

readme August 2016

Kenneth D. West, 2016, "Approximate Bias in Time Series Regression"

1. Routines to produce bias estimates come in both RATS and MATLAB versions:

•**longhor1**, **longhor**: stochastic right side variables consist of lags of a single variable, e.g.,  $y_t = \text{const.} + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \eta_t$  where  $y_t$  typically is a long horizon change (e.g.,  $y_t = x_{t+q} - x_{t-1}$  in the case of direct forecasting); **longhor1** is a special case of **longhor** as described in an accompanying readme file.

•**proc\_vb\_ma0**; **proc\_vb\_maq** ; **proc\_vb\_d**: stochastic right hand side variables might include lags of more than one variable. These procedures can handle (say) both  $y_t = \text{const.} + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \eta_t$  and  $y_t = \text{const.} + \beta_1 x_{t-1} + \beta_2 z_{t-1} + \eta_t$ , while **longhor1** / **longhor** can only handle the former.

All procedures invoke **proc\_vbias**. Thus **proc\_vbias** must be accessible when the routines are invoked.

2. Explanations for invoking the routines (same list of parameters for RATS and for MATLAB, so only one explanation)

- a. **readme\_longhor.pdf** explains use of **longhor1/longhor**, and the sense in which **longhor1** is a special case of **longhor**. It also describes RATS and MATLAB code that illustrates use of these procedures.
- b. **readme\_proc\_vbias.pdf** covers the other procedures. It also describes RATS and MATLAB code that illustrates use of these procedures. See **proc\_vbias.zip**.

These documents perhaps have an occasional typo or two. Let me know of any you find. The code itself is largely undocumented.

3. Zip files

- a. **procedures.zip**. Procedures described in point 1 above,
- b. **longhor.zip**. Sample programs illustrating stuff described in point 2a above.
- c. **proc\_vbias.zip** Sample programs illustrating stuff described in point 2b above.

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