1
PERSONAL FINANCE BASICS AND THE TIME VALUE OF MONEY

CHAPTER OVERVIEW

This chapter provides the foundation for *Personal Finance* and the study of financial planning. The chapter starts with a discussion of an overview of the financial planning process. This is followed by coverage of the personal, social, and economic factors that make up the financial planning environment. Next goal setting and the opportunity costs, or trade-offs, of decisions are considered in relation to personal and financial resources. Then, the main components of financial planning (obtaining, planning, saving, borrowing, spending, managing risk, investing, and retirement and estate planning) are discussed. Finally, strategies for creating and using a financial plan are introduced.

LEARNING OBJECTIVES — CHAPTER SUMMARY

After studying this chapter, students will be able to:

LO 1-1	Analyze the process for making personal financial decisions.	When making major financial decisions, use a variety of information sources to implement the personal financial planning process: (1) determine your current financial situation, (2) develop financial goals, (3) identify alternative courses of action, (4) evaluate alternatives, (5) create and implement a financial action plan, and (6) review and revise the financial plan.
LO 1-2	Assess personal and economic factors that influence personal financial planning.	Financial decisions are affected by personal factors (income, household size, health, values, and goals), social factors (demographic trends and government actions), and economic factors (prices, interest rates, and employment opportunities).
LO 1-3	Develop personal financial goals.	The financial goals you develop should take a S-M-A-R-T approach with goals that are: Specific, Measurable, Action oriented, Realistic, and Time-based.
LO 1-4	Calculate time value of money situations associated with personal financial decisions.	Every decision involves a trade-off; the selection of one alternative prevents the selection of another. Personal opportunity costs may include time, effort, and health. Financial opportunity costs are based on the time value of money. Future value and present value calculations enable you to measure the increased value (or lost interest) that results from a saving, investing, borrowing, or purchasing decision.
LO 1-5	Identify strategies for achieving personal financial goals for different life situation.	Successful financial planning requires specific goals combined with spending, savings, investing, and borrowing strategies based on your personal situation and various social and economic factors.

INTRODUCTORY ACTIVITIES

- Ask students to comment on their responses to the “My Life” chapter opening exercise (p. 3).
- Point out the learning objectives (p. 3) in an effort to highlight the key points in the chapter.
- Ask students to provide examples of social and economic factors that have increased the importance of personal financial planning today.
- Have students answer these three questions as individuals or in small discussion groups:
    1. What do you currently know about personal financial planning?
    2. What questions do you need answers for about personal finance?
    3. How and where might you obtain answers to the questions you have about personal finance?

WHAT'S NEW TO THIS EDITION

Topics, Features	Benefits for the Teaching-Learning Environment
New visual: The Financial System	Provides students with an overview of the financial intermediaries and markets that facilitate personal financial decisions.
Revised visual: Financial Goals and Activities for Various Life Situations	Expanded and reorganized coverage of foundation and life situation specific financial goals and activities.
New feature: How to…Select a path to financial security	Contrasts easy and appropriate financial actions to guide students long-term financial security and reduce emotional stress.
Revised content: Time value of money	Explain future value and present value calculations using several methods: formula, time value of money tables, financial calculator, and spreadsheet software.
New case: You Be the Financial Planner	Allows students an opportunity to assess various financial situations and recommend courses of action.

CHAPTER 1 OUTLINE

I. The Financial Planning Process
   A. Step 1: Determine Your Current Financial Situation
   B. Step 2: Develop Your Financial Goals
   C. Step 3: Identify Alternative Courses of Action
   D. Step 4: Evaluate Your Alternatives
      1. Consequences of Choices
      2. Evaluating of Risk
      3. Financial Planning Information Sources
   E. Step 5: Create and Implement a Financial Action Plan
   F. Step 6: Review and Revise Your Plan
II. Influences on Personal Financial Planning

A. Life Situation and Personal Values
B. The Financial System and Economic Factors
  1. Global Influences
  2. Economic Conditions

III. Developing Personal Financial Goals
A. Types of Financial Goals
  1. Timing of Goals
  2. Goals for Different Financial Needs
B. Goal-Setting Guidelines

IV. Opportunity Costs and the Time Value of Money
A. Personal Opportunity Costs
B. Financial Opportunity Costs
  1. Interest Calculations
  2. Future Value of a Single Amount
  3. Future Value of a Series of Deposits
  4. Present Value of a Single Amount
  5. Present Value of a Series of Deposits

V. Achieving Financial Goals
A. Components of Personal Financial Planning
  1. Obtaining
  2. Planning
  3. Saving
  4. Borrowing
  5. Spending
  6. Managing Risk
  7. Investing
  8. Retirement and Estate Planning
B. Developing a Flexible Financial Plan
C. Implementing Your Financial Plan
D. Studying Personal Finance

CHAPTER 1 APPENDIX: The Time Value of Money: Future and Present Value Computations

I. Interest Rate Basics
II. Future Value of a Single Amount
III. Future Value of a Series of Equal Amounts (an Annuity)
IV. Present Value of a Single Amount
V. Present Value of a Series of Equal Amounts (an Annuity)
VI. Using Present Value to Determine Loan Payments

CHAPTER 1 LECTURE OUTLINE

I. THE FINANCIAL PLANNING PROCESS (p. 4)

- Personal financial planning is the process of managing your money to achieve personal economic satisfaction.

Step 1. Determine Your Current Financial Situation (p. 5)

- Determine your current financial situation with regard to income, savings, living expenses, and debts.

