

Erratum

"Local-Momentum Autoregression and the Modeling of Interest Rate Term Structure," Jin-Chuan Duan, 2016, *Journal of Econometrics* 194(2), 349-359.

The forecasting variance formula in equation (9) should be revised to

$$\begin{aligned} Var[\mathbf{X}_{t+k} | \mathcal{G}_t] &= \sum_{i=0}^{k-1} \sum_{j=0}^{k-1} \mathbf{B}^i E\{[\mathbf{Z}_{t+k-i} - E(\mathbf{Z}_{t+k-i} | \mathcal{G}_t)][\mathbf{Z}_{t+k-j} - E(\mathbf{Z}_{t+k-j} | \mathcal{G}_t)]' | \mathcal{G}_t\} (\mathbf{B}^j)' \\ &= \sum_{i=0}^{k-1} \sum_{j=0}^{k-1} \mathbf{B}^i \mathbf{V}_{ij} (\mathbf{B}^j)' \end{aligned}$$

$$\text{where } \mathbf{V}_{ij} = \begin{bmatrix} \kappa_x^2 \sigma_\mu^2 \sum_{s=\max(i,j)}^{k-1} (1 - \kappa_\mu)^{2s-i-j} + \sigma_x^2 \delta_{ij} & 0 & \cdots & 0 \\ 0 & 0 & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & 0 \end{bmatrix} \text{ and}$$

$$\delta_{ij} = \begin{cases} 1 & \text{if } i = j \\ 0 & \text{otherwise} \end{cases}.$$

Note that the latent central tendency factor, μ_t , can be viewed as an $MA(\infty)$ process, which is an element of \mathbf{Z}_t . The cross-product terms concerning \mathbf{Z}_t in the above formula do not have a zero expected value, and thus the formula cannot be simplified to a single sum as in the paper.¹

When the forecasting period is one, the error is immaterial. The practical concern is on the CTAR and/or LM-CTAR model estimation when missing data occurs in the series. Since the forecasting mean and variance are used to run the Kalman filter over the missing data segment, results will in principle be affected. However, the revised empirical results concerning Table 2 (under CTAR and LM-CTAR) only show minor discrepancies, and they are not reported here. Note also that this revision does not affect the term structure model, because μ_t is cast as a latent AR(1) model instead of an $MA(\infty)$ process.

¹The author thanks Zhifeng Zhang for spotting this error.