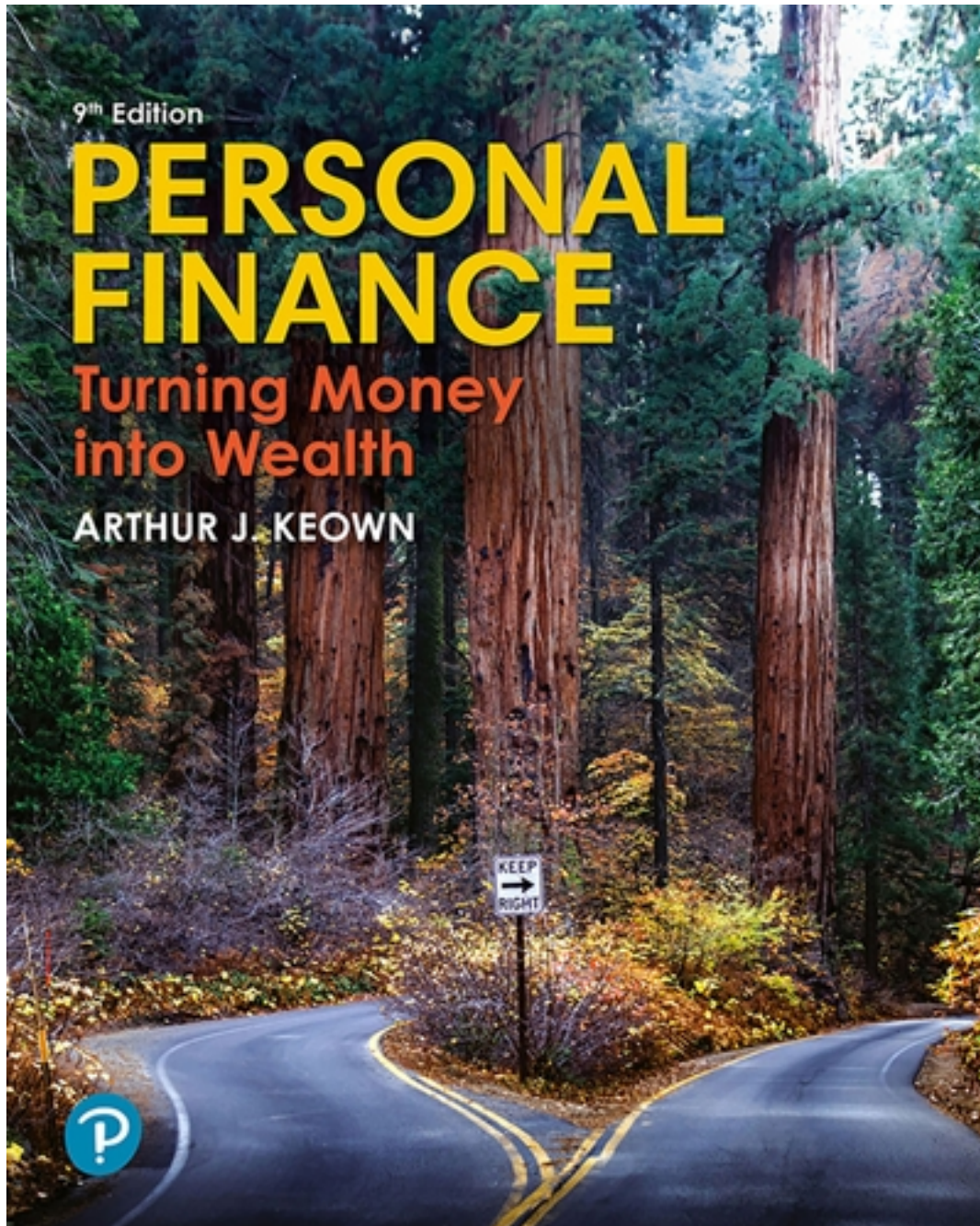


# Solutions for Personal Finance 9th Edition by Keown

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# Solutions

## **CHAPTER 1**

### **THE FINANCIAL PLANNING PROCESS**

#### **CHAPTER CONTEXT: THE BIG PICTURE**

This chapter introduces the financial planning process and is the first chapter in the four-chapter section entitled “Part 1: Financial Planning.” This section of the text introduces the financial planning process, demonstrates the use of quantitative tools for measuring financial well-being, explains the importance of considering the time value of money in the financial planning process, and shows the impact of taxes on financial decisions. Chapter 1 establishes the foundation of the text by convincing students of the need for financial planning, the steps to be followed, and the benefits to be gained. Basic “principles” of financial management logic are introduced and serve to integrate the remainder of the text.

#### **CHAPTER SUMMARY**

This chapter establishes the importance of financial planning as a continuing process for achieving current and future financial, or lifestyle, objectives. A five-step process for personal financial planning is introduced. Setting financial goals is established as the cornerstone of the financial plan. The three stages of the financial life cycle provide a framework for considering the evolution of a financial plan in response to changing goals. Finally, the relationships among education, earnings potential, career choice, and career management are established. The chapter concludes by introducing the ten principles that guide financial planning and integrate the remainder of the text.