Step 2. Develop Your Financial Goals (p. 5)

- Analyze your financial values and goals to set a course for action.

Step 3. Identify Alternative Courses of Action (p. 6)

- Various alternatives associated with financial decision making are usually based on deciding to:
  - ∗ *Continue the same course of action*; for example, you may determine that the amount saved each month is still appropriate.
  - ∗ *Expand the current situation*; you may choose to save a greater amount each month.
  - ∗ *Change the current situation*; you may decide to buy U.S. savings bonds instead of using a regular savings account.
  - ∗ *Take a new course of action*; you use monthly saving budget to pay off credit card debts.
- Creativity in decision making is vital to making effective choices. The more alternatives that are considered, the more likely a person or household will make wise financial choices.

Step 4. Evaluate Your Alternatives (p. 7)

- Every decision closes off alternatives. The **opportunity cost** is what a person gives up by making a choice. This cost, commonly referred to as the trade-off of a decision, sometimes cannot be measured in dollars.
- Decision making will be an ongoing part of your personal and financial existence. Thus, you will need to consider the lost opportunities that result from your decisions.
- Uncertainty is a part of every decision. In many financial decisions, identifying and evaluating risk is a difficult task. The best way to consider risk in such decisions is to gather information based on your

Instructional Suggestions

- **Use PPT slides 1-2 to 1-7.**
- **Text Highlight:** Use the visual display on p. 4 to provide an overview of the spending, saving, and sharing elements of personal financial planning.
- **Discussion Question:** Why do some decisions require more time and effort than others?
- **Text Highlight:** Discuss the in-text, boxed examples for each step of the Financial Planning Process (text pp. 5-10). Discussion questions and personal applications are included in each example.
- **Class Exercise:** Select a situation (such as obtaining funds to start a business or getting work-related experience without a job) and have students create a list of alternatives for this problem.
- **Use PPT slides 1-8 and 1-9.**
- **Text Highlight:** Exhibit 1-2 (p. 8) provides information on five types of risks faced in many financial decisions.
- **Use PPT slides 1-10 and 1-11.**

CHAPTER 1 LECTURE OUTLINE | **Instructional Suggestions**

experiences and those of others and refer to the research of financial planning sources.

- Relevant information is required at each stage of the financial planning process.

Step 5. Create and Implement Your Financial Action Plan (p. 9)

- **Use PPT slides 1-12 and 1-13.**

- Develop a plan of action to achieve your goals.

Step 6. Review and Revise Your Plan (p. 9)

- Decision making is a circular, ongoing process in which current decisions influence future choices.

- **Practice Quiz 1-1** (p. 10)

CHAPTER 1 LECTURE OUTLINE

II. INFLUENCES ON PERSONAL FINANCIAL PLANNING (p. 10)

- The financial planning environment is affected by life situation, personal values, and economic factors.

Life Situation and Personal Values (p. 10)

- The personal factors include your age, income, size of household, and your attitudes and beliefs. Your life situation is affected by various personal events (see list on p. 10).
- Values are personal beliefs and ideas that a person considers correct, desirable, and important.

The Financial System and Economic Factors (p. 11)

- A *security* is a financial instrument that represents debt or equity.
- *Debt securities*, such as bonds, represent money borrowed by companies or governments. These debt securities are often bought as an investment.,
- *Equity securities* (stock) represent ownership in a corporation.
- Other examples of securities include mutual funds, certificates of deposit (CDs), and commodity futures.
- Economic conditions (supply and demand, prices, and interest rates) and economic institutions (business, labor, and government) also affect personal finance.
- **Economics** is the study of how wealth is created and distributed.
- The price of a specific good or service is determined by supply and demand. Just as high demand for a consumer product forces its price up, a high demand for money forces interest rates up. This price of money reflects both the limited supply of money and the demand for it.
- Banks, savings and loan associations, credit unions, insurance companies, and investment companies facilitate financial activities in our society.
- The Federal Reserve System, referred to as **The Fed**, is our central banking system. It influences the money supply by borrowing funds, changing interest rates, and buying or selling government securities.
- The spending by Americans for foreign goods and services and the investment in our country by foreign companies affect the interest rates and prices in our society.
- Consumer prices, consumer spending, interest rates and other economic factors affect the financial planning environment.

Instructional Suggestions

- **Use PPT slide 1-14.**
- **Discussion Question:** How would various personal events (see list on p. 10) affect personal financial decisions?
- **Text Highlight:** Exhibit 1-4 (p. 11) provides an overview of the components that create the system in which students will make personal financial decisions.
- **Supplementary Reference:** *The Wall Street Journal,* the business section of newspapers, and various websites provide current data on economic factors affecting financial decisions.
- **Text Highlight:** Use Exhibit 1-5 (p.13) to point out how various economic factors affect financial decisions.
- **Use PPT slides 1-15 to 1-19.**
- **Transparency Master 1-1** reports recent Consumer Price Index data.
- **Assignment:** Have students locate online sources and information from friends and relatives to compare current prices with those of five or ten years ago.

- **Inflation** is a rise in the general level of prices. In times of inflation, the buying power of the dollar decreases.
- The main cause of inflation is an increase in demand without a comparable increase in supply. Inflation is most harmful to people who live on fixed incomes.

- **Discussion Question:** What types of attitudes in our society contribute to higher inflation?
- **Text Highlight:** The "How To…" feature (p. 14) provides suggestions for a path to successful financial security.

