    0.00
  4                    -11.510 -10.844
                          0.00    0.00
  5                    -15.866 -15.179
                          0.00    0.00
location
  2                             -0.322
                                  0.80
  3                              0.475
                                  0.46
  4                              0.060
                                  0.93
  5                             -0.450
                                  0.40
  6                             -0.255
                                  0.72
  7                             -1.454
                                  0.05
_cons                    8.233   8.181
                          0.00    0.00
var(_cons)               2.171   1.981
var(e)                   8.393   8.397
Number of observations    1200    1200
------------------------------------
```