Corrigendum

Corrigendum to ‘Informative trading or just costly noise? An analysis of Central Bank interventions’

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This Corrigendum corrects a portion of the robustness Section 3.3 in Pasquariello (2007), where there is a typo in Eqs. (3) and (4), and Figure 4 does not plot the ensuing cumulative impulse-response functions, as instead discussed in its last two paragraphs (pp. 130-131).

1 Typos in Section 3.3 and Figure 4

Differently from the discussion in Section 3.3, Figures 4a and 4c to 4f on p. 132 plot cumulative sums of the coefficients $b_l$ (up to $\sum_{l=0}^{20} b_l$) for a signed $50$ million SNB intervention at $t = 0$ ($\Delta T_0 = 50$) from the SUR estimation of

$$X_t = \alpha_1 + \sum_{l=1}^{20} a_l X_{t-l} + \sum_{l=0}^{20} b_l T_{t-l} + \sum_{i=1}^{4} \psi_{1,i} D_t (i) + \sum_{k=1986}^{1997} \vartheta_{1,k} Y_t (k) + \varepsilon_{1,t},$$

(3)

while Figure 4b on p. 132 plots cumulative sums of the coefficients $d_t$ (up to $\sum_{l=0}^{20} d_t$) for a signed 1% CHFUSD return shock at $t = 0$ ($\Delta X_0 = 0.01$) from the SUR estimation of:

$$T_t = \alpha_2 + \sum_{l=1}^{20} c_l T_{t-l} + \sum_{l=0}^{20} d_l X_{t-l} + \sum_{i=1}^{4} \psi_{2,i} D_t (i) + \sum_{k=1986}^{1997} \vartheta_{2,k} Y_t (k) + \varepsilon_{2,t}.$$  

(4)

Thus, Figures 4a and 4c to 4f on p. 132 capture the permanent impact of a signed $50$ million SNB intervention on $Y_t$ (i.e., the portion of that impact more likely due to information effects than

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to inventory control; e.g., see Hasbrouck, 1991) under the assumption that such intervention is exogenous and fully unanticipated — consistent with the plots of cumulative sums of the coefficients $\delta_j$ of unsigned daily intervention dummies $I_t(j, h)$ from the OLS estimation of Eq. (2), in Figures 2 and 3 — while Figure 4b on p. 132 captures the permanent impact of a signed 1% shock to CHFUSD returns on SNB intervention $T_t$ under the assumption that such shock is exogenous and fully unanticipated.

Instead, the bivariate VAR described in Section 3.3 is identified with the restriction of not allowing $Y_t$ to have a contemporaneous impact on signed aggregate daily SNB trades $T_t$ (under the assumption, common in the microstructure literature, that trades cause price changes, as in Hasbrouck, 1991), i.e., is given by Eq. (3'), where $T_t$ should be replaced by $T_{t-1}$ in Eq. (3) as follows:

$$X_t = \alpha_1 + \sum_{l=1}^{20} a_l X_{t-l} + \sum_{l=0}^{20} b_l T_{t-l} + \sum_{i=1}^{4} \psi_{1,i} D_t(i) + \sum_{k=1986}^{1997} \vartheta_{1,k} Y_t(k) + \varepsilon_{1,t}, \quad (3')$$

and Eq. (4'), where $\sum_{l=0}^{20} d_l X_t$ should be replaced by $\sum_{l=1}^{20} d_t X_{t-1}$ in Eq. (4) as follows:

$$T_t = \alpha_2 + \sum_{l=1}^{20} c_l T_{t-l} + \sum_{l=1}^{20} d_l X_{t-l} + \sum_{i=1}^{4} \psi_{2,i} D_t(i) + \sum_{k=1986}^{1997} \vartheta_{2,k} Y_t(k) + \varepsilon_{2,t}. \quad (4')$$

The attached Corrected Figure 4 — which replaces Figure 4 on p. 132 — plots the cumulative impulse-response functions from the OLS estimation of the bivariate VAR of Eqs. (3') and (4'). Specifically, Figures 4a and 4c to 4f below plot the cumulative response of $Y_t$ to a signed $50$ million shock to the unanticipated component of SNB intervention at $t = 0$ from its linear projection on past SNB trades and CHFUSD returns (i.e., from Eq. (4)). Figure 4b below plots the cumulative response of $T_t$ to a signed 1% shock to the unanticipated component of CHFUSD returns at $t = 0$ from its linear projection on past SNB trades and CHFUSD returns (i.e., from Eq. (3')). These plots are generally similar to those on p. 132 as both Figures 1 and 4b and the untabulated estimation of Eq. (4') suggest that linear projection to be a generally poor predictor of current SNB interventions.
References


Corrected Figure 4. Bivariate VAR: impulse-response functions

These figures plot OLS estimates of the cumulative revisions in $X_t$ subsequent to an initial USD 50 million signed SNB trade $T_t = I_t > 0$, $I_t < 0$, $C_t$, or $I_t^{K,C} + C_t^{K,C} > 0$ ($\Delta T_0 = 50$) implied by the bivariate VAR model

$$X_t = \alpha_1 + \sum_{l=1}^{20} a_l X_{t-l} + \sum_{l=0}^{20} b_l T_{t-l} + \sum_{i=1}^{4} \psi_{1,i} D_t(i) + \sum_{k=1986}^{1997} \vartheta_{1,k} Y_t(k) + \varepsilon_{1,t}, (3')$$

$$T_t = \alpha_2 + \sum_{l=1}^{20} c_l T_{t-l} + \sum_{l=1}^{20} d_l X_{t-l} + \sum_{i=1}^{4} \psi_{2,i} D_t(i) + \sum_{k=1986}^{1997} \vartheta_{2,k} Y_t(k) + \varepsilon_{2,t}, (4')$$

for each variable $X_t$ defined in Section 2.2. Specifically, Figures 4a and 4b plot estimated cumulative impulse-response functions for both $X_t = r_t$ and $T_t$ (for a signed 1% shock to $r_t$, $\Delta r_0 = 0.01$) while Figures 4c to 4f plot estimated cumulative impulse-response functions for $X_t$ from each bivariate VAR model with either $X_t = r^2_t$, $S_t$, $s_t$, or $f_t$, respectively.

a) Return $r_t$

b) Intervention $I_t$

c) Square Return $r^2_t$

d) Spread $S_t$

e) Logarithmic Spread $s_t$

f) Frequency $f_t$