Preface, page xxiv (Financial Management: Theory and Practice 13e only):

We added the box “Some Firms Operate with Negative Working Capital!” and a new section on the cost of bank loans.

Chapter 17: Multinational Financial Management. We added a new opening vignette on the global economic crisis and its impact on world economies, foreign direct investment, and cross-border M&As. We added two new boxes, the first on regulating international bribery and taxation, “Greasing the Wheels of International Business.” The second new box discusses the wave of foreign companies partnering with Chinese banks to provide consumer finance services, “Consumer Finance in China.”


Chapter 20: Investment Banking and Financial Restructuring. The new opening vignette discusses three companies that recently raised capital via an initial public offering, a seasoned stock offering, and a debt offering. We added a new section on investment banking activities. We added a new box on “Investment Banks and the Global Economic Crisis.”

Preface, page xxix (Financial Management: Theory and Practice 13e only):

Preface, page xxv (Corporate Finance: A Focused Approach 4e only):


Chapter 1, page 10:

A firm’s commitment to business ethics can be measured by the tendency of its employees, from the top down, to adhere to laws, regulations, and moral standards relating to product safety and quality, fair employment practices, fair marketing and selling practices, the use of confidential information for personal gain, community involvement, and illegal payments to government officials.

Ethical Dilemmas

When conflicts arise between profits and ethics, sometimes legal and ethical considerations make the choice obvious. At other times the right choice isn’t clear. For example, suppose Norfolk Southern’s managers know that its trains are polluting the air, but the amount of pollution is within legal limits and further reduction would be costly, causing harm to their shareholders. Are the managers ethically bound to reduce pollution? Aren’t they also ethically bound to act in their shareholders’ best interests? This is a dilemma.

Ethical Responsibility

Over the past few years, illegal ethical lapses have led to a number of bankruptcies, which have raised this question: Was the company unethical, or was it just a few of their employees? Arthur Andersen, an accounting firm, audited Enron, WorldCom, and several other companies involved in accounting fraud. The U.S. Justice Department at Andersen itself was guilty of engaging in unethical behavior in an incentive system that made such behavior profitable to both the perpetrator and the firm. As a result, Andersen went out of business. Andersen was later judged to be guilty, but by the time the judgment was rendered the company was already out of business. People simply did not want to deal with a tainted accounting firm.

Protecting Ethical Employees

If employees discover questionable activities or are given questionable orders, should they obey their bosses’ orders, refuse to obey those orders, or report the situation to a higher authority, such as the company’s board of directors, its auditor, or a federal prosecutor? In 2002 Congress passed the Sarbanes-Oxley Act, with a provision designed to protect “whistle-blowers.” If an employee reports corporate wrongdoing and later is penalized, he or she can ask the Occupational Safety and Health Administration to investigate the situation, and if the employee was improperly penalized, the OSHA can be required to reinstate the employee, along with back pay and a sizable penalty award. Several big awards have been handed out since the act was passed.
Chapter 1, page 26:

funds have produced spectacular losses. For example, many hedge fund investors suffered huge losses in 2007 and 2008 when large numbers of sub-prime mortgages

Private Equity Funds. Private equity funds are similar to hedge funds in that they invest in a relatively small number of large investors, but they differ in that they invest primarily in stock (equity) in other companies and often control those companies, whereas hedge funds usually own many different types of securities. In contrast to a hedge fund, which might own a small percentage of a publicly traded company’s stock, a private equity fund typically owns virtually all of a company’s stock. Because the company’s stock is not traded in the public markets, it is called “private equity.” In fact, private equity funds often take a public company (or subsidiary) and turn it private, such as the 2007 privatization of Chrysler by Cerberus. The general partners who manage the private equity funds usually sit on the boards of the companies the funds own and guide the firms’ strategies with the goal of later selling them for a profit. For example, The Carlyle Group, Clayton Dubilier & Rice, and Merrill Lynch Global Private Equity bought Hertz from Ford on December 22, 2005, and then sold shares of Hertz in an IPO less than a year later.

Chapter 15 provides additional discussion of private equity funds, but it is important to note here that many private equity funds experienced high rates of return in the last decade, and those returns attracted enormous sums from investors. A few funds, most notably The Blackstone Group, actually went public themselves through an IPO. Just as with hedge funds, the performance of many private equity funds faltered. For example, shortly after its IPO in June 2007, Blackstone’s stock price was over $31 per share; by early 2009, it had fallen to about $4.

Chapter 2, page 47:

Even in today’s era of financial crises, $14.6 billion is a lot of money. This is the amount of cash flow that Hewlett-Packard’s (HP) operations generated in 2008, up from $9.6 billion in 2007, despite the recession. The ability of a company and the cash flow it generates are the lifeblood of a company and the basis for future growth. HP invested $11 billion in acquisitions.

Other companies, however, operated differently. For example, Walgreens invested over $3 billion in operations and used over $2 billion for capital expenditures, much of it on new stores and the purchase of worksite health centers. Procter & Gamble generated $15.6 billion. P&G made relatively small capital expenditures (just $3 billion) and returned the lion’s share (over $12 billion) to shareholders as dividends through stock repurchases.

Apple generated about $9.6 billion (up from $5.5 billion the previous year) but made relatively small capital expenditures, acquisitions, or distributions to shareholders. Instead, it put about $9.1 billion into short-term financial securities like T-bills.

These four well-managed companies used their operating cash flows in four different ways: HP made acquisitions, Walgreens spent on a mix of internal and external growth, P&G returned cash to shareholders, and Apple saved for a rainy day. Which company made the right choice? Only time will tell, but keep these companies and their different cash flow strategies in mind as you read this chapter.
Chapter 2, page 65:

Some of its debt. But if the ending debt is greater than the beginning debt, the company actually borrowed additional funds from creditors. In that case, it would be a negative use of FCF. For MicroDrive, the net debt repayment for 20X0 is:

Net reduction in debt = ($600 + $580) - ($754 - $110) = -$224 million

This is a "negative use" of FCF because it increased the debt balance. This is typical of most companies because growing companies usually add debt each year.

MicroDrive paid $4 million in preferred dividends and $57.5 in common dividends for a total of $61.5 million

Chapter 4, page 134:

Figure 4-8: Alternative Procedures for Calculating Present Values

Should be $150.00, not just 6.
Chapter 4, page 150:

Spreadsheets are especially useful for solving problems with uneven cash flows. You enter the cash flows in the spreadsheet as shown in Figure 4-7 on Row G44. To find the PV of these cash flows without going through the step-by-step process, you would use the NPV function. First put the cursor on the cell where you want a down to NPV, and click for Rate and enter either the range of cash flows, G44, be very careful when entering the range of cash flows Time 0 cash flow. With you begin with the Year of the stream, $1,016.35. Note that you can use the PV function if the payments are constant, but you must use the NPV function if the cash flows are not constant. Finally, note that fixed has a major advantage over financial calculators in that you can see the cash flows, which makes it easy to spot data entry errors. With a calculator, the numbers are buried in the machine, making it harder to check your work.