#### **LEARNING OBJECTIVES AND KEY TERMS**

After reading this chapter, students should be able to accomplish the following objectives and define the associated key terms:

1. Explain why personal financial planning is so important.
2. Describe the five basic steps of personal financial planning.
  - a. liquidity
3. Set your financial goals.
  - a. estate planning
  - b. inflation
4. Explain how career management and education can determine your income level.

5. Identify and explain how skills acquired in this course will help you get a job and advance in it.
6. Explain the personal finance lessons learned in the recent pandemic.
7. List the ten principles of personal finance.

## CHAPTER OUTLINE

- I. Facing Financial Challenges
  - A. How might student loan debt affect your future?
  - B. Why isn't personal financial planning easy?
  - C. What can you accomplish as a result of this text and course?
    1. Manage the unplanned
    2. Accumulate wealth for special expenses
    3. Save for retirement
    4. "Cover your assets"
    5. Invest intelligently
    6. Minimize your payments to Uncle Sam
- II. The Personal Financial Planning Process
  - A. Step 1: Evaluate Your Financial Health
  - B. Step 2: Define Your Financial Goals
    1. Specifically define and write down your financial goals
    2. Attach a cost to each goal
    3. Set a date for when the money is needed to accomplish the goal
  - C. Step 3: Develop a Plan of Action
    1. Flexibility
    2. Liquidity
    3. Protection
    4. Minimization of taxes
  - D. Step 4: Implement Your Plan
  - E. Step 5: Review Your Progress, Reevaluate, and Revise Your Plan
- III. Establishing Your Financial Goals
  - A. What are the time horizons for financial goals?
    1. Short term
    2. Intermediate term
    3. Long term
  - B. Why is it important to prioritize, rank, and reevaluate goals so that they become the cornerstone of your financial plan?
  - C. The Life Cycle of Financial Planning
    1. Stage 1: The Early Years—A Time of Wealth Accumulation (through age 54)
    2. Stage 2: Approaching Retirement—The Golden Years (ages 55–64)
    3. Stage 3: The Retirement Years (ages 65 and over)

- IV. Thinking About Your Career
  - A. Choosing a Major and a Career
    - 1. Conduct a *serious* self-assessment to determine skills and interests
    - 2. Research career alternatives to identify careers that value your skills, interests, and abilities
    - 3. Learn more by talking to professionals or academic advisors or using the Internet
    - 4. Choose a career, but don't ignore earnings potential
  - B. Getting a Job
    - 1. Three reasons to start early
    - 2. Be prepared for the interview, including the most common questions
  - C. Being Successful in Your Career
    - 1. Do your best work
    - 2. Project the right image
    - 3. Understand and work within the power structure
    - 4. Gain visibility for your contributions
    - 5. Take new assignments to gain experience and organizational knowledge
    - 6. Be loyal and supportive of your boss
    - 7. Acquire new skills, particularly skills that are hard to duplicate
    - 8. Develop a strong network of contacts—for future opportunities
    - 9. Uphold and maintain ethical standards—ethical violations end careers
  - D. What Determines Your Income?
    - 1. Earnings determine standard of living
    - 2. Education determines income level
  - E. Keeping a Perspective—Money Isn't Everything
- V. Developing Skills for Your Career
  - A. Good personal finance skills can help get and keep a job
  - B. Poor credit history can prevent you from getting a job or promotion
  - C. Personal finance skill sets
    - 1. Critical thinking
    - 2. Information technology and computing skills
    - 3. Ethical problems/issues
- VI. Lessons from the Recent Pandemic
  - A. Maintain an adequate emergency fund.
  - B. Don't try to time the market—but do rebalance.
  - C. Budgets are more important than ever.
  - D. Credit card debt is not your friend
  - E. Communication is essential.
  - F. Keep calm in times of crisis.

- VII. Ten Principles of Personal Finance
- A. Principle 1: The Best Protection Is Knowledge
  - B. Principle 2: Nothing Happens Without a Plan
  - C. Principle 3: The Time Value of Money
  - D. Principle 4: Taxes Affect Personal Finance Decisions
  - E. Principle 5: Stuff Happens, or the Importance of Liquidity
  - F. Principle 6: Waste Not, Want Not—Smart Spending Matters
  - G. Principle 7: Protect Yourself Against Major Catastrophes
  - H. Principle 8: Risk and Return Go Hand in Hand
  - I. Principle 9: Mind Games, Your Financial Personality, and Your Money
  - J. Principle 10: Just Do It!

## APPLICABLE PRINCIPLES

In future chapters, relevant principles considered will be listed to facilitate review and discussion. Because the principles are introduced in this chapter, it is important that students become familiar with the concepts as a foundation for future study and application throughout the text.

## SUGGESTED PROJECTS

Projects can be assigned as in-class group activities or assigned as homework to increase the applied understanding of key concepts from the chapter.

1. Ask students to identify the most difficult step in the financial planning process. In other words, what causes the most uncertainty—getting started, taking action, or evaluating progress and taking the necessary corrective action? Encourage students to defend their answers or use personal examples to justify their choices. How are procrastination and lack of time factors at any step in the process?
2. You can think of a financial plan as a “financial road map to guide you through life.” Develop a visual display that illustrates this concept and the five steps of the financial planning process. Try to incorporate examples that illustrate how the “new roads” on the map may change over the life cycle. What are some financial issues to account for when developing new romantic relationships?
3. Provide opportunities for students to use *Worksheet 1, Personal Financial Goals Worksheet* (Figure 1.2), to identify short-, intermediate-, and long-term goals relevant to, and realistic for, their personal and financial lifestyle. Anticipated cost could be based on a “guesstimate” or actual research; however, this project could be revisited in Chapter 3, when future value calculations could be incorporated to yield more accurate cost and savings estimates. Discuss how these goals might change in the future. Why might they change? Relate the discussion to why people need and should want a financial plan.



4. Interview three heads of household, each from a household representing a different stage of the life cycle or socioeconomic status. Inquire about their financial planning process and their strategies to identify and save for short-term, intermediate-term, and long-term goals. Report your findings.
5. Visit your campus career counseling office to learn about the services available to assist you with your career search and your job search. What career management services, if any, are available after you graduate?
6. As a foundation for your financial planning, visit the U.S. Department of Labor Career Guide to Industries at [www.bls.gov/oco/cg](http://www.bls.gov/oco/cg) to determine the earnings, benefits, and employment outlook for a position in your career field. What educational requirements are necessary for entry and advancement in the field?
7. To help students relate to their own fear of finance and comfort with money, ask the class to recall (1) their earliest memories of money and its meaning, (2) their personal “awareness” of their socioeconomic status relative to other classmates/friends, and (3) the approximate age when both occurred. Continue the exercise by asking students to identify one word they associate with money (common examples include love, freedom, independence, security, anger, envy, etc.). Conclude the discussion by integrating the themes around the text statement, “either you control your finances, or they control you—it’s your choice.”
8. As a group project, have each member of the group visit a financial professional (e.g., benefits officer, stockbroker, insurance company representative, loan officer, banker, financial planner). Present the list of ten principles that form the foundations of personal finance. Ask the professional to pick the three to five principles that he or she considers to be most important to personal financial success. Share the results in your group and prepare an essay or oral report of your findings. Which principles appear to be most important?

## REVIEW QUESTIONS AND ANSWERS

Review questions can be asked throughout the chapter as a way to gauge student interest and understanding. Answers follow each question.

1. Why is financial planning, or just plain money management, a challenge for most people?

Financial planning, or just plain money management, is a problem for most people for several reasons. First, the skills required don’t just happen—they have to be learned. Second, learning the skills isn’t always easy. Classes may not be readily available in high school; good habits may not be taught, demonstrated, or even discussed at home; and financial management topics and vocabulary can be intimidating. Furthermore, a “fear of finance” may develop from family disagreements about money and a lack of financial knowledge. Your salary will not increase as a result of financial planning, but having a financial plan will help you better allocate the money you earn toward the financial goals that are really important to you both today and in the future. Everyone *needs* to plan their finances by establishing, tracking, and achieving various financial and personal goals for their current and future situation.

2. How does Step 5 of the financial planning process contribute to the idea that “financial planning is an ongoing process”?

Step 5 focuses on a *review* of progress toward goal achievement, a *reevaluation* of the current financial situation and the need for new or different goals, and the *revision* of the plan in response to these changes. Because your life situation and life goals will change over time, “financial planning is an ongoing process” that keeps your road map up-to-date with your direction of travel.

3. What three characteristics are required to define financial goals? Once identified, why is it important to rank goals?

As the foundation of your plan, financial goals should be specific, realistic, and a reflection of your financial and life situation. To define financial goals ask yourself (1) what, (2) how much, and (3) when. In other words, formalize the goal by writing it down, calculating the cost, and determining when the money will be needed. Setting and ranking goals helps you to decide which ones are most important and if you are truly willing to make the commitment to achieve them.

4. Explain the time horizon for short-term, intermediate-term, and long-term goals. Give an example of each.

Short-term, intermediate-term, and long-term goals are similar in that all represent important financial objectives to be accomplished in the future. They differ in time horizon. Short-term goals, such as paying off a credit card, can be accomplished in less than one year. Intermediate-term goals require from one to ten years, such as saving enough money for a down payment on a home. The most common long-term goal, which takes decades of savings, is to retire comfortably, that is, not slinging burgers at a fast-food joint or standing for hours as a greeter at a “big box” store for extra income.

5. List and characterize the stages of the financial life cycle. What three financial concerns are addressed across all three stages?