CHAPTER 1 LECTURE OUTLINE

- The **rule of 72** can be used to determine how fast prices will double; divide 72 by the current inflation rate. For example, with inflation of six percent, prices will double in 12 years (72 / 6 = 12).
- *Consumer spending* is the total demand for goods and services in the economy; this influences employment opportunities and potential for income.
- *Interest rates* represent the cost of money. Like everything else, money has a price. The forces of supply and demand influence interest rates. As the amount saved and invested by consumers increases the supply of money, interests rates tend to decrease.
- But as consumer, business, government, and foreign borrowing increase the demand for money; interest rates also tend to increase.

Instructional Suggestions

- **Discussion Question:** Interest rates influence most aspects of our economic existence. Why are changing interest rates a significant component of personal financial planning?
- **Practice Quiz 1-2** (p. 15)

CHAPTER 1 LECTURE OUTLINE	Instructional Suggestions

III. DEVELOPING PERSONAL FINANCIAL GOALS (p. 15)

- Many Americans have money problems due to:
  * poor planning
  * weak financial habits
  * extensive numbers of marketplace influences in the form of advertising, selling efforts, and product availability

Types of Financial Goals (p. 15)

- *Short-term goals* are those to be achieved within the next year or so, such as saving for an annual vacation or paying off small debts.
- *Intermediate goals* have a time frame of two to five years.
- *Long-term goals* involve financial plans that may be more than five years off, such as retirement and college savings.
- *Consumable-product goals* usually occur on a periodic basis involving items used up relatively quickly, such as food, clothing, or entertainment spending.
- *Durable-product goals* usually involve infrequent, expensive items, such as appliances, motor vehicles, and sporting equipment. Most durable goals consist of tangible items. In contrast, however, many people overlook *intangible goals*. These goals may relate to personal relationships, health, education, and leisure. Goal setting for these life circumstances is also necessary for a person's overall well-being.

Instructional Suggestions:

- **Use PPT slides 1-20 to 1-22.**

Goal-Setting Guidelines (p. 16)

- Goal setting is at the center of financial decision making. Financial goals should take a S-M-A-R-T approach, in that they are:

  S— *specific,* so you know exactly what your goals are
  M— *measurable* with a specific amount.
  A— *action-oriented,* providing the basis for the personal financial activities you will undertake.
  R— *realistic,* involving goals based on your income and life situation.
  T— *time-based,* indicating a time frame for achieving the goal.

Instructional Suggestions:

- **Use PPT slide 1-23.**
- **Text Highlight:** Exhibit 1-6 (p. 17) provides an overview of common financial goals and activities for different life situations.
- **Text Highlight:** The Financial Planning for Life's Situations (p. 18) provides a framework for creating personal financial goals.
- **Practice Quiz 1-3** (p. 17)

CHAPTER 1 LECTURE OUTLINE

IV. OPPORTUNITY COSTS AND THE TIME VALUE OF MONEY (p. 18)

- In every financial decision, you will sacrifice something in order to obtain something else that you consider desirable. Opportunity costs may be viewed in terms of both personal and financial resources.

Personal Opportunity Costs (p. 18)

- The most common personal opportunity cost is time. Time spent in studying, working, or shopping cannot be used for other activities.

Financial Opportunity Costs (p. 19)

- Like time, money allocated for one purpose cannot be used for another.
- The **time value of money** refers to the increase of an amount of money as a result of interest earned.
- Computation of interest is based on:
  - ∗ the amount of the savings
  - ∗ the annual interest rate
  - ∗ the length of time the money remains deposited.
- **Future value**, also referred to as **compounding**, is the amount to which current savings will increase based on a certain interest rate and a certain time period. Future value calculations may be used for both a single amount and equal deposits. (See Exhibit 1-8.)
- **Present value**, also referred to as **discounting**, is the current value for a future sum based on a certain interest rate and a certain time period. Present value calculations may also be used for both a single amount and a series of amounts. (See Exhibit 1-8.)

Instructional Suggestions

- **Use PPT slides 1-24 to 1-31.**
- **Text Highlight:** Refer students to the list of the opportunity costs involved in various financial decisions (p. 19).
- **Text Reference:** The chapter **a**ppendix (pp. 34-34-45) provides expanded coverage of future value and present value formulas and tables along with examples, sample problems, and answers.
- **Transparency Masters 1-2, 1-3, 1-4, and 1-5** present partial future value and present value tables.
- **Text Reference:** The "Financial Planning Calculations" feature (p. 23) provides detailed examples of time value of money calculations for achieving financial goals..
- **Practice Quiz 1-4** (p. 22)

CHAPTER 1 LECTURE OUTLINE

V. ACHIEVING FINANCIAL GOALS (p. 23)

- Throughout life, each individual has needs that the intelligent use of available financial resources can satisfy. Financial planning involves deciding how to obtain, protect, and use those resources.

Components of Personal Financial Planning (p. 24)

- The eight major components of personal financial planning are:
  1. obtaining financial resources
  2. planning for current living expenses and future financial security
  3. saving for emergencies, unexpected bills, replacement of major items, and special purchases
  4. borrowing in a responsible manner
  5. spending to meet daily living needs
  6. managing risk through insurance decisions
  7. investing for long-term financial security
  8. retirement and estate planning

Developing a Flexible Financial Plan (p. 27)

- A **financial plan** is a formalized report that summarizes your current financial situation, analyzes your financial needs, and recommends a direction for your financial activities.
- Financial activities may be organized on the basis of spending, saving, investing, and borrowing decisions.