KWe cover the calculator mechanics in the tutorial, and we discuss the process in more detail in Chapter 5, where we use the NPV calculation to analyze proposed projects. If you don't know how to use the cash flow register of your calculator, you should go to our tutorial or your calculator manual, learn the steps, and be sure you can make the calculation. You will have to know how to do it eventually, and now is a good time to learn.

Chapter 4, page 142:

Second term should be upper case I not numeral 1
1 + I
not 1+1

![Image of Figure 4-6 Summary: Present Value of an Ordinary Annuity]
Chapter 4, page 148:

Annuity Plus Additional Final Payment

First, consider stream 1 and notice that it is a 5-year, 12%, ordinary annuity plus a final payment of $1,000. We can find the PV of the annuity, find the PV of the final payment, and then sum them to get the PV of the stream. Financial calculators are programmed to do this for us—we use five five time value of money (TVM) keys, entering the data for the four known values as shown below, and then pressing the PV key to get the answer, $927.90.

Chapter 4, page 149:

In row 490, should be separately not separately

Our Excel formula ignores the initial cash flow (in Year 0). When entering a cash flow range, Excel assumes that the first value occurs at the end of the first year. As we will see later, if there is an initial cash flow, it must be added separately to complete the NPV formula result. Notice too that you can enter cash flows one-by-one, but if the cash flows appear in consecutive cells, you can enter the cell range, as we did here.
Chapter 4, page 162:

Summary

Most financial decisions involve situations in which someone makes a payment at one point in time and receives money later. Dollars paid or received at two different points in time are different, and this difference is dealt with using (TVM) analysis.

- **Compounding** is the process of determining the future flow or a series of cash flows. The compounded amount, to the beginning amount plus interest earned.
- Future value of a single payment \( FV_N = PV(1 + I)^N \).
- **Discounting** is the process of finding the present value (PV) of a future cash flow or a series of cash flows; discounting is the reciprocal, or reverse, of compounding.
- Present value of a payment received at the end of Time \( N = PV = \frac{FV_N}{(1 + I)^N} \).
- An **annuity** is defined as a series of equal periodic payments (PMT) for a specified number of periods.
- An annuity whose payments occur at the end of each period is called an **ordinary annuity**.
- Future value of an (ordinary) annuity \( FV_{AN} = PMT \left[ \frac{(1 + I)^N - 1}{ I} \right] \).
- Present value of an (ordinary) annuity \( PV_{AN} = PMT \left[ \frac{1 - \frac{1}{(1 + I)^N}} { I} \right] \).

Chapter 5, page 173

Bonds, Bond Valuation, and Interest Rate

A lot of U.S. bonds have been issued, and we mean a lot! According to the Federal Reserve, there are about $5.7 trillion of outstanding U.S. Treasury securities, more than $2.6 trillion of municipal securities, $3.7 trillion of corporate bonds, and more than $1.4 trillion of foreign bonds held in the United States. Not only is the dollar amount mind-boggling, but so is the variety. Bonds come in many shapes and flavors, and one even has a negative interest rate.
Chapter 5, page 206:

Some bonds are junk bonds at the time they are sold but not always true. Prior to the 1980s, fixed-income investors such as insurance companies were generally unwilling to buy risky bonds, making it impossible for risky companies to raise capital in the public market. In the late 1970s, Michael Milken of the investment banking house Drexel Burnham, relying on historical studies that showed risky bonds yielded more than enough to compensate for their risk, convinced institutional investors that junk bond yields were worth their risk. Thus was born the junk bond market.

In the 1980s, large investors like T. Boone Pickens and Henry Kravis thought that certain old-line, established companies were run inefficiently and were financed too conservatively. These corporate raiders were able to put in some of their own money, borrow the rest via junk bonds, and take over the target company, usually taking the company private. The fact that interest on the bonds was tax deductible, combined with the much higher debt ratios of the restructured firms, also increased after-tax cash flows and helped make the deals feasible. Because these deals used lots of debt, they were called leveraged buyouts (LBOs).

Chapter 6, page 222:

**Figure 6.1** Probability Distributions for Sale.com and Basic Foods

<table>
<thead>
<tr>
<th>Demand for the Company’s Products</th>
<th>Probability of this Demand Occuring</th>
<th>Rate of Return on Stock if this Demand Occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>0.3</td>
<td>90%</td>
</tr>
<tr>
<td>Normal</td>
<td>0.4</td>
<td>15%</td>
</tr>
<tr>
<td>Weak</td>
<td>0.3</td>
<td>-60%</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 6.2** Calculation of Expected Rates of Return: Payoff Matrix

<table>
<thead>
<tr>
<th>Demand for the Company’s Products</th>
<th>Probability of this Demand Occuring</th>
<th>Sale.com Rate of Return</th>
<th>Basic Foods Rate of Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>0.3</td>
<td>0.99%</td>
<td>15.3%</td>
</tr>
<tr>
<td>Normal</td>
<td>0.4</td>
<td>19%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Weak</td>
<td>0.3</td>
<td>-60%</td>
<td>-8.5%</td>
</tr>
<tr>
<td></td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Expected Rate of Return =

\[ \hat{\gamma} = \frac{\text{Sum of Products}}{\text{Number of Alternatives}} \]

\[ \hat{\gamma} = 15.0\% \]

Should be 13.5% not 13.0%
Chapter 6, page 226:

**Figure 6-6 Probability Ranges for a Normal Distribution**

- A minus sign is missing. Should be $-\sigma$ not just $\sigma$.

Chapter 6, page 229:

**The Trade-off between Risk and Return**

- Notes: a. Subsection on standard deviation and risk should mention that $\sigma$ is the standard deviation of returns.
- Table: The table lists standard deviations and returns for various asset classes. The data points should be reviewed for accuracy.
- Article: "Should be three times not three times" and "Suppose you have worked hard and saved $10,000, which you now plan to invest for 1 year." The sentence structure should be clarified.
Chapter 6, page 232:

FIGURE 6-8  Expected Returns on a Portfolio of Stocks

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock</td>
<td>Amount of Investment</td>
<td>Portfolio Weight</td>
<td>Expected Return</td>
<td>Weighted Expected Return</td>
</tr>
<tr>
<td>Southwest Airlines</td>
<td>$200,000</td>
<td>0.3</td>
<td>15.0%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Starbucks</td>
<td>$100,000</td>
<td>0.1</td>
<td>12.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td>FedEx</td>
<td>$200,000</td>
<td>0.2</td>
<td>10.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Coke</td>
<td>$400,000</td>
<td>0.4</td>
<td>9.0%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Total investment</td>
<td>$1,000,000</td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Portfolio's Expected Return = 11.3%

E[r_p] = \sum w_i E[r_i]

To illustrate, assume that a security analyst estimated the upcoming year's returns on the stocks of four large companies, as shown in Figure 6-8. A client wishes to invest $1 million, divided among the stocks as shown in the figure. Notice that the $100,000 investment in Southwest Airlines means that its weight in the portfolio is 0.3 = $100,000 / $1,000,000. The expected portfolio return is:

E[r_p] = 0.3(15%) + 0.1(12%) + 0.2(10%) + 0.4(9%)

= 11.3%

Chapter 6, page 235:

FIGURE 6-11  States of Return for Two Partially Correlated Stocks (\( p = 0.35 \)) and for Portfolio WY

<table>
<thead>
<tr>
<th>Year</th>
<th>Stock W Return</th>
<th>Stock Y Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>2007</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>2008</td>
<td>35%</td>
<td>15%</td>
</tr>
<tr>
<td>2009</td>
<td>-5%</td>
<td>-15%</td>
</tr>
<tr>
<td>2010</td>
<td>5%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Average return = 15.00%

Standard deviation = 22.44%

Correlation coefficient = 0.35

Should be -10% not -15%

Should be -7.5% not just 7.5%
Chapter 6, page 245:

Should be -8.6% not 8.6%

Chapter 7, page 268:

Delete "the". Should be see that this not see that the this
Chapter 7, page 276:

In this example, \( \pi_u \) and \( \pi_d \) are

\[
\pi_u = \frac{(1 + 0.08/365)^{365(0.5/1)} - 0.80}{1.25 - 0.80} = 0.5141
\]

and

\[
\pi_d = \frac{1.25 - (1 + 0.08/365)^{365(0.5/1)}}{1.25 - 0.80} = 0.4466
\]

Using Equation 8-6, the value of Western's 6-month call option with strike price of $35 is

\[
V_c = C_u \pi_u + C_d \pi_d = $15(0.5141) + $0(0.4466) = $7.71
\]

Sometimes these \( \pi \)'s are called \textit{primitive securities} because \( \pi_u \) is the price of a simple security that pays $1 if the stock goes up and nothing if it goes down; \( \pi_d \) is the opposite. This means that we can use these \( \pi \)'s to find the price of any 6-month option on Western. For example, suppose we want to find the value of a 6-month call option on Western but with a strike price of $30. Rather than reinvent the wheel, all we have to do is find the payoffs of this option and use the same values of \( \pi_u \) and \( \pi_d \) in Equation 8-6. If the stock goes up to $50, the option will pay $50 − $30 = $20; if the stock falls to $32, the option will pay $32 − $30 = $2. The value of the call option is:

\[
\text{Value of 6-month call with $30 strike price} = C_u \pi_u + C_d \pi_d = $20(0.5141) + $2(0.4466) = $11.18
\]

Chapter 8, page 316:

Should have a subscript d and not u:
Chapter 8, page 323:

Option prices increase if the stock price increases. This is because the strike price is fixed, so an increase in stock price increases the chance that the option will be in-the-money at expiration. Although we don’t show it in the figure, an increase in the strike price would obviously cause a decrease in the option’s value because higher strike prices mean a lower chance of being in-the-money at expiration.

The 1-year option always has a greater value than the 6-month option, which always has a greater value than the 3-month option; thus, the longer the option has until expiration, the greater its value. This is because stock prices move up on average, so a longer time until expiration means a greater chance for the option to be in-the-money. This makes the option more valuable.

Chapter 8, page 329:

- The two primary types of financial options are (1) call options, which give the holder the right to purchase a specified asset at a given price (the exercise, or strike, price) for a given period of time, and (2) put options, which give the holder the right to sell an asset at a given price for a given period of time.
- A call option’s exercise value is defined as the maximum of zero or the current price of the stock less the strike price.
- The Black-Scholes option pricing model (OPM) or the binomial model can be used to estimate the value of a call option.
- The five inputs to the Black-Scholes model are (1) $P$, the current stock price; (2) $X$, the strike price; (3) $r_{BF}$, the risk-free interest rate; (4) $t$, the remaining time until expiration; and (5) $\sigma$, the standard deviation of the stock’s rate of return.

Questions:

1. Define each of the following terms:
   a. Option, call option, put option
   b. Exercise value, strike price
   c. Black-Scholes option pricing model
2. Why do options sell at prices higher than their exercise values?
3. Describe the effects on a call option’s price that result from an increase in each of the following factors: (1) stock price, (2) strike price, (3) time to expiration, (4) risk-free rate, and (5) standard deviation of stock return.
Chapter 9, page 341:

Flotation Costs and the Cost of Debt

Most debt offerings have very low flotation costs, especially for privately placed debt. Because flotation costs are usually low, most analysts ignore them when estimating the after-tax cost of debt. However, the following example illustrates the procedure for incorporating flotation costs as well as their impact on the after-tax cost of debt.

Suppose NCC can issue 30-year debt with an annual coupon rate of 9%, with coupons paid semiannually. The flotation costs, F, are equal to 1% of the value of the issue. Instead of finding the pre-tax yield based on the bond’s maturity (or par) value, M, and then adjusting it to reflect taxes, as we did before, we can find the after-tax, or non-adjusted cost by using this formula:

\[ M(1 - F) = \sum_{t=1}^{N} \frac{INT(1 - T)}{[1 + r_a(1 - T)]^t} + \frac{M}{[1 + r_a(1 - T)]^N} \]

(9-3)

Here M is the bond’s maturity (or par) value, F is the percentage flotation cost (i.e., the percentage of proceeds paid to the investment bankers), N is the number of payments, T is the firm’s tax rate, INT is the dollars of interest per period, and r_a(1 - T) is the after-tax cost of debt adjusted for flotation costs. With a financial calculator, enter N = 60, INT = 990, PV = 990, PMT = 45(1 – 0.94) = 33.5 and FV = 1000. Solving for I/YR, we find I/YR = r_a(1 - T) = 2.73%, which is the semiannual after-tax component cost of debt. The nominal after-tax cost of debt is 5.46%. Note that this is quite close to the original 5.40% after-tax cost, so in this instance adjusting for flotation costs doesn’t make much difference.7

Chapter 9, page 349:

In recent years, companies in the S&P 500 have distributed roughly as much cash to shareholders in the form of stock repurchases as in dividends.16 We define Rep/Div as the dollars used to repurchase stock divided by the dollars paid out in dividends and define Rep, as the expected repurchases at Year 1. In this notation, the total dollars paid out in dividends and repurchases will be (1 + Rep/Div)(Div). When stocks are repurchased each year, the number of outstanding shares declines each year, so the long-term growth rate in dividends per share (DPS) no longer is equal to the growth rate in sales. Let g be the long-term growth rate in total payouts (which should be the same as the long-term growth rate in sales and earnings) and let g_{DPS} be the long-term growth in DPS. The expected market return is given by

\[ r_M = \hat{r}_M = (1 + \text{Rep/Div}) \frac{D_1}{P_0} + g \]

\[ = \frac{D_0}{P_0} + \frac{\text{Rep}}{P_0} + g \]

\[ = \frac{D_0}{P_0} + g_{DPS} \]

(9-7)

where the actual growth rate in dividends per share is the sum of the ex dividend repurchase yield (Rep/Div) and the long-term growth rate in total payouts. The estimated market rates of Equation 9-7 are equivalent, but we usually work with the observed rates to make it easier to obtain the necessary inputs.

If we assume that companies will, in aggregate, distribute about as many dollars via repurchases as via cash dividends in the future as they have in the recent past, then Rep/Div = 1. Using our previous estimates of the dividend yield and the long-term growth rate, the expected market return and risk premium are

\[ r_M = \hat{r}_M = (1 + \text{Rep/Div}) \frac{D_1}{P_0} + g \]

\[ = (1 + 1)(2.82\%) + 3.88\% = 9.52\% \]

\[ \text{RP}_M = r_M - r_f = 9.52\% - 2.94\% = 6.58\% \]
Chapter 10, page 390

<table>
<thead>
<tr>
<th>Year 0</th>
<th>End of Year 1</th>
<th>End of Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flows</td>
<td>$-1.6$</td>
<td>$+10$</td>
</tr>
</tbody>
</table>

We can substitute these values into Equation 10-2 and then solve for the IRR:

\[
\frac{-1.6 \text{ million}}{10 \text{ million}} + \frac{-10 \text{ million}}{(1 + \text{IRR})^2} = 0
\]

This, but it also equals 0 when IRR = 400%, and another of 400%, and we don’t know if real rate lies there or not.

The graph at different discount rates.

Observe that no dilemma regarding Project M would arise if the NPV method was used, we would simply find the NPV at the appropriate cost of capital and use it to evaluate the project. We would see that if Project M’s cost of capital were 10% then its NPV would be $-0.774$ million and the project should be rejected. If r were between 25% and 400% then the NPV would be positive, but any such number

---

This section is relatively technical, and some instructors may choose to omit it without loss of continuity.

Equation 10-2 is a polynomial of degree n, so it has n different roots, or solutions. All except one of the roots are imaginary numbers when investments have normal cash flows (one or more cash outflows followed by cash inflows), so in the normal case only one value of IRR appears. However, the possibility of multiple real roots, and hence of multiple IRRs, arises when negative net cash flows occur after the project has been placed in operation.

If you attempt to find Project M’s IRR with an HP calculator, you will get an error message, whereas TI calculators give only the IRR that’s closest to zero. When you encounter either situation, you can find the approximate IRRs by first calculating NPVs using several different values for r = 1/YR, constructing a graph with NPV on the vertical axis and cost of capital on the horizontal axis, and then visually determining approximately where NPV = 0. The intersection with the x-axis gives a rough idea of the IRR’s value. With some calculators and also with Excel, you can find both IRRs by entering guesses, as we explain in our calculator and Excel tutorials.

Figures 10-4 is called a NPV profile. Profiles are discussed in more detail in Section 10.7.
Chapter 11, page 431:

**Figure 11-2: Analysis of an Expansion Project: Cash Flows and Performance Measures (Thousands of Dollars)**

<table>
<thead>
<tr>
<th>Variables Used in the Cash Flow Forecast</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales price per unit</td>
<td>$11.60</td>
<td>$11.83</td>
<td>$12.07</td>
<td>$12.31</td>
</tr>
<tr>
<td>Variable cost per unit</td>
<td>$6.00</td>
<td>$6.12</td>
<td>$6.24</td>
<td>$6.37</td>
</tr>
<tr>
<td>Nominal costs (excluding depreciation)</td>
<td>$5,000</td>
<td>$5,040</td>
<td>$5,081</td>
<td>$5,122</td>
</tr>
</tbody>
</table>

**Net Cash Flows Out**

| Sales revenues - Units                  | $6,768 | $7,179 | $7,692 |
| Variable costs = Units                  | $3,951  | $4,213  | $4,476  |
| Depreciation: Accelerated               | $722    | $750    | $779    |
| Operating profit (EBIT)                 | $2,585  | $2,865  | $3,126  |
| Taxes on operating profit               | $-170   | $-191   | $-213   |
| Net operating profit                    | $2,415  | $2,674  | $2,913  |
| Add back depreciation                   | $122    | $150    | $165    |
| Opportunity cost, after                 | $0      | $0      | $0      |
| Cash flow available for reinvestment    | $2,537  | $2,824  | $2,978  |
| Salvage value (taxed as ordinary income)| $300    | $300    | $300    |
| Tax on salvage value (SV is taxed at 40%)| -96    | -96     | -96     |
| Change in working capital (-) or receipt (+) | $96  | $96     | $96     |

**Project net cash flows: Time Line**

<table>
<thead>
<tr>
<th>Accelerated</th>
<th>Straight Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results</td>
<td>$980</td>
</tr>
<tr>
<td>Formulas</td>
<td>$-4,207</td>
</tr>
<tr>
<td>IRR</td>
<td>10.95%</td>
</tr>
<tr>
<td>MIRR</td>
<td>10.22%</td>
</tr>
<tr>
<td>Profitability Index</td>
<td>1.61</td>
</tr>
<tr>
<td>Payback</td>
<td>1.41</td>
</tr>
<tr>
<td>Discounted payback</td>
<td>3.48%</td>
</tr>
</tbody>
</table>

**Calculations for Payback**

<table>
<thead>
<tr>
<th>Year</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash flow available for reinvestment</td>
<td>$2,537</td>
<td>$2,824</td>
<td>$2,978</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discounted cash flows</td>
<td>$4,207</td>
<td>$-355</td>
<td>$-1,163</td>
<td>$-1,447</td>
<td>$-98</td>
</tr>
</tbody>
</table>

**Depreciable Costs**

| $3,400 | $1,122 | $1,550 | $510  | $298  |
cell E221 should be positive $2,083 not -$2,083
**Chapter 11, page 443:**

**Figure 11-7: Inputs and Key Results for the Current Simulation Trial (Thousands of Dollars)**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inputs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment cost</td>
<td>$6.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salvage value, equipment, Year 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunity cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Externalities (cannibalization)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Units sold, Year 1</td>
<td>550</td>
<td>98</td>
<td>0.57</td>
<td>606</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual change in units sold, after Year 1</td>
<td>4.00%</td>
<td>7.07%</td>
<td>0.93</td>
<td>10.60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales price per unit, Year 1</td>
<td>$11.60</td>
<td>$2.05</td>
<td>-0.24</td>
<td>$11.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual change in sales price, after Year 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.00%</td>
<td></td>
</tr>
<tr>
<td>Variable cost per unit (VC), Year 1</td>
<td>$6.60</td>
<td>$1.06</td>
<td>-0.70</td>
<td>$5.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual change in VC, after Year 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.00%</td>
<td></td>
</tr>
<tr>
<td>Nonvariable cost (Non-VC), Year 1</td>
<td>$2,000</td>
<td>$354</td>
<td>-0.31</td>
<td>$1,990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual change in Non-VC, after year 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.00%</td>
<td></td>
</tr>
<tr>
<td>Project WACC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10.09%</td>
</tr>
<tr>
<td>Tax rate</td>
<td>40.00%</td>
<td>7.07%</td>
<td>1.23</td>
<td>43.67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working capital as % of next year’s sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assumed correlation between units sold in Year 1 and annual change in units sold in later years:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$6.00%</td>
</tr>
</tbody>
</table>

**Key Results Based on Current Trial**

- **NPV**: $1,595
- **IRR**: 24.67%
- **MIRR**: 19.49%
- **PI**: 1.39
- **Payback**: 2.83
- **Discounted payback**: 3.24

*Should be $6.00 not $6.60*
### Chapter 11, page 448:

**FIGURE 11-9 Replacement Analysis**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part I. Inputs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of new machine</td>
<td>$2,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After-tax salvage value old machine</td>
<td>$400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales revenues (fixed)</td>
<td>$2,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual operating costs except depreciation</td>
<td>$1,200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Part II. Calculation:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Old Machine:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Machine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Old Machine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales revenues</td>
<td>$2,500</td>
<td>$2,500</td>
<td>$2,500</td>
<td>$2,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating costs except depreciation</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating income</td>
<td>$1,100</td>
<td>$1,100</td>
<td>$1,100</td>
<td>$1,100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes</td>
<td>$280</td>
<td>$280</td>
<td>$280</td>
<td>$280</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After-tax operating income</td>
<td>$820</td>
<td>$820</td>
<td>$820</td>
<td>$820</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Machine:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales revenues</td>
<td>$2,500</td>
<td>$2,500</td>
<td>$2,500</td>
<td>$2,500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating costs except depreciation</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td>$1,200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td>$400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating income</td>
<td>$1,100</td>
<td>$1,100</td>
<td>$1,100</td>
<td>$1,100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxes</td>
<td>$280</td>
<td>$280</td>
<td>$280</td>
<td>$280</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After-tax operating income</td>
<td>$820</td>
<td>$820</td>
<td>$820</td>
<td>$820</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Numbers in row 26 should be positive: $400 $400 $400 $400 $1,600.
- Number in H27 should be positive $400.
- Replace F32 I38 (the numbers in the red box) with.
- Replace numbers in row 52 in red box with:
  - Should be $398.51, not $1,322.87.
  - Should be 19.33%, not 45.36%.
- Should be 14.36%, not 27.88%.
Chapter 12, page 480:

Part 5: Corporate Valuation and Governance

**Figure 12-1**

<table>
<thead>
<tr>
<th>Part I. Inputs and Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_0$: Last year's sales, i.e., 2010 sales</td>
</tr>
<tr>
<td>$g$: Forecasted growth rate in sales</td>
</tr>
<tr>
<td>$S_1$: Coming year's sales, i.e., 2011 sales</td>
</tr>
<tr>
<td>Change in sales, $S_1 - S_0 = \Delta S$:</td>
</tr>
<tr>
<td>Assets that must increase to support the increase in sales</td>
</tr>
<tr>
<td>Required assets per dollar of sales</td>
</tr>
<tr>
<td>Last year's spontaneous assets, i.e., payables + accruals</td>
</tr>
<tr>
<td>Profit margin (M): 2010 profit margin = net income/sales</td>
</tr>
<tr>
<td>Payout ratio (POR): Last year's dividends / net income = % of income paid out</td>
</tr>
</tbody>
</table>

**Part II. Additional Funds Needed (AFN) to Support Growth**

\[
\text{AFN} = \left( \frac{A_0}{S_0} \right) \Delta S - \left( \frac{L_0}{S_0} \right) \Delta S
\]

\[
= \left( \frac{A_0}{S_0} \right) \Delta S - \left( \frac{L_0}{S_0} \right) \Delta S
\]

\[
= \left( 0.0667 \times $300 \right) - \left( 0.0667 \times $300 \right)
\]

\[
= $200 - $200
\]

\[
\text{AFN} = $118.42 \text{ million}
\]

**Notes:**

1. Under the assumed conditions, the firm must raise $118.42 million externally to support its planned growth. However, the model assumes (1) that no excess capacity existed in 2010, so all assets were needed to produce the indicated sales; and (2) that the key ratios will remain constant at their 2010 levels. We explain later how to relax these assumptions, but it is better to use forecasted financial statements to deal with these issues, as we do on Tab 2 of the Excel Tool Kit model.

2. Under the conditions set forth in Figure 12-3, a growth rate of 3.21% could be achieved without any AFN. This 3.21% is called the "sustainable growth rate," and we explain how it is calculated in a later section and also in the chapter's Excel Tool Kit model.
Chapter 12, page 481:

4. **Profit margin (M = Net Income/Sales).** The higher the profit margin, the more net income is available to support increases in assets—and hence the less the need for external financing. A firm’s profit margin is normally as high as management can get it, but sometimes a change in operations can boost the sales price or reduce costs, thus raising the margin further. If so, this will permit a faster growth rate with less external capital.

5. **Payout Ratio (POR = DPS/EBIT).** A company distributes dividends as a percentage of its earnings. The larger its dividends, the more capital it needs to fund dividend payments; and hence the less its need for external capital. Companies that pay large dividends may not be able to increase them at a steady rate. Thus, a steady, dependable dividend may reduce the cost of equity and thus maximize the stock price. So even the current dividend is one way a company can reduce its need for external capital, companies generally resort to this method only if they are under financial duress.

**The Self-Supporting Growth Rate**

One interesting question is: “What is the maximum growth rate the firm could achieve if it had no access to external capital?” This rate is called the “self-supporting growth rate,” and it can be found as the value of g that, when used in the AFN equation, results in an AFN of zero. We first replace \( \Delta S \) in the AFN equation with \( gS_0 + S_1 \) with \( (1+g)S_0 \) so that the only unknown is \( g \); then we then solve for \( g \) to obtain the following equation for the self-supporting growth rate:

Chapter 12, page 485:

**Inputs for the Worst-Case Scenario.** The data in Column H, the Worst case, assume a continued long, bad recession, in which case the growth rate would be negative and the operating margin would be poor. It is likely that the stock price would decline during the year, but have been issued at the highest price. Managers learned how to market the stock.

**Inputs for the Final Scenario.** The fourth set of input data, given in Column I and called “Final,” was developed during the 3-day management conference held in late 2010. All of the operating executives were there, and all aspects of the business (including the ratios shown in Figure 12-4) were discussed. Some of the executives were relatively optimistic while others were relatively pessimistic, but all tried their best to be realistic. We will discuss these Final inputs in the next section.

**Inputs for the Active Scenario.** Now look at Column E in Figure 12-4, the one labeled “Active Scenario: Final.” With Excel’s Scenario Manager, you choose a scenario and Excel replaces the input cells in Column E with the data for the chosen scenario (we had chosen the Final scenario when we created Figure 12-4, so that is the scenario showing in Column E). These inputs are then linked to the section of the spreadsheet where the financial statements are forecast. (The forecasted statements are shown in Figure 12-5.)

