Re: Multiple Regimes and Regression Trees;

Anthony Balducci <anthony.balducci@utoronto.ca>
Thu 11/10/2005 4:11 PM
To: Paul A. Johnson <pajohnson@vassar.edu>

Dear Prof. Johnson,

The regression tree here seeks to divide countries into multiple regimes based on initial starting conditions. The tree
has breaks at various levels of GDP60 and LIT60, and therefore in the regression that builds the tree, I take it these
are the two "independent" variables; However, it does not seem clear what the "dependent" variable would be in this
case, especially since none of the previous regressions made use of LIT60.

My best guess in this case was that the dependent variable was "GDP GROWTH", but this doesn't seem to be
forming the right tree. By functional form, I mean to say the functional form of the regression, [i.e. the previous
regressions were of the form: $\ln(Y/L)\ 1985 - \ln(Y/L) = b0 + b1\ (1960\ \ln(Y/L)) + b2\ (1960\ \ln(I/Y)) + b3\ (\ln(n + g + sig))$
$+ b4\ (\ln(SCHOOL))]$
Many thanks,
- Anthony

----- Original Message -----
From: Paul A. Johnson
To: 'Anthony Balducci'
Sent: Wednesday, November 09, 2005 09:53 PM
Subject: RE: Multiple Regimes and Regression Trees;

Anthony,

I am not sure what you mean by "the functional form through which GDP60 and LIT60
are used to define initial starting conditions". The initial conditions are defined by the
levels of these variables but "functional form" suggests that you are thinking of
something different. Could you give me an example of the kinds of functional forms
that could have been used?

Cheers,

Paul

From: Anthony Balducci [mailto:anthony.balducci@utoronto.ca]
Sent: mercoledì 9 novembre 2005 10.09
To: pajohnson@vassar.edu
Subject: Multiple Regimes and Regression Trees;

Dear Prof. Johnson,

As part of a MA Econometrics project I am trying to recreate the results of a paper you wrote with
Steven Durlauf in 1995, "Multiple Regimes and Cross-Country Growth Behavior". However, I am
having a little bit of difficulty in understanding exactly what formulation was used in creating the
regression tree. My question is not in regards to the tree algorithm, which I understand, but to the

functional form through which GDP60 and LIT60 are used to define initial starting conditions. "Growth Econometrics" (pp 91.) seems to suggest they are matched with a production function. I also looked at the earlier formulation by Azariadis and Drazen, which provide a functional form for GDP60 and LIT60, but which doesn't seem to be providing the right tree. What form, then, was used? If you have any time to answer my question, it would be much appreciated.

Sincerely,

- Anthony