Implementing Your Financial Plan (p. 28)

- The most important strategy for success is the development of financial habits that will contribute to both short-term satisfaction and long-term financial security.
- Using a set spending plan will help you stay within your income while you save and invest for the future.

Studying Personal Finance (p. 28)

- Read and study the book; use the Practice Quizzes and end-of-chapter activities
- Use online sources and apps for the latest information
- Talk to others, experts and friends, who have knowledge of various money topics.
- Search online for answers to questions that result from your desire to know more.

Instructional Suggestions

- **Text Highlight:** Exhibit 1-9 (p. 24) offers an overview of the book and the course.
- **Use PPT slide 1-32.**
- **Text Highlight:** Exhibit 1-10 (p. 27) presents an overview of a financial plan which includes examples of goals, short-term activities, and long-term strategies.
- **Transparency Master 1-6** provides an overview of a financial plan.
- **Use PPT slides 1-33, 1-34.**
- **Use PPT slide 1-35.**
- **Practice Quiz 1-5** (p. 28)

CONCLUDING ACTIVITIES

- Point out the chapter summary (pp. 29-30) and key terms in the text margin.
- Use the "Personal Finance Dashboard" and “My Life Stage” feature (p 29) to highlight the main financial planning activities from the chapter for various ages and life situations.
- Discuss selected end-of-chapter Financial Planning Problems, Financial Planning Activities, and Life Situation Case.
- Use the Chapter Quiz in the *Instructor’s Manual*.
- Have students start a journal of personal finance information and readings that they encounter from various online sources, *BusinessWeek*, *The Wall Street Journal*, and personal business periodicals such as *Money, Kiplinger’s Personal Finance*, and *Consumer Reports*.
- Have students create a case problem for class use based on a personal financial experience they have experienced or observed.

WORKSHEETS FROM *PERSONAL FINANCIAL PLANNER* FOR USE WITH CHAPTER 1

Use the “Personal Financial Planner in Action” (p. 32) activities to encourage students to plan and implement various personal financial decisions.

Sheet 1 Personal Information Sheet

Sheet 2 Financial Institutions and Advisors

Sheet 3 Goal Setting Sheet

Sheet 4 Monitoring Current Economic Conditions

Sheet 5 Time Value of Money Calculations

CHAPTER 1 QUIZ ANSWERS

True-False	*Multiple Choice*
1. T (p. 4)	6. B (p. 7)
2. F (p. 5)	7. C (pp. 5, 9)
3. T (p. 12)	8. D (p. 11)
4. T (pp. 25-26)	9. A (p. 24)
5. F (p. 27)	10. B (pp. 27-28)

Name____ Date____________________________

CHAPTER 1 QUIZ

TRUE-FALSE

_____1. A major purpose of personal financial planning is future economic security.

_____2. Personal financial planning starts by creating a plan of action.

_____3. Inflation reduces the buying power of a dollar.

_____4. Savings and investment programs are the main method for achieving financial goals.

_____5. A financial plan is a list of a family's spending for the next month.

MULTIPLE CHOICE

_____6. Opportunity cost refers to
a. your personal values.
b. trade-offs when a decision is made.
c. current economic conditions.
d. commonly accepted financial goals.

_____7. The final step in the financial planning process is to
a. create a financial plan of action.
b. develop financial goals.
c. evaluate and revise your actions.
d. implement your financial plan.

_____8. Economics refers to
a. setting personal financial goals.
b. planning future financial security.
c. changes in prices due to supply and demand.
d. the study of wealth.

_____9. Career planning is the part of the __________ component of financial planning.
a. obtaining
b. sharing
c. saving
d. planning

_____10. Financial strategies refer to
a. the process of predicting your future financial situation.
b. courses of action to achieve financial goals.
c. resources an individual has available for investing.
d. ideas or principles that are considered correct, desirable, or important.

SUPPLEMENTARY LECTURE

Financial planners and money management experts identify the most common financial planning mistakes as:

1. Don't set measurable financial goals.
2. Not having an emergency fund.
3. Not involving all household members in financial decisions.
4. No budget or spending limit; overuse of debt.
5. Confuse financial planning with investing.
6. Neglect to re-evaluate the financial plan periodically.
7. Think that financial planning is only for the wealthy.
8. Think that financial planning is something you can do when you get older.
9. Think that financial planning is the same as retirement planning.
10. Wait until they have a money crisis to begin financial planning.
11. Expect unrealistic return on investments.
12. Believe that financial planning is primarily tax planning.
13. No plan for the unexpected passing or disability of a key wage earner.
14. Major purchases are financed by debt, not by advance saving, and are often bought impulsively without research.

ANSWERS TO PRACTICE QUIZZES, FINANCIAL PLANNING PROBLEMS, FINANCIAL PLANNING ACTIVITIES, FINANCIAL PLANNING CASE, AND CONTINUING CASE

PRACTICE QUIZZES

Practice Quiz 1-1 (p. 10)

1. What are the main elements of every decision we make?

   Every decision involves identification of the basic problem, generation of alternative courses of action, consideration of personal, social, and economic factors that influence the decision, evaluation of alternative courses of action, selection of the most appropriate one, and implementation of the course of action selected.

2. What are some risks are associated with financial decisions?

   Common risks associated with financial decisions include inflation risk, interest-rate risk, economic risk, and personal risk (Exhibit 1-2, p. 8).

3. What are common sources of financial planning information?

   The common sources of personal financial planning information are financial experts, print and media materials, school courses and seminars, financial institutions, and digital sources. Refer students to the Appendix A for additional information. The most helpful information sources will depend on a person's need and situation. Magazine articles may be helpful to some, while others may require an online search to gather investment data.

4. Why should you reevaluate your actions after making personal financial decisions?

   Too often people think that once a plan is implemented, the work is over. However, we must continually reevaluate our decisions since many factors (our life situation, the economy, and personal goals) can change. In addition, we reassess the situation since the alternative selected may not turn out exactly as planned.

Practice Quiz 1-2 (p. 15)

1. How do age, marital status, household size, employment situation, and other personal factors affect financial planning?

   A person's needs, values, and goals are directly related to these demographic factors. As a person's life situation changes, financial goals, spending patterns, need for insurance, and other financial activities will be revised. (pp. 10-11)

2. How might the uncertainty of inflation make personal financial planning difficult?

   Inflation can affect financial planning with unexpected higher prices for which a budget was not planned. Or, expected inflation will mean higher interest rates as a lender is concerned about being paid back in dollars with less buying power.

3. What factors influence the level of interest rates?

Interest rates are affected by the supply and demand for money, along with the risk of lending and borrowing money.

Practice Quiz 1-3 (p. 17)

1. What are examples of long-term goals?

   Long-term goals are financial objectives more than just a few years off (usually more than five years), such as retirement savings, money for children's college education, or other long-term savings goals.

2. What are the five main characteristics of useful financial goals?

Useful financial goals should (1) specific, (2) measurable, (3) action-oriented, (4) realistic, and (5) time-based. (p. 16)

Practice Quiz 1-4 (p. 22)

1. How can future value and present value computations be used to measure the opportunity cost of a financial decision?

   Time value of money calculations (future value and present value) are used to compute interest earned and the value of a sum of money at a later date. (See text pages 19-23; Chapter Appendix, pages 34-45; and the "Financial Planning Calculations" feature on page 23).

2. Use the time value of money tables in Exhibit 1-8 to calculate the following:

   a. The future value of $100 at 7 percent in 10 years.

      $\$100 \times 1.967 = \$196.70$

   b. The future value of $100 a year for 6 years earning 6 percent.

      $\$100 \times 6.975 = \$697.50$

   c. The present value of $500 received in 8 years with an interest rate of 8 percent.

      $\$500 \times 0.54 = \$270$

Practice Quiz 1-5 (p. 28)

1. What are the main components of personal financial planning?

   The main components of financial planning are obtaining, planning, saving, borrowing, spending, managing risk, investing, and retirement and estate planning. (pp. 24-27)

2. What is the purpose of a financial plan?

   A financial plan provides a person with an overall summary of current and desired financial situations along with planned actions to reach those goals.

3. Identify some actions to take to achieve financial goals.

   Common financial planning strategies include developing a savings plan, investing in stocks and bonds, purchasing real estate for investment purposes, planning investment and other financial decisions with taxes in mind, limit the use of credit, and investing in a variety of investment vehicles.

FINANCIAL PLANNING PROBLEMS (p. 30)
(Note: Some of these problems require the use of the time value of money tables in the Chapter 1 Appendix, pp. 34-45).

1. *Calculating the Future Value of Property*. Ben Collins plans to buy a house for $220,000. If that real estate property is expected to increase in value 3 percent each year, what would its approximate value be seven years from now?

   Solution: $220,000 × 1.230 = $270,600
   LO: 1-3
   Topic: Calculating the Future Value of Property
   LOD: Intermediate
   Bloom tag: Application

2. *Using the Rule of 72*. Using the rule of 72, approximate the following:
   a. If land in an area is increasing six percent a year, how long will it take for property values to double?
   b. If you earn ten percent on your investments, how long would it take for your money to double?
   c. At an annual interest rate of five percent, how long would it take for your savings to double?

   Solution: a. about 12 years (72/6)
   b. about 7.2 years (72/10)
   c. about 14.4 years (72/5)
   LO: 1-3
   Topic: Using the Rule of 72
   LOD: Easy
   Bloom tag: Application

3. *Determining the Inflation Rate*. In 2006, selected new automobiles had an average cost of $16,000. The average cost of those same automobiles is now $28,000. What was the rate of increase for these automobiles between the two time periods?

   Solution: ($28,000 – $16,000) / $16,000 = .75 (75 percent)
   LO: 1-3
   Topic: Determining the Inflation Rate
   LOD: Medium
   Bloom tag: Application

4. *Computing Future Living Expenses*. A family spends $48,000 a year for living expenses. If prices increase by 2 percent a year for the next three years, what amount will the family need for its living expenses?

   Solution: $48,000 × 1.061 = $50,928 (Future value of single amount for 3 years at 2 percent)

LO: Computing Future Living Expenses
Topic: 1-3
LOD: Easy
Bloom tag: Application

5. *Calculating Earnings on Savings*. What would be the yearly earnings for a person with $8,000 in savings at an annual interest rate of 2.5 percent?

   Solution: $8,000 × .025 = $200
   LO: 1-4
   Topic: Calculating Earnings on Savings
   LOD: Easy
   Bloom tag: Application

6. *Computing the Time Value of Money*. Using time value of money tables, calculate the following:
   a. The future value of $450 six years from now at 7 percent.

   b. The future value of $900 saved each year for 10 years at 8 percent.

   c. The amount a person would have to deposit today (present value) at a 6 percent interest rate to have $1,000 five years from now.

   d. The amount a person would have to deposit today to be able to take out $600 a year for 10 years from an account earning 8 percent.

   Solution: a. $450 × 1.501 = $675.45
   b. $900 × 14.487 = $13,038.30
   c. $1,000 × 0.747 = $747
   d. $600 × 6.710 = $4,026
   LO: 1-4
   Topic: Computing the Time Value of Money
   LOD: Medium
   Bloom tag: Application

7. *Calculating the Future Value of a Series of Amounts*. Elaine Romberg prepares her own income tax return each year. A tax preparer would charge her $80 for this service. Over a period of 10 years, how much does Elaine gain from preparing her own tax return? Assume she can earn 3 percent on her savings.

   Solution: $80 × 11.464 = $917.12
   LO: 1-4
   Topic: Calculating the Future Value of a Series of Amounts
   LOD: Difficult
   Bloom tag: Application

8. *Calculating the Time Value of Money for Savings Goals*. If you desire to have $20,000 for a down payment for a house in five years, what amount would you need to deposit today? Assume that your money will earn 5 percent.

Solution: $20,000 × 0.784 (present value of single amount) = $15,680.
LO: 1-4
Topic: Calculating the Time Value of Money for Savings Goals
LOD: Intermediate
Bloom tag: Application

9. *Calculating the Present Value of a Series*. Pete Morton is planning to go to graduate school in a program of study that will take three years. Pete wants to have $15,000 available each year for various school and living expenses. If he earns 4 percent on his money, how much must he deposit at the start of his studies to be able to withdraw $15,000 a year for three years?

Solution: $15,000 × 2.775 (present value of a series) = $41,625
LO: 1-4
Topic: Calculating the Present Value of a Series
LOD: Hard
Bloom tag: Application

10. *Using the Time Value of Money for Retirement Planning*. Carla Lopez deposits $3,200 a year into her retirement account. If these funds have an average earning of 9 percent over the 40 years until her retirement, what will be the value of her retirement account?

Solution: $3,200 × 337.890 (future value of a series) = $1,081,248
LO: 1-4
Topic: Using the Time Value of Money for Retirement Planning
LOD: Intermediate
Bloom tag: Application

11. *Calculating the Value of Reduced Spending*. If a person spends $15 a week on coffee (assume $750 a year), what would be the future value of that amount over 10 years if the funds were deposited in an account earning 3 percent?

Solution: $750 × 11.464 (future value of a series) = $8,598.
LO: 1-4
Topic: Calculating the Value of Reduced Spending
LOD: Easy
Bloom tag: Application

12. *Calculating the Present Value of Future Cash Flows*. A financial company advertises on television that they will pay you $60,000 now in exchange for annual payments of $10,000 that you are expected to receive for a legal settlement over the next 10 years. If you estimate the time value of money at 10 percent, would you accept this offer?

Solution: (1) calculate the future value of the annual payment $10,000 × 15.937 = $159,370
(2) calculate the present value of that future flow: $159,370 × 0.386 = $61,516.82
(3) the $60,000 being offered now is less than the present value of the future flow.
LO: 1-4

Topic: Calculating the Present Value of Future Cash Flows
LOD: Hard
Bloom tag: Application, analysis

13. *Calculating the Potential Future Value of Savings.* Tran Lee plans to set aside $2,400 a year for the next six years, earning 4 percent. What would be the future value of this savings amount?

Solution: $2,400 × 6.633 = (future value of a series) = $15,919.20
LO: 1-4
Topic: Calculating the Potential Future Value of Savings
LOD: Easy
Bloom tag: Application

14. *Determining a Loan Payment Amount.* If you borrow $8,000 with a 5 percent interest rate, to be repaid in five equal yearly payments, what would be the amount of each payment? (Note: Use the present value of an annuity table in the chapter appendix.)

Solution: $8,000 / 4.329 = $1,848
LO: 1-4
Topic: Determining a Loan Payment Amount
LOD: Hard
Bloom tag: Application

FINANCIAL PLANNING ACTIVITIES (p. 31)

1. *Determining Personal Risks*. Talk to friends, relatives, and others about their personal financial activities. Ask about potential risks involved with making financial decisions. What actions might be taken to investigate and reduce these risks?

This activity can be beneficial to both students and to whom they talk. Be sure students do not ask questions that are too personal. It can be helpful to have students ask questions such as "What do you believe are the main financial problems faced by individuals and families?" or "How should risk be considered when selecting an investment?" With this format, the people being interviewed do not feel pressured into talking about their personal situations.

2. *Using Financial Planning Experts.* Prepare a list of financial planning specialists (investment advisers, credit counselors, insurance agents, real estate brokers, tax preparers) in your community who can assist people with personal financial planning.

Refer students to Exhibit 1-3 (page 8 in the text) as well as the Appendix B, which can provide a basis for obtaining information regarding the many aspects of financial planning. Point out to students the importance of being able to find the answer to a question rather than trying to learn everything since various factors (laws, economic conditions, and personal situations) change quite frequently.

3. *Analyzing Changing Life Situations.* Ask friends, relatives, and others how their spending, saving, and borrowing activities changed when they decided to continue their education, change careers, or have children.

This activity will provide students with an opportunity to better understand the impact of changing life situations on personal financial planning.

4. *Researching Economic Conditions.* Use library resources, such as *The Wall Street Journal*, www.businessweek.com , or other websites to determine recent trends in interest rates, inflation, and other economic indicators. Information about the consumer price index (measuring changes in the cost of living) may be obtained at www.bls.gov . Report how this economic information might affect your financial planning decisions.

