Corrections and Further Explanations for *Statistics and Data Analysis of Financial Engineering, 2nd edition*
Last updated: February 6, 2016

- Page 17, Exercise 9: “small value” should be “smallest value”.
- Page 81, line before Problem 11: Change “QQ plot” to “normal QQ plot.”
- Page 92, line 5: `jarque.bera.test()` is in the `tseries` package.
- Page 82, Problem 7: Change “smallest variance” to “smallest approximate variance,” since Result 4.1 provides only an approximate variance. Also, the minimum variance is not actually attained on the set $0 < q < 1$.
- Page 173, Example 7.5: The algorithm had not yet converged and the reported fit is incorrect. The control parameters should be changed from the default values as below.

```r
fit = mst.miple(y=dat,penalty=NULL,
                 control=list(iter.max=500, eval.max=750))
```

The revised output shows that the AIC for the skewed-$t$ is lower than that of the symmetric-$t$ model, so the skewed-$t$ model fits better by the AIC criterion.

```r>
options(digits = 5)
> dp2cp(fit$dp,"st")
$beta
         ge  ibm  mobil  crsp
[1,] 0.0011541 0.00069199 0.00080083 0.00074143

$var.cov
         ge  ibm  mobil  crsp
  ge 1.8915e-04 7.2780e-05 5.1480e-05 6.8907e-05
 ibm 7.2780e-05 2.7466e-04 3.4455e-05 5.7543e-05
mobil 5.1480e-05 3.4455e-05 1.7425e-04 4.2008e-05
 crsp 6.8907e-05 5.7543e-05 4.2008e-05 5.5160e-05

$gamma1
         ge  ibm  mobil  crsp
      0.182401 0.160374 0.097478 -0.042757

$gamma2M
[1] 25.677

> aic_skewt
[1] 5.3331
```
- Page 178, line 12: “fit$cov” should be “fit$cov”.
• Page 211, Problem 6 (a): “fit_cop” should be “ft”.

• Page 366, equation (13.5): See equation (4.5) on page 67 for a definition of $Y^{(a)}$.

• Page 368, line 17: “The residuals from the The problem” should be “The problem”.

• Page 377, equations (13.13) and (13.14): In (13.13), $p$ is the number of explanatory variable. This notation conflicts with (13.14) where $p$ is the order of the AR process. The $p$ in (13.13) should be changed, say to $p'$ or $k$.

• Page 385, 2nd line after (13.18): “eigenvectors” should be “eigenvalues”.

• Page 411 and elsewhere: Notation for GARCH models varies with textbook and software. In our notation, $p$ (or $p_V$) is the number of lagged values $\sigma^2_{t-i}$ in the conditional variance, $\sigma^2_t$, and $q$ (or $q_V$) is the number of lagged values $\sigma^2_{t-i}$ in $\sigma^2_t$. Also, we list $p_V$ first, i.e., GARCH($p_V$, $q_V$), not GARCH($q_V$, $p_V$). The rugarch package avoids using $p$ and $q$, but agrees with our notation that, for example, GARCH(2,1) would have two lagged values of the squared process and one lagged value of the conditional variance. Use care with other software to make certain you have specified your GARCH model correctly. Fortunately, specification of the commonly used GARCH(1,1) model is not affected by the choice of notation, but you should be careful about which coefficient goes with the lagged squared process and which goes with the lagged conditional variance.

• Page 474, (16.6); “$\omega$” should be “$w$”.

• Page 485, Result 16.2: “Assumptions” should be “Assumption”.

• Page 508, first line in code of Example 17.3: “capm.csv” should be “capm2.csv” (We changed the name of the file so that it could be put in the same data set folder as “Capm.csv”. R is case-sensitive but not Windows.)