Errata and Updates for ASM Exam IFM (First Edition Third Printing) Sorted by Page

[10/21/2018] On pages 63–64, Example 5G is defective since the correlation of a stock with the portfolio changes as a stock gets added to it. When solved correctly, it is found that their is no real solution to the question.

Replace the example and its solution with:

EXAMPLE 0A A portfolio consists of \$4000 of Stock A and \$6000 of Stock B. The returns on the two stocks are uncorrelated. The volatility of Stock A is 0.3 and the volatility of Stock B is 0.4

Calculate the contribution of Stock A to the volatility of the portfolio.

SOLUTION: Let A and B the returns on Stocks A and B respectively. The variance of the portfolio is

$$\text{Var}(0.4A+0.6B) = 0.4^2\,\text{Var}(A) + 0.6^2\,\text{Var}(B) = 0.4^2(0.3^2) + 0.6^2(0.4^2) = 0.072$$

The covariance of Stock A with the portfolio is

$$\text{Cov}(A, 0.4A+0.6B) = 0.4\,\text{Var}(A) = 0.4(0.3^2) = 0.036$$

The correlation of Stock A with the portfolio is $0.036/(0.3\sqrt{0.072}) = 0.447214$. The contribution of Stock A to the volatility of the portfolio is $0.4(0.447214)(0.3) = \boxed{\mathbf{0.053666}}$. □

[11/6/2018] On page 65, on the eighth line, replace $f(a,b,\lambda)$ with $h(a,b,\lambda)$.

[11/6/2018] On page 107, the second paragraph discusses NPV, but NPV is not relevant to Modigliani-Miller. Replace the second paragraph with the following two paragraphs:

What is the best combination of debt and equity to finance a project? Which combination maximizes the value of the company's securities? Usually, the cost of debt capital is less than the cost of equity capital. Suppose a company has only one project. The project generates 1.5 million of cash flows per year perpetually. If the cost of equity capital is 15%, then the present value of future cash flows is 1.5/0.15 million = 10 million. That is the market value of the company's equity.

Now assume the company issues 5 million of bonds to fund the project. The cost of debt capital is 5%, so the company pays annual interest of 0.05(5,000,000) = 250,000. The annual net cash flows after interest will be 1,500,000 − 250,000 = 1,250,000. The present value of future cash flows is 1.25/0.15 million = $8\frac{1}{3}$ million. Thus the total value of the company's equity and debt, its enterprise value, is now $8\frac{1}{3}$ million + 5 million = $13\frac{1}{3}$ million. Seemingly the total value of the company's securities has increased as a result of issuing bonds. However, this assumes that the cost of equity capital is still 15% after the bonds are issued. This assumption is not correct.

[11/6/2018] On the second line of the third paragraph of page 107, change "value of a project" to"value of a company's securities".

[11/6/2018] On page 110, in the box before exercise 9.3, on the second-to-last line, change "the cost of capital is 0.10" to "the cost of equity capital is 0.10".

[10/25/2018] On page 165, in exercise 15.8, change the last line to

Determine the lowest price per unit such that the futures contract does not require a margin call.

[11/3/2018] On page 333, in Table 24.2, in the formula for call premium on futures, replace the two ts with Ts.

[11/6/2018] On page 479, in Example 30B, on the third line, change "at that time" to "at the current time".

[10/19/2018] On page 487, on the second line of the paragraph containing the displayed line $\int_0^\infty P(t)f_{T_x}(t)\,dt$, change $\max(0, K-S_T)$ to $S_T+\max(0, K-S_T)$, and change "So it is" to "So it contains".

[11/12/2018] On page 492, in exercise 31.3, change the five choices to (only (B), (D), and (E) are changed):

(A) $\int_0^{10}\big(C(S,55000,t)+55{,}000(1-e^{-rt})\big)f(t)\,dt+F(10)C(S,50000,10)$

(B) $\int_0^{10}\big(C(S,50000,t)+50{,}000(e^{-rt}-1)\big)f(t)\,dt+F(10)\big(C(S,55000,10)+55000e^{-10r}-50000$

(C) $\int_0^{10}\big(C(S,50000,t)+50{,}000(e^{-rt}-1)\big)f(t)\,dt+\big(1-F(10)\big)\big(C(S,55000,10)+55000e^{-10r}-50000$

(D) $\int_0^{10}\big(C(S,50000,t)+50{,}000(1-e^{-rt})\big)f(t)\,dt+\big(1-F(10)\big)C(S,55000,10)$

(E) $\int_0^{10}\big(C(S,55000,t)+50{,}000(e^{-rt}-1)\big)f(t)\,dt+\big(1-F(10)\big)\big(C(S,55000,10)+55{,}000e^{-10r}-50000$

[11/12/2018] On page 494, on the second line from the end of the solution to exercise 31.3, change 55000 to 50000.

[10/28/2018] On page 607, in the solution to question 13, on the second displayed line, change 0.66589 to 0.42858.