

Errata for Analysis of Financial Time Series, R.S. Tsay, Nov. 2001

1. Page 9, line 1 after equation (1.13): change $\hat{K}(x)$ to $\hat{K}(x) - 3$.
2. Page 11: Equation (1.17)

$$E(R_t) = \exp\left(\mu + \frac{\sigma^2}{2}\right) - 1,$$

3. Page 12: *Scale Mixture of Normal Distributions*

$$r_t \sim (1 - X)N(\mu, \sigma_1^2) + XN(\mu, \sigma_2^2),$$

where X is a Bernoulli random variable such that $P(X = 1) = \alpha$, ...

In Figure 1.1, the finite mixture of normal is $(1 - X)N(0, 1) + XN(0, 16)$ with $\alpha = 0.05$. The mixture density is standardized.

4. Page 38, first equation of *Parameter Estimation*: r_t not t_t .
5. Page 52, last line: delete $r_{h+\ell-i}$ from the summation.
6. Page 89: log likelihood function involving dergees of freedom
 α, v not $\alpha.v$ also $(T - m)$ not $(T - m + 1)$
7. Page 92, line 3 [line 1 after equation (3.11)]: The correct order of the standard errors is 0.0061, 0.0019, and 0.1443.
8. Page 95, 2nd paragraph: The literature ... is (not are).
9. Page 110, line -7, $E(a_t^2)$ should be $E(a_t^2) = \exp(\mu_h + \sigma_h^2/2)$.
10. Page 127, line 10: change σ_a to σ_t .
11. Page 156, line -8; page 157, line 4; and page 173, line 24: Keenan not Kennan.
12. Page 215, *Generalized Gamma distribution*, missing $\Gamma(\kappa)$ in the denominator of the pdf.

The pdf is given by

$$f(x|\alpha, \beta, \kappa) = \begin{cases} \frac{\alpha x^{\kappa\alpha-1}}{\beta^{\kappa\alpha}\Gamma(\kappa)} \exp\left[-\left(\frac{x}{\beta}\right)^\alpha\right] & \text{if } x \geq 0 \\ 0 & \text{otherwise,} \end{cases}$$

13. Page 227, line -3: change supsressed to suppressed.
14. Page 231, Example 6.3. In the equation of $\hat{\sigma}$, change the numerator 0.00332 to 0.026303. The results remain correct, however.
15. Page 258, line 8: change increase to increases.

16. Page 290: missing subscript i . The likelihood function ... becomes

$$L = \left(\prod_{i=1}^{N_\eta} \frac{1}{T} g(r_{t_i}; k_{t_i}, \alpha_{t_i}, \beta_{t_i}) \times \exp\left[-\frac{1}{T} \int_0^N S(\eta; k_t, \alpha_t, \beta_t) dt\right] \right),$$

which reduces to

$$L = \left(\prod_{i=1}^{N_\eta} \frac{1}{T} g(r_{t_i}; k_{t_i}, \alpha_{t_i}, \beta_{t_i}) \right) \times \exp\left[-\frac{1}{T} \sum_{t=1}^N S(\eta; k_t, \alpha_t, \beta_t)\right]$$

17. Page 308. Revise $Q_k(m)$ for IBM and S&P 500 log returns as $Q_2(1) = 9.81$, $Q_2(5) = 47.06$, and $Q_2(10) = 71.65$. Also, for bond returns, $Q_5(5) = 1065.63$. The conclusions remain proper.

18. Page 337, line 2: $y_i = \mathbf{c}'_i \mathbf{r}$.

19. Page 368, Example 9.2, line -4: change +0.119 to -0.119.

20. Page 388, line -3: change Example 9.1 to Example 9.2.

21. Page 379, Eqs (9.30) & (9.32): change $r_{2,t-1}$ to $r_{2,t-2}$.