Three stages make up the financial life cycle:

- Stage 1: The Early Years—A Time of Wealth Accumulation sets the stage for the family and financial lifestyle. It is the longest stage. Buying a home, managing debt, saving for future goals, investing, planning for taxes, purchasing insurance, and beginning an estate plan characterize this stage. Marrying at a later age than normal, divorce, or remarriage may complicate the financial tasks associated with Stage 1.
- Stage 2: Approaching Retirement—The Golden Years focuses on final efforts to accomplish retirement plans and to create wealth. Insurance protection and estate plans must be reviewed. Goals, such as paying for a home and children’s education, are achieved. Corporate downsizing, voluntary career changes, responsibility for aging parents, or death of a spouse could interrupt plans for accumulating a retirement nest egg or other wealth.
- Stage 3: The Retirement Years focuses on preserving wealth through management of savings and assets. Insurance needs may change, with increasing concerns for medical or nursing home care. Estate planning efforts to reduce taxes and to protect assets for heirs

may be important. Remarriage or postponed first marriage that resulted in children born later in life, responsibility for aging parents, or chronic health care needs could complicate wealth preservation after retirement or necessitate part-time employment.

Insurance planning, tax and estate planning, and saving for goals, including periodic reassessment of the retirement goals, are three financial concerns that span the life cycle.

6. Define career planning. How is it related to financial planning?

Career planning is a process of learning about yourself and the job market to identify a career field that capitalizes on your skills and interests, provides necessary financial support for your lifestyle, allows the needed balance between work and personal life, and is personally enjoyable and satisfying. The objective of financial planning is to use the income generated from employment and investments (e.g., earned and unearned income) to accomplish the desired lifestyle and standard of living. For most people, their lifestyle is based on their employment earnings. The job pays, and it pays to be happy in the job!

7. List three reasons why college students should have a résumé already prepared well before graduation

Students should maintain and updated résumé because

- There are many opportunities for paid and unpaid internships while you are a student, and having a résumé is essential to applying for an internship.
- Many scholarship and honor society applications will ask students to submit a résumé.
- Many scholarship opportunities and honor society applications will also require a résumé.
- Starting your job search early conveys to employers that you are organized and serious about employment—attributes important to potential employers.
- Many companies begin recruiting one to two years before graduation.

8. What do you think will be the five most important strategies for success in your career field?

Although individual student answers will vary, recommended strategies that are universally applicable include the following:

- Do your best work.
- Project the right image.
- Understand and work within the power structure.
- Gain visibility for your contributions.
- Expand your knowledge of the operation through new assignments.
- Show loyalty and support for your boss.
- Continually improve your skills, particularly skills that are hard to duplicate.
- Develop a strong network of contacts, for future opportunities including a new job.
- Uphold and maintain ethical standards. Ethical violations end careers.

9. Why is financial knowledge the best protection when faced with daily financial decisions?

Having a solid foundation of financial knowledge offers protection by doing the following:

1. Enabling you to protect yourself from incompetent advisors



2. Providing you with the impetus to plan for the future
3. Giving you the ability to make intelligent financial and investment decisions
4. Allowing you to apply the principles of personal finance to a wide variety of situations

**10.** Explain why it is important to review past economic downturns when studying personal finance.

Understanding how economic downturns affect individuals and families indicates how vulnerable Americans are to losses in income and assets. The study of downturns also shows how important personal finance topics are in the daily lives of families. By looking at economic events and how such events shape consumer perceptions, it may be possible to plan in such a way that minimizes future downturns. People tend to have short memories. By studying the past, it is possible to prepare for the future.

**11.** What are the two reasons investors demand compensation when saving money or making an investment? Explain how Principles 3 and 8 affect the choice to delay consumption. Why might investors who ignore these principles lose money?

Investors want compensation for

- Postponing consumption. In other words, they are delaying the benefit from spending their money today.
- Risk associated with the investment. They want a higher expected return in exchange for choosing an investment with additional risk.

Inflation will reduce the purchasing power of investors' money, so investors should require a rate of return that is greater than the average rate of inflation. Wealth is created by investing savings and allowing the investments to grow over time, which means delaying consumption! Further, the amount of risk prudently undertaken should be in direct correlation to the amount of return available and the length of time the consumption can be delayed. Investors who ignore these principles are more likely to lose money.

Principles 3 and 8 address the investors' decisions to defer spending. Simply stated, investors require a base amount of compensation to cover the loss of purchasing power due to inflation. In addition, they require extra compensation for relinquishing control of their money for longer periods of time or in riskier investments. And the longer the time horizon, or future date when the investment funds are needed, the more risk the investor can take.

## PROBLEMS AND ACTIVITIES ANSWERS

- 1.** Studying personal financial planning might help you to accomplish the following:
  - Manage unplanned events and avoid the problem of going to the coin-operated laundry because your washer is beyond repair and you have no emergency funds for buying a new one.
  - Accumulate wealth for special goals and avoid the problem of never taking that trip to Australia that you once promised yourself.
  - Realistically plan for retirement by estimating future costs and the necessary current savings to meet that goal. This will avoid the problem of having to work during your "golden years" or having to sell your home because you can no longer afford it.

