

# Computation of continuous, piecewise linear reaction functions

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## Abstract:

There are good economic justifications why reaction functions be linear. We extend earlier work that developed methods for efficiently estimating continuous piecewise linear functions based on a Bayesian approach to clustering. The mean of such a function will not be linear, and so not have useful economic meaning. Building upon work extending MCMC based on concepts developed in the simulated annealing literature, we obtain an estimate of the mode with measures of uncertainty based upon Frobenius norm. We apply the Reisz estimator to generate candidate paths for the CPLM. We use the approach to investigate the most likely form of the relationship between output growth and policy variables based upon fiscal and monetary interventions. We find that, in normal times, the response of output to fiscal and monetary stimuli are as expected. However, in a low growth environment, the response of growth to policy actions is very subdued.