

Linear regression analysis with unknown breakpoint

Piecewise linear or segmented regression models have been described in several papers and a number of different approaches have been presented, see for example Muggeo VMR. Estimating regression models with unknown breakpoints. *Statist Med* 2003;22:3055-3071. An R-library named Segmented has also been developed by the author. Here is an alternative for calculating a regression model $y = f(x) = \{ax + b, \text{ if } x \leq k \text{ and } cx + d, \text{ if } x \geq k\} + e$ with the STATA routine for nonlinear regression:

```
nl (y = cond(x<={k}, {a}*x + {b}, {c}*x + {k}*({a}-{c}) + {b})), initial(a 1 b 1 c  
1 k 1)
```