- Use insurance to “cover your assets” to avoid the problem of driving a car with a badly dented fender because you couldn’t afford the repair bill.
  - Invest intelligently to avoid the problems associated with poor choices in investment advisors and investment products.
  - Minimize taxes to avoid the problem of paying more taxes than necessary on your income or your investments.
2. Answers will vary based on where students are in the financial life cycle. Examples here are representative of traditionally aged college students.
- Step 1: Evaluate your financial health. Task: Record all expenses for a month to compare income and expenses.
  - Step 2: Define your financial goals. Task: Pay off credit card(s) by the end of this school term.
  - Step 3: Develop a plan of action. Task: Develop a budget matching income and projected expenses for the remainder of this academic year.
  - Step 4: Implement the plan. Task: Reduce expenses in problem areas so amounts do not exceed budgeted projections.
  - Step 5: Review progress on the plan, reevaluate the plan, and revise the plan or start over with a new one. Task: Based on this year, develop a revised budget for next year based on projected income and expenses.
3. Answers will vary; however, the following are representative:
- Pay off credit card(s) by the end of this academic year.
  - Save \$X for a trip during winter break, spring break, etc.
  - Limit spending on X (recreation, clothing, music, etc.) to \$X.
  - Don’t ask parents for any extra money during this term.
  - Live debt free this term. Use credit cards only for an emergency.
  - Don’t carry a balance on credit card(s); pay off the bill each month.

4. Answers will vary; however, the following is representative:

It is important to me to gain financial independence and to manage my money well. That is why I set the goal to stop asking my parents for extra money during this term. This goal reflects my lifestyle and my desire to handle my money more responsibly. The goal will guide my actions by serving as a reminder to think before I spend. That way I won’t spend more than I can afford to pay for with my available funds. My success will be easy to evaluate. If by the end of the term I have not had to “beg” for more money, I will know I have met my goal.

5. Answers will vary; however, the following is representative:

Because the accumulation-of-wealth stage extends into the mid-50s, financing the cost of education could remain important to me should I choose to continue my education or for the education of others who are important to me (spouse, child, etc.). It is not until Stage 2: Approaching Retirement—The Golden Years that the goal of educating children is usually accomplished. During Stage 3: The Retirement Years, estate planning issues are significant, and leaving part of my estate to fund education for my grandchildren could become important.

6. Answers will be unique to the individual student.
7. Answers will vary; however, the following is representative:

Nearly half of all employers will check applicant's credit report. Negative personal financial situations can result in loss in job productivity, lack of taking responsibility at work, greater instability personally and professionally, and could pose a threat to national security for some employees (e.g., military and other government employees).

8. Answers will vary; however, the following is representative:

Be open about debt early in the relationship. Keep debt low. Be aware of the costs of raising children.

9. Principle 5 states, Stuff Happens. Having funds set aside for emergencies is crucial so that when stuff happens, you have the ability and liquidity to meet your need. Liquidity refers to the speed and ease with which you could access those dollars when needed. However, some stuff that happens is simply too expensive for your savings to cover—for example, a tragic auto accident in which you become disabled. Having insurance, with adequate protection for a reasonable price, could cover more of your losses. Basically, the two types of events from which everyone needs protection are the ones we cannot afford or the ones we simply cannot foresee. Principle 7 addresses this protection issue.

Instructor's Note: Although answers will vary, students might currently be protecting themselves with health, auto, renter's, life, or disability insurance. Some will likely have no insurance but need to consider the implications for their financial future.

## DISCUSSION CASE 1 ANSWERS

1. Financial planning is critical to financial success as the process is repeated throughout the life cycle in response to changing financial and life situations. Through financial planning, goals are accomplished, and new goals are identified. The five-step process begins and ends with evaluation. In the first step, you do a check-up of your financial health as a basis for planning. In the fifth step, you assess your progress on the plan, review your financial health, and revise the plan for future efforts. The middle three steps consist of clarifying financial goals, developing a plan to reach those goals, and putting that plan into action.
2. As newlyweds, short-term goals important to Jeremiah and Bethany might include paying off any debt they brought to the marriage, reviewing their insurance coverage, and beginning to save for an emergency fund, or other goal. Because she is still in school, purchasing a major item may not be important. Within the next one to ten years, Jeremiah and Bethany must consider funds for a home purchase as well as other assets to support their lifestyle. With children come additional financial planning needs for savings, insurance, and estate planning. Retirement savings will be a long-term goal. Without more knowledge of their financial and life situation, other goals cannot be identified.