After forecasting the financial statements, the model calculates performance measures, including the forecasted free cash flow (FCF), return on invested capital (ROIC), EPS, ROE, number of shares at the end of the year, and DPS. These six key results are shown in Figure 12-6; we will discuss them later.
Chapter 12, page 491:

**Figure 12-6** Summary of Key Results for Forecasted Scenarios (Millions, Except for Percentages and Per Share Data)

Cell E257 should be 40.0% not 4.0%

Chapter 12, page 509:

**Figure MC-1** Financial Statements and Other Data (Millions, Except for Per Share Data)

Cell D28 should be 37.5% not 67.5%
Chapter 13, page 554:

You have been hired as a Consultant to Kulis Fishing Supplies (KFS), a company that is seeking to increase its value. The company’s CEO and founder, Mia Kulis, has asked you to estimate two primary ranked companies that KFS is considering acquiring. But first, Kuli’s would like to you explain how to value companies that are not perfect. You have estimated your presentation around the following items:

1. What is the value of a corporation? Who has claims on this value?
2. The first step in valuing a company is to calculate the company’s WACC. Its WACC is 12%, and the FCF is expected to grow at a constant rate of 7% per year. The company owns marketable securities of $50 million. It is financed with $100 million of debt, $50 million of preferred stock, and $200 million of equity.

   a. What is its cost of equity?
   b. What is the cost of preferred stock?
   c. What is the cost of debt?
   d. What is the company’s value?
   e. What is the company’s intrinsic value of equity?

   (1) What is the company’s total value?
   (2) What is the company’s value?
   (3) What is the company’s cost of equity?
   (4) What is the company’s intrinsic value of equity?
   (5) What is the company’s intrinsic value of capital supplied by investors?

Chapter 15, page 605:

The break-even quantity for Plans A and B are

\[ Q_{EB} = \frac{F}{P - V} \]

where

- \( F \) is the fixed cost
- \( P \) is the price per unit
- \( V \) is the variable cost per unit

For Plan A, the break-even quantity is 40,000 units.

For Plan B, the break-even quantity is 60,000 units.

The total cost for Plan A is $20 million and for Plan B is $40 million.

Should be $20 million, not $20,000.

Should be $40 million, not $40,000.

Should be $60 million, not $60,000.

Should be 60 million, not 60,000.
Chapter 15, page 628:

Here are some points worth noting. As shown in Column 3 of Figure 15-9, the change in capital structure clearly added wealth to the shareholders, increased the price per share, and increased the cash (in the form of short-term investments) temporarily held by the company. However, the repurchase itself did not affect shareholder wealth or the price per share. The repurchase did reduce the cash held by the company and the number of shares outstanding, but shareholder wealth stayed constant. After the repurchase, shareholders directly own the funds used in the repurchase; before the repurchase, shareholders indirectly own the funds. In either case, shareholders own the funds. The repurchase simply takes them out of the company’s account and puts them into the shareholders’ personal accounts.

The approach we’ve described here is based on the corporate valuation model, and it will always provide the correct value for $V_{Prep}$ and $V_{Post}$ and $P_{Post}$. However, there is a quicker way to calculate these values if the firm has no short-term investments held between the time debt was completed, the percentage of equity is equal to $1 - \omega$ if the firm has no short-term investments on market values, which is equal to the post-repurchase value of equity. Therefore, the post-repurchase number of shares can be found using this equation:

$$S_{Post} = V_{Prep}(1 - \omega)$$

where we use the subscript “New” to indicate the value of operations at the new capital structure and the subscript “Post” to indicate the post-repurchase intrinsic value of equity.

Chapter 16, page 676

16.13 Commercial Paper

Commercial paper is a type of unsecured promissory note issued by large, strong firms and sold primarily to other business firms, to insurance companies, to pension funds, to money market mutual funds, and to banks. In March 2009, there was approximately $1.4 trillion of commercial paper outstanding, versus nearly $1.5 trillion of commercial and industrial bank loans. Most, but not all, commercial paper outstanding is short-term. McCrory and Long

Needs the exponent 12.

Should be $M = \frac{P}{i} \times \left(1 + \frac{i}{12}\right)^{12} - 1$

not just $M = \frac{P}{i} \times \left(1 + \frac{i}{12}\right)^{12} - 1$

percentage points below the stated prime rate and up to half of a percentage point above the T-bill rate. For example, in March 2009, the average rate on 3-month commercial paper was 0.60%, the prime rate was 3.25%, and the 3-month T-bill rate was 0.22%.

Use of Commercial Paper

The use of commercial paper is restricted to a comparatively small number of very large concerns that are exceptionally good credit risks. Dealers prefer to handle the

\[PMT = \frac{P}{i} \times \left(1 + \frac{i}{12}\right)^{12} - 1\]

\[\text{Annual percentage rate} \times 12 = \text{effective rate on an add-on loan}\]

With a financial calculator, enter $N = 12$, $PMT = \text{annual percentage rate} \times 12$, $PV = -1000$, $FV = 0$, and $P/Y = 12$ to get 13.12%, which is the APR the bank would report to the borrower. The effective annual rate would then be $(1.01)^{12} - 1 = 13.94\%$, quite a bit above the APR.

22 The maximum maturity without SEC registration is 270 days. Also, commercial paper can be sold only to "experienced" investors; otherwise, SEC registration would be required even for maturities of 270 days or less.

Errata Sheet • July 2011
Chapter 16, page 698

Why might an artificially low currency be a problem? After all, a cheap currency makes it less expensive for other nations to purchase the country's goods, which creates jobs in the country. However, an artificially low currency value raises the cost of importation. In addition, high import prices allow the country's prices as well, further boosting inflation. The government also uses the artificially low exchange rate to encourage currency to sell in the open market, this increases the dollar supply which could be held constant, an increasing money supply leads to still more inflation. Thus, artificially holding down the value of a currency stimulates exports but at the expense of potentially overheating and inflating the economy. Also, other countries whose economies are being weakened because their manufacturers cannot compete against the artificially low prices—may retaliate and impose tariffs or other restrictions on the country that is holding its currency value down.

For example, China held for many years artificially held down the value of the yuan (also called the renminbi). This helped make China the world’s largest exporter and greatly stimulated its economy. However, by 2004 the Chinese economy was

Chapter 17, page 700

Currency Appreciation and Depreciation. Suppose the dollar cost of a pound is $1.4915, as shown in Table 17-1. If there were increased demand for pounds caused by a U.S. trade deficit with Great Britain, then the price of the pound would increase to $2.5. In this situation the pound is said to be appreciating, now buy more dollars. In other words, a pound would now be more costly than previously was. This is called currency appreciation. Conversely, if the dollar cost of a pound decreases from $1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy 1/1.4915 = 0.6705 pounds, but afterward it would buy

Currency depreciation. Notice that the more costly pound would make British imports more expensive to U.S. consumers, which would reduce imports—and, consequently, the demand for pounds—until the exchange rate reached equilibrium.