This activity can help students appreciate the influence of the overall economy on personal financial decisions. Refer student to text pages 11-15. Exhibit 1-5 (p. 12) provides specific examples for this activity. Students may also ask people questions such as “How do higher consumer prices and interest rates affect the financial situation and decisions of people in our society?”

5. *Setting Financial Goals*. Ask friends, relatives, and others about their short-term and long-term financial goals. What are some of the common goals for various personal situations? Using Sheet 3 in the *Personal Financial Planner,* create one short-term and one long-term goal for people in these life situations: *(a)* a young single person, *(b)* a single parent with a child age 8, *(c)* a married person with no children, and *(d)* a retired person.

Be sure students consider life situation, opportunity costs, and other factors. Differences among the groups mentioned will relate to their values, financial needs, and goals. These factors will influence how money is spent, saved, borrowed, and invested as well as the trade-offs that are present with every financial decision. Financial needs are different for people with children than people without children, and the risk associated with a decision investment is different for a young person with few financial responsibilities than a retired person with no other income source.

6. *Comparing Alternative Financial Actions.* What actions would be necessary to compare a financial planner who advertises “One Low Fee Is Charged to Develop Your Personal Financial Plan” and one that advertises “You Are Not Charged a Fee, My Services Are Covered by the Investment Company for Which I Work”?

Students should consider the reputation of the organizations for which the financial planners work. In addition, students should consider the questions listed in Appendix B.

FINANCIAL PLANNING CASE

You Be the Financial Planner (p. 32)

1. For each situation, identify the main financial planning issues that need to be addressed.

Student responses will likely vary; however, some possible responses may include:
Situation 1: to plan their finances to cover college costs, care for Fran's mother, and retirement planning.
Situation 2: to plan for current living expenses while determining various employment options and possible expanded career training.
Situation 3: to identify and assess alternatives for the use of the funds that were received.

2. What additional information would you like to have before recommending actions in each situation?

In each situation, possible additional information may include: consideration of life situation, current financial status, short-term and long-term goals, current economic conditions.

3. Based on the information provided and your assessment of the situation, what actions would you recommend for the Blakes, Patrick, and Nina?

Student answers will vary based on their assessments of the situation. Encourage students to give specific actions they propose along with evidence for the proposed actions.

CONTINUING CASE

Getting Started (p. 33)

Questions

1. Given her current situation, list various personal financial decisions that Shelby may be considering at this point in her life.

   Although student responses may vary, some good answers to this question are:
   Shelby should begin by establishing a realistic budget. Next, she should work to accumulate an emergency fund and begin to pay off her credit card debt. Most importantly, she should quit relying on her credit card to make ends meet.

2. Describe what short-term, intermediate and long-term goals Shelby should develop using the "Setting Personal Financial Goals" worksheet located at the back of this book.

   Although student responses may vary, it is important to emphasize that the text suggests that effective financial goals should be realistic, stated in specific, measurable terms, based on a time frame, and action oriented. Some good answers to this question are:
   a. Short-term goals (within the next year or so): create a realistic budget, build an emergency fund, pay off credit card bills/debt, begin paying off student loan debt

   b. Intermediate goals (two to five years): saving for initial investment in her own business, saving for down payment to buy a house

   c. Long-term goals (over five years): owning her own business, owning her own home or a new car, establish a plan for retirement, prepare a will

3. What types of time value of money calculations would be helpful for Shelby?

   The time value of money calculations that would be beneficial for Shelby include:
   a. Future value of an annuity – savings for initial investment in her own business or savings for a down payment to buy a house or savings for retirement
   b. Present value of an annuity – determine monthly loan payments for credit card debt, student loan, or new car purchase

DAILY SPENDING DIARY (p.33)

This activity will allow students to better understand their spending patterns and will provide information to make wiser short-term money management decisions and to enhance their long-term financial security.

TM 1-1

CONSUMER PRICE INDEX

(U.S. City Annual Average)

Base 1982–84 = 100

Year	CPI
1994	148.2
1995	153.2
1996	156.9
1997	161.3
1998	163.0
1999	166.6
2000	172.2
2001	177.1
2002	179.9
2003	184.3
2004	188.9
2005	195.3
2006	201.6
2007	207.3
2008	215.3
2009	213.5
2010	219.2
2011	225.7
2012	229.6
2013 (October)	233.5

TM 1-2 Future Value of $1 (single amount)

Percent					
Year	5%	6%	7%	8%	9%
1	1.050	1.060	1.070	1.080	1.090
2	1.103	1.124	1.145	1.166	1.188
3	1.158	1.191	1.225	1.260	1.295
4	1.216	1.262	1.311	1.360	1.412
5	1.276	1.338	1.403	1.469	1.539
6	1.340	1.419	1.501	1.587	1.677
7	1.407	1.504	1.606	1.714	1.828
8	1.477	1.594	1.718	1.851	1.993
9	1.551	1.689	1.838	1.999	2.172
10	1.629	1.791	1.967	2.159	2.367
11	1.710	1.898	2.105	2.332	2.580
12	1.796	2.012	2.252	2.518	2.813
13	1.886	2.133	2.410	2.720	3.066
14	1.980	2.261	2.579	2.937	3.342
15	2.079	2.397	2.759	3.172	3.642
16	2.183	2.540	2.952	3.426	3.970
17	2.292	2.693	3.159	3.700	4.328
18	2.407	2.854	3.380	3.996	4.717
19	2.527	3.026	3.617	4.316	5.142
20	2.653	3.207	3.870	4.661	5.604

TM 1-3 Future Value of a Series of Annual Deposits (annuity)