3. The four principles of flexibility, liquidity, protection, and minimization of taxes should guide the development of any financial plan. Without a plan, nothing happens, AND spending is easier than saving. Financial security comes from balancing what you earn with what you spend to meet the needs of today and tomorrow. Financial planning is critical to making that happen. Principle 4 cautions that the tax implications of earning and investing require Jeremiah and Bethany to consider how to maximize the money available after paying their taxes. Principles 5 and 7 parallel the other principles of plan development. Unexpected events in life demand access to cash and flexibility in the budget, or financial plan, to accommodate those costs. Liquidity ensures access to savings without a loss of value. Likewise, planning ahead by purchasing insurance protection provides coverage in the event the loss exceeds what can comfortably be paid from personal savings due to a major (or minor) catastrophe.
4. Five tips to help Bethany prepare for job interviews include the following:
  - Review the commonly asked questions shown in Table 1.3; prepare and practice a succinct answer for each.
  - Use the library, the Internet, or other sources to learn about the company.
  - Make a good impression by getting a good night's sleep, dressing appropriately, and arriving early.
  - Look and act confident but relaxed.
  - Thank the interviewer and immediately send a follow-up letter.
5. Young professionals can ensure success in their chosen careers by (1) updating and maintaining marketable skills, especially those that are not easy to duplicate; (2) understanding and using the organizational power structure to their benefit, including being loyal and supportive of the boss; (3) building a visible reputation for good work, a willingness to take on new challenges, and an image that fits the organization; and (4) developing a strong network of people knowledgeable of their character and capabilities. Doing a good job and working within the organizational mission is always important. Although ethical behavior has always been a professional expectation, recent national attention on the “transparency” of corporate and individual actions has increased the importance of ethical behavior. A loss of confidence by the boss or other co-workers in individual professional integrity can end a career.
6. Some of the common disagreements experienced by couples like Jeremiah and Bethany include first, and most important to this class, finances in addition to annoying habits, children, relatives, and jobs.
7. Principle 10, just do it, means that Jeremiah and Bethany must make a commitment and avoid procrastination—both critical strategies for success in financial or career planning. Furthermore, positive reinforcement from making progress toward their goals and taking control of their careers and their finances should provide momentum to keep them committed and successful! Granted, they may not be able to achieve all of their goals, but sound planning and evaluation (or self-assessment) can help them set and achieve realistic goals for their situation.

## DISCUSSION CASE 2 ANSWERS

1. The Delgados are in the accumulation stage of the financial life cycle. This stage is the foundation for the efforts that continue during the latter two stages. It is crucial to have a sound financial plan, based on important goals and controlled spending, to guide them. The longer financial goals are postponed, the more impossible they may seem—another reason for continued inaction and procrastination. Establishing a financial plan is the first step toward action and success.

Professional financial advice could benefit the Delgados; however, Principles 1 and 2 offer a caution. Building personal financial knowledge will enable the Delgados

- to avoid financial professionals more concerned about their own interests than the Delgados' interests,
- to fully appreciate the need for and the benefits to be gained from financial planning, and
- to more effectively use their knowledge to respond to changes in the financial environment (e.g., changes in economic conditions or interest rates).

Financial knowledge may also help the Delgados avoid the sunk cost effect of throwing good money after bad. Professionals might suggest replacing some of their financial products, such as insurance policies, or perhaps not continuing to save money in a low earning savings account but investing for a higher return. Understanding more about financial planning principles and products may help the Delgados recognize the benefit of this advice. The same could be true with mental accounting, as the Delgados may need to change their views on savings for different goals or using windfall money such as a tax refund or employee bonus. Too often, windfall money is “mad money” to be spent, when the best use could be saving for a goal or reducing credit card debt.

2. The data provided in Table 1.1 is for the second child in the family. For the first child, Total Expenses, First 18 Years must be increased by a factor of 1.27. For their third child, the same value will be reduced by a factor of 0.76.

First child $\$233,610 \times 1.27$	\$296,685
Second child	\$233,610
Third child $\$233,610 \times 0.76$	<u>\$177,544</u>
TOTAL	\$707,839

3. Nicholas and Hima can more easily fund the children's education if they
  - start early and understand how investments grow over time to build wealth (Principle 3);
  - understand the relationships among inflation, investment returns, risk and the length of time until the money is needed (Principle 8); and
  - recognize that investments with higher risk typically yield higher returns and vice versa—lower risk investments typically yield a lower return (Principle 8).



To follow these principles, Nicholas and Hima should start investing immediately (even small amounts) in different investments with different risk-return characteristics. As they get closer to the time the children enter college, they should protect their investments and earnings by moving the funds to less risky investment or savings alternatives.

4. Answers will vary but should include the following three components:
  - Definition or clarification of the goal (e.g., all costs, tuition only, room and board only, or other variations on costs for a public/state-supported university, private university, community college, or other educational experience)
  - Future, or inflation-adjusted, cost
  - Future time, or number of years until the funds will initially be needed

An example might be stated as follows:

Based on today's average state-supported university cost for tuition, room and board, and miscellaneous expenses, our goal is to accumulate half of the total inflation-adjusted cost for Jarred and the twins, 16 and 18 years, respectively, in the future. Jarred and the twins will be expected to fund the remaining half of their college expenses through personal savings, employment, or scholarships.

5. Answers will vary and could reflect most of the short-term and intermediate-term goals listed in Figure 1.2. The only goals specifically identified by Nicholas and Hima are two long-term goals:
  - Help fund the children's education
  - Retire early and travel
6. Just like the twins were unexpected, Principle 5 reminds Nicholas and Hima that other unexpected events in life require adequate liquid funds, or investments that could be readily turned to cash without a loss. Having some assets with good liquidity avoids the loss associated with a forced quick sale of assets that are not so liquid. Liquid funds may help with an emergency expense, but large property damage or personal losses (e.g., for medical care, disability, or death) require insurance. With three kids, there is bound to be at least one fender bender! Principle 7 says protect yourself by having the right kind of insurance at the right price. Trying to save and buy insurance while providing for a family of five may tempt Nicholas and Hima to put off saving for longer-term goals like college and retirement, but Principle 6 reminds them that smart spending—for big and little purchases—will help them avoid wasting money needed for more important family needs and goals.

