

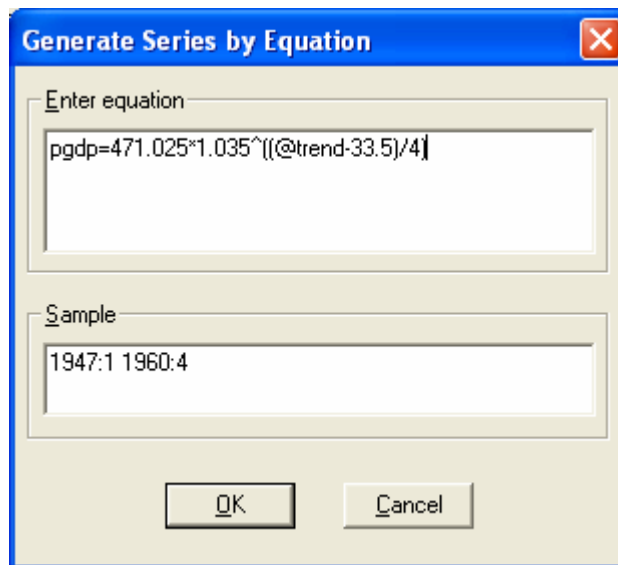
## Homework 2

In the following exercises yield and interpret parameter estimates and perform a complete residual analysis.

- Blanchard (2000) uses in equation 9.2 not 3.5 % for the average growth of the potential output, but 3.0 %. Estimate this equation for the period 1960 till 1998 and evaluate the validity of his conclusions. Divide the estimation period into the period from 1960 till 1973 and the subsequent period 1974 till 1998 and compare the results. What kind of conclusions can you draw?
- Okun suggest two alternative equations in his article. The first is

$$u_t = \beta_0 + \beta_1 gap_t,$$

with  $gap_t = YP_t / Y_t - 1$ , where the potential output  $YP_t$  is determined by a trend line, which passes through the mean for the 1955 GNP with a slope of 3.5%.



Hint: you can produce the required variable by the transformation beside.

- The second of Okun's alternative equations is

$$\log(100-u_t) = \beta_0 + \beta_1 \log Y_t + \beta_2 t,$$

with the inclusion of a time trend as an additional regressor. The potential output can now be calculated as  $\hat{g}_{YP_t} = -\hat{\beta}_2 / \hat{\beta}_1$ .

Hint: The evaluation for regressions with more than one substantial regressor can be achieved by the trend-elimination trick of chapter 1..