Percent

Year	5%	6%	7%	8%	9%
1	1.000	1.000	1.000	1.000	1.000
2	2.050	2.060	2.070	2.080	2.090
3	3.153	3.184	3.215	3.246	3.278
4	4.310	4.375	4.440	4.506	4.573
5	5.526	5.637	5.751	5.867	5.985
6	6.802	6.975	7.153	7.336	7.523
7	8.142	8.394	8.654	8.923	9.200
8	9.549	9.897	10.260	10.637	11.028
9	11.027	11.491	11.978	12.488	13.021
10	12.578	13.181	13.816	14.487	15.193
11	14.207	14.972	15.784	16.645	17.560
12	15.917	16.870	17.888	18.977	20.141
13	17.713	18.882	20.141	21.495	22.953
14	19.599	21.015	22.550	24.215	26.019
15	21.579	23.276	25.129	27.152	29.361
16	23.657	25.673	27.888	30.324	33.003
17	25.840	20.213	30.840	33.750	36.974
18	28.132	30.906	33.999	37.450	41.301
19	30.539	33.760	47.379	41.446	46.018
20	33.066	36.786	40.995	45.762	51.160

TM 1-4 Present Value of $1 (single amount)

Year	Percent 5%	6%	7%	8%	9%
1	0.952	0.943	0.935	0.926	0.917
2	0.907	0.890	0.873	0.857	0.842
3	0.864	0.840	0.816	0.794	0.772
4	0.823	0.792	0.763	0.735	0.708
5	0.784	0.747	0.713	0.681	0.650
6	0.746	0.705	0.666	0.630	0.596
7	0.711	0.665	0.623	0.583	0.547
8	0.677	0.627	0.582	0.540	0.502
9	0.645	0.592	0.544	0.500	0.460
10	0.614	0.558	0.508	0.463	0.422
11	0.585	0.527	0.475	0.429	0.388
12	0.557	0.497	0.444	0.397	0.356
13	0.530	0.469	0.415	0.368	0.326
14	0.505	0.442	0.388	0.340	0.299
15	0.481	0.417	0.362	0.315	0.275
16	0.458	0.394	0.339	0.292	0.252
17	0.436	0.371	0.317	0.270	0.231
18	0.416	0.350	0.296	0.250	0.212
19	0.396	0.331	0.277	0.232	0.194
20	0.377	0.312	0.258	0.215	0.178

TM 1-5 Present Value of a Series of Annual Deposits (annuity)

	Percent				
Year	5%	6%	7%	8%	9%
1	0.952	0.943	0.935	0.926	0.917
2	1.859	1.833	1.808	1.783	1.759
3	2.723	2.673	2.624	2.577	2.531
4	3.546	3.465	3.387	3.312	3.240
5	4.329	4.212	4.100	3.993	3.890
6	5.076	4.917	4.767	4.623	4.486
7	5.786	5.582	5.389	5.206	5.033
8	6.463	6.210	5.971	5.747	5.535
9	7.108	6.802	6.515	6.247	5.995
10	7.722	7.360	7.024	6.710	6.418
11	8.306	7.887	7.499	7.139	6.805
12	8.863	8.384	7.943	7.536	7.161
13	9.394	8.853	8.358	7.904	7.487
14	9.899	9.295	8.745	8.244	7.786
15	10.380	9.712	9.108	8.559	8.061
16	10.838	10.106	9.447	8.851	8.313
17	11.274	10.477	9.763	9.122	8.544
18	11.690	10.828	10.059	9.372	8.756
19	12.085	11.158	10.336	9.604	8.950
20	12.462	11.470	10.594	9.818	9.129

TM 1-6

COMPONENTS OF A FINANCIAL PLAN

1. **Description of Current Situation**
   - household needs
   - financial status

2. **Financial Goals**
   - short-term goals
   - long-term goals

3. **Recommended Actions**
   - revised spending patterns
   - tax planning
   - saving, investing
   - insurance
   - career development

4. **Implementation Techniques**
   - use financial planning professionals (insurance agent, investment broker)
   - revise spending habits
   - increase saving, investment deposits

TM 1-7

THE IMPACT OF TIME VALUE OF MONEY AT 9% INTEREST

Age	Contributions **Made Early**	Age	Contributions **Made Later**
22	$2,000	22	$0
23	2,000	23	0
24	2,000	24	0
25	2,000	25	0
26	2,000	26	0
27	2,000	27	0
28	2,000	28	0
29	2,000	29	0
30	2,000	30	0
31	0	31	2,000
32	0	32	2,000
33	0	33	2,000
34	0	34	2,000
35	0	35	2,000
36	0	36	2,000
37	0	37	2,000
38	0	38	2,000
39	0	39	2,000
40	0	40	2,000
41	0	41	2,000
42	0	42	2,000
43	0	43	2,000
44	0	44	2,000
45	0	45	2,000
46	0	46	2,000
47	0	47	2,000
48	0	48	2,000
49	0	49	2,000
50	0	50	2,000
51	0	51	2,000
52	0	52	2,000
53	0	53	2,000
54	0	54	2,000
55	0	55	2,000
56	0	56	2,000
57	0	57	2,000
58	0	58	2,000
59	0	59	2,000
60	0	60	2,000
61	0	61	2,000
62	0	62	2,000
63	0	63	2,000
64	0	64	2,000
65	0	65	2,000
Amount available at age **65**:	**$579,471**		**$470,249**

Total of $18,000 Invested

Total of $70,000 Invested