## **CHAPTER 2**

### **MEASURING YOUR FINANCIAL HEALTH AND MAKING A PLAN**

#### **CHAPTER CONTEXT: THE BIG PICTURE**

As the second chapter in the four-chapter section entitled “Part 1: Financial Planning,” this chapter introduces the processes and financial statements associated with financial planning and budgeting. The fundamentals of record keeping and statement analysis are discussed. Also introduced in this chapter are the financial ratios and how they are used to gauge financial health. These financial statements and formulas lay the foundation for understanding the overall picture of financial planning and Part II: Managing Your Money. An important message to students in this chapter is the importance of starting a financial plan early in the life cycle. Time is one of the biggest allies for a successful plan.

#### **CHAPTER SUMMARY**

This chapter establishes the importance of good record keeping and the use of financial statements. Balance sheets and income statements are the basis for most financial analysis, including the calculation of ratios to measure financial health. The financial ratios discussed measure liquidity, debt, and savings. Strategies for developing and using a cash budget are explained within the broader context of financial planning. The benefits of budgeting, whether for individuals in financial trouble or for those seeking more control over their money, are considered. Lastly, the role of professional financial planners, their services and their costs, are presented. Financial planners can validate an existing plan or devise a financial plan.

#### **LEARNING OBJECTIVES AND KEY TERMS**

After reading this chapter, students should be able to accomplish the following objectives and define the associated key terms:

1. Calculate your level of net worth or wealth using a balance sheet.
  - a. personal balance sheet
  - b. assets
  - c. liabilities
  - d. net worth or equity
  - e. fair market value
  - f. tangible asset
  - g. blue book
  - h. insolvent

2. Analyze where your money comes from and where it goes using an income statement.
  - a. income statement
  - b. variable expenditure
  - c. fixed expenditure
  - d. budget
3. Use ratios to identify your financial strengths and weaknesses.
  - a. current ratio
  - b. month's living expenses covered ratio
  - c. emergency fund
  - d. debt ratio
  - e. long-term debt coverage ratio
  - f. savings ratio
4. Set up a record-keeping system to track your income and expenditures.
5. Implement a financial plan or budget that will provide for the level of savings needed to achieve your goals.
6. Decide if a professional financial planner will play a role in your financial affairs.

## CHAPTER OUTLINE

- I. Using a Balance Sheet to Measure Your Wealth
  - A. Assets: What You Own
    1. Monetary assets: cash, checking, and savings
    2. Investments: stocks, bonds, and mutual funds
    3. Retirement plans: IRAs, 401(k), and Keogh
    4. Housing: primary residence
    5. Automobiles
    6. Personal property: furniture, electronics, and jewelry
    7. Other assets: business ownership and collections
  - B. Liabilities: What You Owe
    1. Current debt: credit cards, utility bills, insurance premiums, or past due bills
    2. Long-term debt: home mortgage, auto loans, and student loans, cash value life insurance loans, bank loans, or installment loans
  - C. Net Worth: A Measure of Your Wealth
    1. Insolvency: Do you owe more than you own?
    2. How age affects net worth guidelines
    3. Uses of a balance sheet
  - D. Sample Balance Sheet for Larry and Kamala Tate
- II. Using an Income Statement to Trace Your Money
  - A. Personal Income Statement: The Financial Motion Picture
    1. Tracks what you take in (income) and what you spend over some period of time
    2. Cash basis: statement based entirely on actual cash flows

- B. Income: Where Your Money Comes From
    - 1. Sources of income: wages, tips, royalties, salary, bonuses, and commissions
    - 2. Income is the amount earned, not necessarily amount received.
    - 3. Calculate take-home pay, or the money available to spend.
  - C. Expenditures: Where Your Money Goes
    - 1. Fixed expenses: mortgage, rent, and cable TV
    - 2. Variable expenses: food, entertainment, and clothing
    - 3. Major expenditure categories: taxes, food, housing, medical care and transportation
  - D. Preparing an Income Statement: Louise and Kamala Tate
    - 1. Use the balance sheet and income statement together to learn more
    - 2. Use the information gained as a foundation for setting budget, or spending, goals
- III. Using Ratios: Financial Thermometers
- A. Question 1: Do I Have Enough Liquidity to Meet Emergencies?
    - 1. Current ratio
    - 2. Month's living expenses covered ratio
    - 3. Emergency fund
  - B. Question 2: Can I Meet My Debt Obligations?
    - 1. Debt ratio
    - 2. Long-term debt coverage ratio
  - C. Question 3: Am I Saving as Much as I Think I Am?
    - 1. Savings ratio
    - 2. Savings as the top priority
- IV. Record Keeping
- A. Why is record keeping an important part of the planning process?
    - 1. Accurate record keeping is important for preparing taxes, tracking expenses, and providing information for others in case of an emergency.
    - 2. Record keeping involves *tracking* your personal financial dealings and *storing* your financial records in an accessible manner.
  - B. Track all expenditures, including cash, to generate a monthly income statement
    - 1. Use a ledger or computer program to record all transactions.
    - 2. Keep all receipts and records dealing with taxes for 6 years.
- V. Putting It All Together: Budgeting
- A. Developing a Cash Budget
    - 1. Examine last year's total income and make adjustments for the current year.
    - 2. Estimate your tax liability.
    - 3. Identify all fixed expenditures.
    - 4. Identify all variable expenditures.
    - 5. Look for ways to reduce your variable expenses.
    - 6. Calculate the amount available for savings.
  - B. Implementing the Cash Budget
    - 1. Try the budget for a month.
    - 2. Adjust the plan or your expenses as necessary to maintain the plan.
    - 3. Try the envelope system.

