Corrigenda and Addenda: (Typos, Thinkos, Misprints, and Enhancements)

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Special thanks to Juhani Linnainmaa, Albert Menkveld, Ting Wang and Michel van der Wel.

There are some minor typos of the sort wherein an “an” is printed as “and”. I list below the more substantive typos.

Chapter 4. Page 34. The line immediately after the formula should start “where \( \{\varepsilon_t\} \) is a zero-mean white noise process...”

Chapter 4. Page 36. Line immediately after the formula should be “...a power series expansion of \( (1 - \phi L)^{-1} \).” (AM)

Chapter 5. Page 45. Equation (5.5) should read:

\[
A = E[V | Buy] = \frac{V(1-\mu)\delta + \bar{V}(1+\mu)(1-\delta)}{1 + \mu(1-2\delta)}
\]

Chapter 5. Page 46. Equation (5.6) should read:

\[
B = E[V | Sell] = \frac{V(1+\mu)\delta + \bar{V}(1-\mu)(1-\delta)}{1 - \mu(1-2\delta)}
\]

Chapter 8. Page 68. Third paragraph. Here’s some more detail on the timing:

1. The dealer enters time \( t \) knowing \( m_{t-1} = E[Value | u_{t-1}, u_{t-2}, \ldots, q_{t-1}, q_{t-2}, \ldots] \)
2. The time-\( t \) public information arrives (\( u_t \)), and
   \[
   E[Value | u_{t}, u_{t-1}, u_{t-2}, \ldots, q_{t-1}, q_{t-2}, \ldots] = m_{t-1} + u_t
   \]
3. The time-\( t \) trader arrives, and submits an order of \( q_t = \pm 1 \):
\[ m_t = E[Value| u_t, u_{t-1}, u_{t-2}, \ldots, q_t, q_{t-1}, q_{t-2}, \ldots] = m_{t-1} + u_t + \lambda q_t, \]

It is in this sense that \( m_t = m_{t-1} + w_t \) where \( w_t = \lambda q_t + u_t \).

If there were no non-informational costs \( (c = 0) \), then the price paid by a purchaser (the ask) would be \( m_t = m_{t-1} + u_t + \lambda \); similarly, the bid would be \( m_t = m_{t-1} + u_t - \lambda \).

With transaction costs, the ask and bid will be set at \( m_t \pm c \).

Chapter 6. Page 58. The "\( \varepsilon_X \)" in equation (6.3) should be simply "\( \varepsilon \)".

Chapter 7. Page 63. In (7.3),

\[ \mu = \frac{-\alpha \beta \Sigma_0 + \sigma_u^2 p_0}{\sigma_u^2 + \beta^2 \Sigma_0} \]

Chapter 8. Page 69.

In equation (8.4), \( f_t \equiv \lim_{k \to \infty} E^* \left[ p_{t+k} | p_t, p_{t-1}, \ldots \right] \), i.e., the limit of the infinite-horizon expectation. Earlier, in the context of the basic Roll model (page 39), \( f_t \) denoted the one-period ahead forecast: \( f_t \equiv E^* \left[ E_{t+1} | p_t, p_{t-1}, \ldots \right] \). For the basic (and generalized) Roll model, \( \lim_{k \to \infty} E^* \left[ p_{t+k} | p_t, p_{t-1}, \ldots \right] = E^* \left[ E_{t+1} | p_t, p_{t-1}, \ldots \right] \) because price differences are MA(1).

In the last line of the page, "\( \beta_0 \varepsilon_t \)" should be "\( \beta_0 \varepsilon_t \)".


7th line from the top "\( \varepsilon_t + \theta \varepsilon_t \)" should be "\( \varepsilon_t + \theta \varepsilon_{t-1} \)".

In the third paragraph, "\( \sigma_s^2 = \sigma_x^2 \)" should be "\( \sigma_s^2 \geq \sigma_x^2 \)".

Note on equation (8.7) on page 71. This equation follows from the one in the line above it, \( \sigma_s^2 = \theta^2 \sigma_x^2 \). There are two ways of getting \( \theta \) and \( \sigma_x^2 \). The first way is via direct inspection (as in the preceding paragraph). The second way is to compute the autocovariances \( \gamma_0 \) and \( \gamma_1 \) from equation (8.3), letting \( \sigma_u^2 = 0 \), and the go from the autocovariances to the MA parameters via (4.2).

Chapter 8. Page 76. Third paragraph. "\( \sigma_w^2 = [\phi(1)]^2 \sigma_x^2 \)" should be "\( \sigma_w^2 = [\phi(1)]^{-2} \sigma_x^2 \)".
Chapter 8. Page 77. “...(1−z)B(z).” should be “...(1−z)B(z)σ^2_e.”

Chapter 9, page 80. Equation (9.8) should read (in part):

$$\theta_1 = \begin{bmatrix} 0 & c(\beta-1) \\ 0 & 0 \end{bmatrix}$$


Chapter 9. Page 85. 3rd line from the top. “m_t = m_{t-1} + w_{t}” should be “m_t = m_{t-1} + w_{t}”.

Chapter 10, page 95. Equation 10.2 should read:

$$\Gamma_0 \equiv \text{Var}(\Delta p_t) = \begin{bmatrix} 2c^2 + \sigma^2_u & 2\rho c^2 \\ 2\rho c^2 & 2c^2 + \sigma^2_u \end{bmatrix}$$

(Thanks to Juan Cabrera)

Page 99. Equation (10.10) comes from computing $\theta(L)^{-1}(1-L)$, using $\theta(L) = 1 + \theta_1L$ and the solution to $\theta_1$ given in (10.8).

Page 123. Third paragraph. “$b_r < B/V$” should read “$\beta_r < B/V$”

Chapter 12. Figure 12-4. The numerical values on the horizontal axis are not correct. The figure should be: