Known Typos 2nd Edition Option Pricing Formulas

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Page 7:

Currency option example: text is wrong; USD should be domestic rate, EUR foreign rate (because EUR is quoted in USD per EUR). However calculations are correct.

Page 15:

Second equation from top, just after large parenthesis it should be a dt

Page 49:

Example ending page 49. SpeedP is calculated to be -0.0135. This should be done directly by formula 2.22. And not simply by multiplying Speed by $\frac{S}{100}$

Page 50:

Vega is on this page defined as second derivatives, it should naturally be first derivative. That is $\frac{\partial^2 c}{\partial \sigma^2}$ should be replaced by $\frac{\partial c}{\partial \sigma}$. The derived formula is however correct.

Page 70:

Equation (2:48), $\frac{\partial c}{\partial r}$ should naturally be $\frac{\partial p}{\partial r}$.

Page 73: Example Phi

1.6180/100 should naturally be 0.01618 and not 0.1618

Everything is not what is seems to be, Golden... ;-)

Page 98

$$S_{i+1} = \frac{[X - RHS(S_i) - b_i S_i]}{(1 - b_i)}.$$

should be (switch sign in front of RHS)

$$S_{i+1} = \frac{[X + RHS(S_i) - b_i S_i]}{(1 - b_i)}.$$

The Computer code in the book (p 100 to 101) and on the CD do not have this problem.

Page 105

On the last line of equation 3.2 there should be a X in front of the $\Psi(S, T, 0, X, I_2, I_1, t_1)$. The VBA code in the book or on the CD do not have this error.

Page 106

The denominator of e_3 should be changed from $\sigma\sqrt{T}$ to $\sigma\sqrt{t_1}$.

Page 106

in f_3: I_2^2 should be replaced with I_1^2. The computer code is fine.

Page 111

second line first paragraph: $0 \geq D \leq 1$, should be changed to: $0 \leq D \leq 1$

Page 142: Floating-Strike Lookback Options

Book is okay. But in computer code for chapter 4 : Call on maximum should be call on minimum and Put on minimum should be Put on maximum. To fix this in cell L4 change to "Call on minimum" and cell L5 change to "Put on maximum", and in VBA code change "c" to "p" and "p" to "c". After corrections should look like this:

```
If CallPutFlag = "p" Then
        If S > SMax Then
            SMax = S
        End If
        m = SMax
    ElseIf CallPutFlag = "c" Then
        If S < SMin Then
            SMin = S
        End If
         m = SMin
    End If
```

Page 123: Fade-in Option

In equation 4.19 and 4.20: $S^{(b-r)T}$ should be corrected to $Se^{(b-r)T}$.

The computer code do not have this problem.

Page 178: Binary Option Values

For option number 14, in the computer code on the CD when $X > H$ value should be B_1 rather than B_3. The book is correct.

Page 180: Binary Option Values

For option formula number 20 there seems to be a typo in the original paper of Reiner and Rubinstein (1991) that have carried over in my book. In the case of $X > H$ then A_3 should be replaced with A_4. The same holds for the computer code on the CD. The original paper can be found at www.in-the-money.com

Page 180: Binary Option Values

In table 4-22 page 180, there was a few typos, the correct table is given below, what is changed is the numbers marked in bold face:

Table 1: Binary Barrier Option Values
($H = 100$, $T = 0.5$, $r = 0.1$, $b = 0.1$, $\sigma = 0.2$)
$K = 15$, except for option numbers (3) and (4) where $K = H$

Option #	S	$X = 102$	$X = 98$	Option #	S	$X = 102$	$X = 98$
(1)	105	9.7264	9.7264	(15)	105	37.2782	45.8530
(2)	95	11.6553	11.6553	(16)	95	44.5294	54.9262
(3)	105	**64.8426**	**64.8426**	(17)	105	4.4314	3.1454
(4)	95	11.6553	11.6553	(18)	95	5.3297	3.7704
(5)	105	**77.7017**	**77.7017**	(19)	105	27.5644	18.9896
(6)	95	11.2223	11.2223	(20)	95	**33.1723**	22.7755
(7)	105	64.8426	64.8426	(21)	105	4.8758	4.9081
(8)	95	77.7017	77.7017	(22)	95	0.0000	0.0407
(9)	105	4.9081	4.9081	(23)	105	39.9391	40.1574
(10)	95	3.0461	3.0461	(24)	95	0.0000	0.2676
(11)	105	40.1574	40.1574	(25)	105	0.0323	0.0000
(12)	95	17.2983	17.2983	(26)	95	3.0461	3.0054
(13)	105	4.9289	6.2150	(27)	105	0.2183	0.0000
(14)	95	**5.8926**	7.4519	(28)	95	17.2983	17.0306

Page 187

Third paragraph, last line "....value must be multiplied by $\frac{T_2}{T}$, where" should be "....value must be multiplied by $\frac{T}{T_2}$, where".

The computer code is okay!.

Page 192: Discrete Asian Approximation

Equation (4.103) move parenthesis

$$p_A \approx e^{-rT} X N(-d_2) - [F_A N(-d_1)],$$

should be

$$p_A \approx e^{-rT} [X N(-d_2) - F_A N(-d_1)],$$

Page 244: Constant Elasticity option table

For the last column the values are given for $X = 115$ not $X = 110$.

Page 356: Mean Reversion Monte Carlo

```
ST = ST + kappa * (theta - ST) * dt _
           + v * ST ^ beta * v * Sqr(dt) * Application.NormInv(Rnd(), 0, 1)
```

Should be changed to

```
ST = ST + kappa * (theta - ST) * dt _
           + v * ST ^ beta * Sqr(dt) * Application.NormInv(Rnd(), 0, 1)
```

The same problem on the CD.

Page 356: Random Numbers

In second equation for ϵ we should divide by $\sqrt{2}$. This is not used in any computer code on CD and have no effect here.

Page 468: Example

$$k = \frac{1}{1 + 0.33267 \times 0.2387} = 0.9264$$

should be

$$k = \frac{1}{1 + 0.2316419 \times 0.2387} = 0.9476$$

Page 470: CNDEV Function

The inverse cumulative normal distribution CNDEV in the computer code 0.92 should be replaced by 0.42. And in the fifth line from bottom the fifth plus sign should be changed to a multiplication sign that is $r + (c(4)...)$ should be $r * (c(4)...)$. This code is also wrong on CD, fix it, or alternatively download replacement code from http://www.espenhaug.com/books.html

Page 496: Appendix C

In table of Differentiaton Rules

$f'(x)$ of $\frac{1}{x^a}$ should give $\frac{a}{x^{a-1}}$

References

REINER, E., AND M. RUBINSTEIN (1991): "Unscrambling the Binary Code," *Risk Magazine*, 4(9).