## ERRATA (TYPOS) LIST

for

# An Introduction to Derivative Securities, Financial Markets, and Risk Management (2013, $1^{\text {st }}$ edition) <br> by Robert A. Jarrow and Arkadev Chatterjea 



## INDEX

- Errata (Typos) in Text
- Errata (Typos) in Solutions Manual

November 2014
Dear Reader,
We apologize for the following typographical errors. We list Errata (Typos) in this file; Errata (Editorial) are listed in a separate file.

Entries marked Reported have been communicated to publisher W. W. Norton \& Co. for corrections in the second printing (December 2013; hard copy only).

We thank professors Scott Fung, Thijs van der Heijden, and Nathan Walcott for their careful reading of the text.

We would be grateful if you would kindly notify us (ac286@cornell.edu) about any remaining errors.

Sincerely,
Arka and Bob

## ERRATA (TYPOS) IN TEXT

Reported Page 30, last para, line 1: Write as "... $m$ takes the values 2, 3, and 365, respectively."

Reported Page 33, expression (2.4a): Replace $C(0) R$ with $C(0)(1+R)$
Reported Page 45, para 3, line 7: Replace "(and increasing)" with "(and changing)"
Reported Page 64, last figure heading: Replace "No Brokers and Dealers" with "Number of Brokers and Dealers Minimized"

Page 115, para 1, line 3: Replace "Below this level," with "For higher stock prices,"
Reported Page 118, last-but-one para, line 4: Replace "put holder" with "put writer"
Reported Page 126, Example 5.8, para 2, line 4: Replace $\$ 1,500.00$ with $\$ 1,500.10$
Page 130

- Question 5.1: Delete "an option's"
- Question 5.8, line 1: Replace "four" with "three"

Page 163, para 2, line 2: Write as "...coupon) bond and an equity option whose return is ..."
Page 192, line 4: Write as "... 1982 with options on US Treasury bond futures."
Page 200, line 4: Replace "exchanges" with "clearinghouses"
Reported Page 218, bullet point 7: Write as "On Friday, the gold futures price goes up by \$6.80."

Reported Page 226, Example 9.8: Replace "April" with "June" in all five instances
Page 270, Result 11.2, last two lines: Rewrite as "... $B$ is $e^{-r(T-t)}$, where $r$ is ..."
Reported Page 292, bullet point 5, line 3: Write as "... fix the price for converting pounds sterling into dollars in one year's time"

Reported Page 328, line above expression (13.8): Change $c(0)$ to $\mathcal{F}(0)$
Page 333, line 1: Replace (13.12) with (13.14)
Page 341, para 4, line 1: Replace "Antwerp, Netherlands" with "Antwerp, Belgium"

Reported Page 346, No. 5, line 2: Replace 2006 with 1906
Reported Page 351, Last para, line 3: Replace Merton with Morton
Page 355, Example 14.3, bullet point 3
line 5: Delete line "Minus the amount ... (-)4,580"
line 6: Write as "TOTAL amount $(13,300+18,084) \quad \$ 31,384$ "
last line: Replace $\$ 26,804$ with $\$ 31,384$
Reported Page 358, Figure 14.1, under the subheading "(IBM) International Bus Mach Corp Com": Insert
"Last 90.42 [IBM stock price]
Change $1.80 \Delta$
(up 2.03\%)"
Page 373, under subheading "Long Put," line 9: Replace "sold over" with "bought over"
Page 374, bullet point 2, line 2: Replace "Futures" with "Future"
Page 376, last bullet point, line 5: Write as " $22.50-1.50=\$ 21 . "$
Page 385, Figure 15.7, $3^{\text {rd }}$ figure, Butterfly spread

- Dotted line for two short calls should cross the horizontal axis at $(20+3.5=) 23.5$ (to the right of 22.5)
- Dashed line for long call (with strike price 17.5) should cross the horizontal axis at (17.5 $+5.5=$ ) 23 (to the right of 22.5)

Reported Page 400, bullet point 3

- line 2: Change $-c$ to $+c$
- line 5: Change "positive cash flow" to "negative cash flow"


## Page 403

- para 3, line 3: Replace "today" with "at the time of portfolio creation"
- para 6, line 4: Insert missing text and write as: "assets and businesses, should be greater than $\$ 145$. But, 3Com closed at $\$ 81.81$ instead! The "stub value" (the implied value of 3Com's other assets and businesses) was $-\$ 63$ per share, or $-\$ 22$ billion."
- footnote 1: replace 2010 with 2000