Exchange Rate Risk. Exchange rate fluctuations can have a profound effect on profits and trade. For example, in 2002 the euro exchange rate was about $0.87 (i.e., 0.87 dollars per euro). In 2009, the exchange rate was about $1.33. Consider the impact this has on profits and trade. For example, a hand-blown glass from the Italian island of Murano cost about €50 in 2002. Ignoring shipping costs and taxes, a consumer in the United States could have purchased this glass for €50/$0.87 = $43.30. Assuming the price in 2009 still was €50, it would cost €50/$1.33/€ = $35.86. Thus, the change in exchange rates obviously hurt Italian exports to the United States.

Chapter 17, page 718

Should be $66.50
not $57.86

Should be $66.50
not $57.86

Should be dollars/pound
not pounds/dollar
Chapter 21, page 856 (Financial Management: Theory and Practice 13e only):

Developing Defensive Tactics

Target firms that do not want to be acquired generally enlist the help of an investment banking firm along with a law firm that specializes in mergers. Defenses include such tactics as (1) changing the bylaws so that only one-third of the directors are elected each year and/or so that a 75% approval (a super majority) rather than a simple majority is required to approve a merger, (2) trying to convince the target firm’s stockholders that the price being offered is too low, (3) raising antitrust issues in the hope that the Justice Department will intervene, (4) repurchasing stock in the open market in an effort to push the price above that being offered by the potential acquirer, (5) finding a white knight who is acceptable to the target firm’s management to compete with the potential acquirer, and (6) finding a white squire who is friendly to current management and can buy enough of the target firm’s shares to block the merger.

Establishing a Fair Price

If a friendly merger is being considered, it is important to document the mergers’ management and/or to discuss the price that is fair to both companies. Therefore, in most large mergers, each side will hire its own investment banking firm to evaluate the target company and to help establish a fair price. Even if the merger is not friendly, investment bankers may still be asked to help establish a price. If a surprise tender offer is to be made, then the acquiring firm will want to know the lowest price at which it might be able to acquire the stock while the target firm may seek help in “proving” that the price being offered is too low.

Financing Mergers

To be successful in the mergers and acquisitions (M&A) business, an investment banker must be able to offer a financing package to clients—whether they are acquirers who need capital to take over companies or target companies trying to finance stock repurchase plans or other defenses against takeovers. In fact, the fees that investment banks generate through issuing merger-related debt often dwarf their other merger-related fees.

Arbitrage Operations

Arbitrage generally means simultaneously buying and selling the same commodity or security in two different markets at different prices and pocketing a risk-free return. However, the major brokerage houses, as well as some wealthy private investors, are engaged in a different type of arbitrage called risk arbitrage. The arbitrageurs, or “arbs,” speculate in the stocks of companies that are likely takeover targets. Vast
Chapter 22, page 871 (Financial Management: Theory and Practice 13e only):

Chapter 26, page 1002 (Financial Management: Theory and Practice 13e only):

There should not be an open parenthesis. It should be 26-2 not (26-2)
Web Chapter 27, page 27E-10 (Financial Management: Theory and Practice 13e only):

27E-10 Chapter 27: Providing and Obtaining Credit

Only variable costs enter this calculation, because these are costs of receivables that must be financed. We are seeking to reduce the firm's investment in receivables, and variable costs represent the firm's investment in receivables.

Even though Monroe spends $1 million annually on bad debts, 2.5% of sales will never be collected. By limiting its investment in receivables, the account to (0.025)(5,000,000,000) = $150,000,000.

Monroe's new credit policy would be 2/10, net 30, so it would call for a larger discount and a longer payment period, which would provide a relaxed collection effort and lower credit standards. The company believes these changes will lead to a $100 million increase in sales to $500 million per year. Under the new terms, management believes that 60% of the customers who pay will take the 2% discount, so discounts will increase to (0.02)(500,000,000)(0.60) = $6,000,000. Half of the nondiscount customers will pay on Day 40 and the remainder on Day 50. The new DSO is thus estimated to be 24 days:

\[(0.6)(10) + (0.2)(40) + (0.2)(50) = 24\text{ days}\]

Web Chapter 27, page 27E-13 (Financial Management: Theory and Practice 13e only):

\[\Delta P = \frac{100,000}{150,000} = 0.6\]

\[\Delta I = 0.10\]

\[\text{DSO}_0 = 0\text{ days}\]

\[\Delta I = \text{not 1}\]

\[\Delta P = \text{not P}\]

\[\Delta P \approx 6\]

\[\Delta I = 0.10\]

\[\text{Should have the approximately equal sign before the $6$:}\]

\[\Delta P \approx 6\]

\[\text{Should be:}\]

\[\Delta I = \text{not 1}\]

\[\Delta P = \text{not P}\]

\[\Delta I = 0.10\]

\[\text{DSO}_0 = 0\text{ days}\]

\[\Delta P = \text{not P}\]

\[\Delta I = \text{not 1}\]

\[\Delta P \approx 6\]

\[\Delta I = 0.10\]

\[\text{DSO}_0 = 0\text{ days}\]

4For example, \(P_0\) and \(P_N\) are defined as the percentage of total customers who take discounts. If \(P_0\) and \(P_N\) were defined as the percentage of paying customers (excluding bad debts) who take discounts, then Equation 27.3 would become

\[\Delta I = \frac{n}{1 - n} - r(\frac{n}{1 - n} - q)\]

Similarly, changing the definitions of \(B\) and \(B\) would affect the third term of Equation 27.3, as we discuss later.
Web Chapter 27, page 27E-14 (Financial Management: Theory and Practice 13e only):

Note that the first term, the increased investment in accounts receivable associated with old sales, is based on the full amount of the receivables, whereas the investment associated with incremental sales, consists of incremental by V, the variable cost percentage. This difference reflects that (1) its variable cost in incremental receivables, but (2) it would have price on the old sales earlier had it not made the credit policy change.

Looking at this another way, incremental sales will generate an actual increase in receivables of (DSO_N - DSO_0)/365 = (50,000/365) = $4,110. However, the only part of that increase that must be financed (by bank borrowing or from other sources) and reported as a liability on the right-hand side of the balance sheet is the cash outflow required to support the incremental sales—that is, the variable costs V($4,110) = 0.6($4,110) = $2,466. The remainder of the receivables increase, $1,644, of accrued before-tax profit, is reflected on the balance sheet not as some type of credit used to finance receivables but rather as an increase in retained earnings generated by the sales. On the other hand, the old receivables level was zero, meaning that the original sales produced cash of $100,000/365 = $273.97 per day, which was immediately available for investing in assets or for reducing capital from other sources. The change in credit policy will cause a delay in the collection of these funds and hence will require the firm (1) to borrow to cover the variable costs of the sales and (2) to forgo a return on the retained earnings portion, which would have been available immediately had the credit policy change not been made.

