Corrigendum to "Testing predictive regression models with nonstationary regressors" [J. Econometrics 178 (2014) 4–14]

Zongwu Cai [a,b,*], Yunfei Wang [c]

[a] Department of Economics, University of Kansas, Lawrence, KS 66045, USA
[b] Wang Yanan Institute for Studies in Economics, Xiamen University, Xiamen, Fujian 361005, China
[c] Direct Banking Decision Sciences, Capital One 360, 1102 Greystone Ln, Newark, DE 19711, USA

A R T I C L E   I N F O

In the proof of Theorem 1 in the paper by Cai and Wang (2014), the statement on page 12 of Cai and Wang (2014), $\hat{u}_t = u_t + O_p(n^{-1/2})$, is not enough to show the asymptotic distribution of $\hat{\beta}$. Therefore, the statement on page 12, "Hence in the following proof, we will use u_t to replace $\hat{u}_t$ without further explanation", is inaccurate. Indeed, by using the notation in Cai and Wang (2014), $n^{-1/2} \sum_{t=1}^{n} \hat{u}_t \Rightarrow W_u(1) - \xi_c \int_0^1 K_c(r) dr$ by using Cai and Wang (2014, properties (a)–(d) on page 6), where $\xi = [\int_0^1 K_c(r) dW_u(r) + \Omega_1] / \int_0^1 K_c^2(r) dr$. Therefore, the term $-\xi_c \int_0^1 K_c(r) dr$ in the above equation is missing in the proof of Theorem 1 in Cai and Wang (2014). Then, Theorem 1 can be correctly restated as follows.

Theorem 1. *Under Assumptions* A1–A3, *we have*

$$\sqrt{n} D_n(\hat{\beta} - \beta) \xrightarrow{d} MN\left(0, \sum_{\beta}\right) + \eta_1,$$

where $\eta_1 = (0, 0, \beta_1 \xi)^T$.

Similarly, in the proof of Theorem 2 in the paper by Cai and Wang (2014), the statement on page 13 of Cai and Wang (2014), $\hat{u}_t = u_t + O_p(n^{-1/2})$, is not enough to show the asymptotic distribution of $\hat{\beta}$ for $\theta \neq 0$. Therefore, Theorem 2 should be modified accordingly as below.

Theorem 2. *Under Assumptions* A1–A3 *and model* (6) *with* $c \leq 0$, *we have*

$$\sqrt{n} D_n^*(\hat{\beta} - \beta) \xrightarrow{d} N\left(0, \sum_{\beta}^{*}\right),$$

where $\sum_{\beta}^* = S_0^{*-1} S_0^{**} S_0^{*-1}$, S_0^* *is defined on page* 13 *of Cai and Wang (2014),* $S_0^{**} = \text{Var}(\eta_2)$ *and* $\eta_2 = (W_\varepsilon(1), W_{uv}(1), \theta \int_0^1 (\exp(rc) - 1) dW_\varepsilon(r)/c)^T$.

Finally, $\beta_1 \xi_c$ should be added into the right hand side of (10) in Cai and Wang (2014). Also, σ_u^2 in the (2, 2)th element in matrices Ω, Ω^* and $\sum_{\beta}^*$ on page 7 and S_n and S_n^* on page 13 in Cai and Wang (2014) should be $\text{Var}(u_t)$, σ_u^2 in (9) in Cai and Wang (2014) should be $\text{Var}(u_t)^4$ and $1/\sqrt{n}$ in (A.5) should be $1/n$.

References

Cai, Z., Wang, Y., 2014. Testing predictive regression models with nonstationary regressors. J. Econometrics 178, 4–14.