Page 411, Figure 16.4: Replace 20.02 with 21.02
Page 427, question 16.18, line 1: Replace "European call" with "American call"
Reported Page 437, Example 17.2: bullet point 2, line 2: Write as $\max [S(1)-110,0]$
Reported Page 446, para 2, line 3: Replace [17.6] with [17.7a]

Reported Page 482, line 5: Correction: Replace $R$ with $1+R$
Reported Page 483, Row 1, Column G: Replace $\underline{\boldsymbol{R}}$ with $\underline{\mathbf{1}+\boldsymbol{R}}$
Page 508, under expression (19.10e): Replace "... call's value declines" with "... call's value increases"

Reported Page 517, Example 19.5, bullet point 2, line 4: Replace (19.14a) with (19.13a)
Page 537, last line of Result 20.1: Write as " $\ldots$. buy $\left(-\operatorname{delta}_{P}\right) \equiv N\left(-d_{1}\right)$ stocks."
Page 572, line 2: Replace "option" with "forward"
Reported Page 580, last-but-one para, lines 1 to 3: Write as: "If the price of the bond in Example 21.2 were 100 ... coupon rate of 0.06 ."

Reported Page 584, under expression (21.4): Write as "A bond's duration (expression [21.4]) has ..."

Reported Page 589, para 4, line 9: Replace Figure 23.1 with Figure 21.3
Reported Page 599, line 2: Replace "June 30" with "June 1"
Reported Page 603, FIGURE 21.8: Replace "Bit" with "Bid"
Reported Page 658, Example 23.5, line 1: Replace "Example 23.2" with "... Example 23.3"
Reported Page 665, para 2, line 6: Change (23.22) to (23.21)
Page 667, Example 23.8, bullet point 2, line 1: Replace "caplet's" with "floorlet's"
Reported Page 684, Example 24.3, last line of math expression: Replace " $=0.97=B(0,2)$ " with " $=0.93=B(0,2)$ "

Reported Page 685, last-but-two line: Change "time 1," to "time 2,"

## Page 731

- Expression (25.21a): Write as

$$
\operatorname{Delta}_{C} \equiv \frac{\partial c}{\partial i}=-\frac{\delta}{(1+i \times \delta)} c+B(0, T+\delta) \times N\left(d_{1}\right) \times \delta \times L_{N}>0
$$

- Expression (25.21d): Write as

$$
\operatorname{Gamma}_{C} \equiv \frac{\partial^{2} c}{\partial i^{2}}=\frac{B(0, T+\delta)}{i \times v_{T} \sqrt{T}} N^{\prime}\left(d_{1}\right) \delta L_{N}+\frac{2 \delta^{2}}{(1+i \times \delta)^{2}} c-\frac{2 B(0, T)}{(1+i \times \delta)^{2}} N\left(d_{1}\right) \delta^{2} L_{N}
$$

## Page 732

- labels of mathematical expressions: Change (25.21d) to (25.22d) and (25.21e) to (25.22e)
- [renamed] expression (25.22e). Write as

$$
n=-\frac{c}{B(0, T+\delta)}+N\left(d_{1}\right)(1+i \times \delta) L_{N}
$$

- last two lines: Write as " $\ldots$. a long caplet position, hold $n$ shares ..." [where $n$ is given as above]

Page 733, Example 25.6

- bullet point 3, lines 1 and 2: Write as:
" $\ldots$ position and by trading $n=-\frac{c}{B(0, T+\delta)}+N\left(d_{1}\right)[1+i(0, T) \delta] L_{N}$ shares of the zerocoupon bond."
- bullet point 5, lines 3 and 4 : Write as " $\ldots$ obtained from $B(0,1)=\$ 0.97$ by applying expression (25.21b). This gives $B(0,1.4986)=\$ 0.950054$, which differs from the above value of $\$ 0.95$ due to rounding approximations."
- bullet point 5 , lines 9 to 11 :

$$
\begin{aligned}
& n=-\frac{c}{B(0, T+\delta)}+N\left(d_{1}\right)[1+i(0, T) \delta] L_{N} \\
& =-(172,852.22 / 0.95)+0.6616 \times(1+0.0421) \times 0.4986 \times 100 \text { million } \\
& =-67,371,624.66
\end{aligned}
$$

- bullet point 5, last three lines:
$=($ New call price $-172,852.22)+67,371,624.66 \times($ New bond price -0.950054$)$
For example, in row 4 , for $i(0,1)=0.0420$, we get $\Delta V=(169,739-172,852.22)-$ $67,371,624.66 \times(0.950100-0.950054)=\$ 13.76$.

Page 734, Table 25.3

- last column of the table: $\Delta V$ values are modified as follows

| $\boldsymbol{i}(\mathbf{0 , 1})$ | $\boldsymbol{B}(\mathbf{0 , T}+\boldsymbol{\delta})$ | $\boldsymbol{c}$ | $\boldsymbol{\Delta} \boldsymbol{V}$ |
| :---: | :---: | :---: | ---: |
| 0.0321 | 0.954716 | $8,088.79$ | $149,364.30$ |
| 0.0411 | 0.950518 | $142,989.05$ | $1,411.47$ |
| 0.0420 | 0.950100 | $169,739.89$ | 13.76 |
| $\mathbf{0 . 0 4 2 1}$ | $\mathbf{0 . 9 5 0 0 5 4}$ | $\mathbf{1 7 2 , 8 5 2 . 2 2}$ | $\mathbf{0}$ |
| 0.0422 | 0.950007 | $175,991.68$ | 13.67 |
| 0.0431 | 0.949590 | $205,424.69$ | $1,328.37$ |
| 0.0521 | 0.945436 | $575,720.16$ | $91,793.55$ |

- bullet point 1
line 2: Write as "...(for example, when $i(0,1)=0.0420, \Delta V=13.76), \ldots$ "
line 3: Write as "...(for example, when $i(0,1)=0.0521, \Delta V=91,793.55), \ldots$ "


## Page 749

- bullet point 1 , line 2 : Write as "... values lie to the right of the mean minus $1.65 \ldots$.."
- bullet point 2 , line 1 : Write as " $\ldots$ values lie to the right of the mean minus $2.33 \ldots$.
- bullet point 3, line 1: Delete "the desired"


## Page 765

- para 4, line 5: Replace "... the credit ratings hold default risk constant." with "... the credit ratings should correctly measure default risk."

Reported Glossary G-2, Callable bond, lines 1 and 2: Write as "... option to redeem the bond ..."

## ERRATA (TYPOS) IN SOLUTIONS MANUAL

Page 40, Q\&P 5.19a, Answer, line 4: Write as "... equivalent to $\min (0, K-S)$ as $\ldots$.."
Page 43, Q\&P 6.6, Answer, Strategy 5, lines 7 to 9: Write as "...to buy $\$ 1$ worth of threeyear bonds and short-sell $\$ 1$ worth of two-year bonds ( $\ldots$ you can finance this at 4 percent ...)

Page 52, Q\&P 7.8

- line 4: Write as "Consider the swap in Examples 7.5 and 7.5 (continued) from Extension 7.1"
- lines 4 to 11: Move "Consider the swap ... principals are handed back after three years" to page 53 , line 1 , just after 7.9.

Page 157, Q\&P 16.1, Answer, line 14: Replace "selling zero-coupon" with "buying zerocoupon"

Page 163, last-but-one line: Write as "... date), then sell the September 35 call for more than its intrinsic value and pay it back."

Page 167, Q\&P 16.18, line 1: Replace "European call" with "American call"
Page 180, under "The next seven questions ...," bullet point 3: Write as "... grows to $(1+R)$ = \$1.012578 ..."

Page 185, 18.10, table in the bottom of the page: Replace with the following table

|  | 0 | 1 | 2 | 3 | 4 |
| :--- | ---: | ---: | ---: | ---: | :---: |
| 0 | 2.93511664 | 5.75971435 | 11.28051515 | 22.04596544 | 42.98425022 |
| 1 | 0.25473216 | 0.521945017 | 1.069462911 | 2.191324528 |  |
| 2 | 0.000000 | 0.000000 | 0.000000 |  |  |
| 3 | 0.000000 | 0.000000 |  |  |  |
| 4 | 0.000000 |  |  |  |  |

Page 35, Question and Problem number 5.6, Answer, line 5: Write as: " $S=$ the stock price on the exercise or expiration date, ..."

Page 172, Q\&P 17.8b, Answer, line 3: Write as " $\ldots m=0.5039$. Thus a portfolio of long call and short synthetic call $(c-m S-b$; long call, short 0.5039 shares, long 42.8876 units of the mma ) will be free from stock price risk.

## Page 279

- bullet point 1
line 4: Write as: $-\left[E\left(r_{1}\right)-1.65 \sigma_{1}\right]=-(0.0020-0.0495)=0.0475$.
line 6: Replace "trading day" with "week"
- bullet point 2
line 4: Write as: $-\left[E\left(r_{1}\right)-2.33 \sigma_{1}\right]=0.0679$.
lines 5 and 6: Replace "trading day" with "week"
- Last-but-one line, just before expression 3: Replace negative sign with positive sign

Page 280

- bullet point 3, line 7: Replace "trading day" with "week"
- bullet point 4, line 5: Replace "trading day" with "week"