Given ΔP_e we may now use Equation 27-3 to determine the incremental profit, ΔP, associated with the proposed credit period change:

Web Chapter 27, page 27E-22 (Financial Management: Theory and Practice 13e only):

Annual Percentage Rate

The various ways of calculating interest (simple, discount, add-on), together with the various costs that are also frequently associated with smaller loans (e.g., credit report loan processing and origination fees), cause the effective annual rate to differ even for loans that have identical stated interest rates. For example, although the add-on interest rate on our example above is 12%, its effective rate is 21.7%. If the loan used discount interest paid quarterly then the effective rate would be 12.96%, and if the loan used monthly simple interest the effective rate would be 12.68%. In order to attempt to bring some consistency of credit across various loan types, Congress passed the Truth in Lending Act of 1968. This legislation required that the annual percentage rate (APR) for consumer loans’ be stated in bold print on the loan agreement.

The APR is the annual nominal effective cost that accounts for all fees and the timing of payments:

\[
APR = \frac{(\text{Periods per year}) \times \text{Rate per period})}{(1 + \text{APR/n})^n}
\]

So for a loan with 1% monthly simple interest, the APR would be 12(1%) = 12%. For the 12% add-on loan with monthly payments, the APR would be 12(1.788%) = 21.46%. For the 12% discount loan with quarterly payments, the APR would be 4(3.093%) = 12.37%. In most cases, this means that the effective annual rate can easily be calculated from the APR by compounding:

Effective annual rate = \( (1 + \text{APR/n})^n \)
Appendix A: Solutions to Self-Test Problems, page 1033 (Financial Management: Theory and Practice 13e) or page 735 (Corporate Finance: A Focused Approach 4e):

a. Set up a timeline like the one in the preceding problem:

\[
\begin{array}{cccccc}
& 0 & 1 & 2 & 3 & 4 \\
\hline
\text{PV} & 1,000 \\
\end{array}
\]

b. Here we are dealing with a payment 1 year from today and we are depositing $1,000. Here is the solution: \( N = 4, \) YR = 8, \( PMT = 0, \) \( PV = 1,000 \), then \( FV = 793.83 \). Alternatively,

\[
FV = \frac{1,000}{(1 + 0.08)^4} = 793.83
\]

c. This problem can be approached in several ways. Perhaps the simplest is to ask this question: "If I received $750 1 year from now and deposited it to earn 8%, would I have the required $1,000 4 years from now?" The answer is "no".

\[
\begin{array}{cccccc}
& 0 & 1 & 2 & 3 & 4 \\
\hline
\text{FV} & 1,000 \\
\end{array}
\]

\[
FV = \frac{750(1.08)^3}{1.08} = 944.78
\]

This indicates that you should let your father make the payments rather than accept the lump sum of $750.

Should be $221.92 not $222.92
Appendix B, page 1068 (Financial Management: Theory and Practice 13e only):

1068  Chapter Problems

$457,142,857
17-3  \$not $468,837,209
17-4  0.6667 pounds per dollar.
17-5  1.5152 SFr.
17-6  2.4 Swiss francs per pound.
17-7  r_DOM–U.S. = 4.6%.
17-8  117 pesos.
17-9  +250,000.
17-10  b. $18,148.00.
17-11  a. $1,659,000.
 b. $1,646,000.
 c. $7,000,000.
17-12  b. $0.7994.
17-13  $468,837,209
17-14  a. $52.63; 20%.
 b. 1.5785 SFr per U.S. dollar.
 c. 41.54 Swiss francs; 16.92%.

d. Value as a straight bond = $699.25;
Value in conversion = $521.91.
"Should be $331.89."

Appendix B, page 758 (Corporate Finance: A Focused Approach 4e only):

758  Appendix B: Answers to End-of-Chapter Problems

$457,142,857
17-3  \$not $468,837,209
17-4  0.
17-5  1.
17-6  2.
17-7  \not $468,837,209
17-8  117 pesos.
17-9  +250,000.
17-10  b. $18,148.00.
17-11  a. $1,659,000.
 b. $1,646,000.
 c. $2,000,000.
17-12  b. $0.7994.
17-13  $468,837,209
17-14  a. $52.63; 20%.
 b. 1.5785 SFr per U.S. dollar.
 c. 41.54 Swiss francs; 16.92%. 
Appendix B, page 1069 (Financial Management: Theory and Practice 13e only):

23-1 a. 0.2%.
23-2 r_d = 7.01%.
23-3 r_d = 5.96%.
23-4 Net to Cramer = 9.95% fixed.
Net to Brence = LIBOR + 3.05% floating.
23-5 a. Sell 105 contracts.
b. Bond = $1,414,535.69; Forward = $1,951,497.45; Net = $536,944.76.
24-1 1.4%.
24-2 12%.
24-3 15.96%.
24-4 16.2%; 45.9%.
24-5 a. r_f = r_d + \delta D/A;
S_E = S_f and S_D = S_f + D.
24-6 a. 14.15%.
b. 16.45%.

25-1 a. $1.074 million.
b. $2.96 million.
25-2 a. $4.6795 million.
b. $1.208 million.
25-3 a. -$19 million.
b. -$9,098.1 million.
25-4 a. -$213.11 million.
b. $1.971 million.
c. -$70,222.
d. $65,090.
e. $11,166 million.
25-5 a. $2.562.
b. E[NPV] = $9,786; Value of growth option = $7,224.
25-6 P = $18.646 million.
X = $20 million; t = 1; r_f = 0.08; \sigma = 0.0097;
V = $2.028 million.
25-7 P = $10.479 million.
X = $9 million; t = 2;
r_f = 0.06; \sigma = 0.0111;
V = $2.514 million.
25-8 P = $18.646;
X = $20,000; t = 2;
V = $5,009.
26-1 $500 million.
26-2 $821 million.
26-3 $620.68 million.
26-4 a. h_D = 1.13.
b. r_D = 15.625%.

26-5 a. V_D = V_L = $20 million.
b. r_D = 10%; r_L = 15%.
c. S_t = $10 million.
d. WACC_L = 10%.
26-6 a. V_D = $12 million; V_L = $16 million.
b. r_D = 10%; r_L = 15%.
c. S_t = $6 million.
d. WACC_L = 10%.
wacc_L = 7.5%.
26-7 a. V_D = $12 million.
b. V_L = $15.33 million.
c. $3.33 million versus $4 million.
d. V_D = $20 million; $0.
e. V_L = $16 million.
f. V_D = $16 million; $4 million.
26-8 a. V_D = $12.5 million.
b. V_L = $16 million.
c. r_L = 15.7%.
d. V_L = $4.3 million.
e. V_L = 14.9%.
26-9 a. V_D = V_L = $14,545.45, 455.
b. At D = $6 million; r_D = 14.51%.
wacc = 11.0%.
d. At D = $6 million; r_D = 14.51%.
wacc = 8.61%.
e. D = V = $14,545.455.
26-10 a. V = $1.29 million.
b. D = $1.71 million; Yield = 8.1%.
c. V = $3.23 million.
d. D = $1.77 million; Yield = 6.3%.

Should be positive $1,951,497.45 not -$1,951,497.45