- VI. Love & Money
  - A. Communication about money is imperative, yet easier said than done.
  - B. Pick a positive experience to start the money conversation.
  - C. Share your financial goals and spending patterns with your partner.
- VII. Hiring a Professional
  - A. What Planners Do
    - 1. Make your own plan and have it checked by a professional to find the flaws.
    - 2. Work with a professional and use him/her as a reference tool.
    - 3. Let the professional do it all.
    - 4. Remember Principle 1: The Best Protection Is Knowledge.
  - B. Choosing a Professional Planner
    - 1. Pick a competent planner with accreditation(s) from a professional organization(s).
    - 2. Pick a planner who has experience, offers advice tailored to you, and readily offers referrals to other clients.
    - 3. Understand the four ways planners are paid and consider this when choosing a planner.
    - 4. Contact professional organizations or review their Web sites to get recommendations.

## APPLICABLE PRINCIPLES

### Principle 1: The Best Protection Is Knowledge

Whether you're paying a commission-based planner, a fee-only planner, or a planner using some other combination fee structure, you need some knowledge to evaluate the advice given. The planner may have a conflict of interest in that the best product for you may not net the most commission dollars. You are at a disadvantage if you lack the knowledge to tell the difference between sound advice and a sales pitch.

### Principle 2: Nothing Happens Without a Plan

Without a financial map and a starting point, even the wealthiest people would fail when trying to save money.

### Principle 5: Stuff Happens

Budgets must be flexible because, if an unforeseen event occurs and your budget is not flexible, then the incident will have destroyed most of the plan. Adaptability is key when developing a working budget. If the plan is adaptable, then the plan can change as your situation changes.

### Principle 8: Risk and Return Go Hand in Hand

Emergency funds should be kept in a liquid account. Because the investor incurs less risk, liquid accounts provide a lower return. Liquidity and risk management, not return, are the key reasons for an emergency fund. But access to credit, insurance coverage, and other household characteristics (e.g., multiple earners, consistency of earnings, job stability) should be considered in the decision as to how much of the emergency funds are in lower earning accounts.



**Principle 9: Mind Games, Your Financial Personality, and Your Money**

Consider keeping reminders of your goals in your wallet. It will help you focus on the future versus your immediate desire. Make sure you understand and consider the “time value of money” in your decision making.

**Principle 10: Just Do It!**

Once you have tracked your expenses and established a budget, be sure to follow through with your plans. Use apps to help you keep track of your spending or keep your receipts and track your expenses manually. Be sure to incorporate saving as a normal expenditure each month.

**SUGGESTED PROJECTS**

Projects can be assigned as in-class group activities or assigned as homework to increase the applied understanding of key concepts from the chapter.

1. Using Worksheet 6 (see Checklist 2.1) as a guide, talk to your parents about their record-keeping system. Offer to assist with organizing the household financial records. Do they have a balance sheet, income statement, or budget to track financial well-being? If not, offer the worksheets from the text as a starting point. Do they handle all financial matters alone or with the help of professionals? What assistance have they received and from whom?
2. Use Worksheet 7 to track your actual income and expenses for 1 month and then to develop a budget or spending plan for future months. Analyze your income and expenses to determine your spending patterns and any needed changes. (If you don't actually earn an income, consider your monthly college allowance or periodic withdrawals from summer savings.) See how long you can follow the budget. Should you consider an envelope system for some expenses? (Also, consider using the worksheet to project your finances when moving off campus, accepting a job after graduation, or changing jobs.)
3. Watch a short video on the Mint.com Web site on how to set up a Mint account. Explore the Web site to determine who funds the program. Read one or more of the personal finance blogs and write a one-page essay on what you learned from the Web site and blog(s).
4. According to this chapter, “planning and budgeting require control.” Talk to several friends, family members, or acquaintances about the strategies they routinely or occasionally use to control spending and saving. What's the best advice they could give to a novice financial manager? Have they automated spending or saving decisions? Share your findings as an oral or written report.
5. Ask students to reflect on the assets owned by their grandparents, their parents, and themselves. How does the ownership of the seven categories of assets change throughout the financial lifecycle? How does the ownership of different assets change as a percentage of total net worth over the financial life cycle?
6. Discuss with the class why one financial ratio may be more informative to one household, given the unique financial situation, while another ratio may be more significant to another.

For example, how might the household profile differ for a month's living expenses covered ratio of 0.75, 3.5, or 8.0? What recommendations might be made in response to this ratio, and how might household characteristics affect the interpretation of the ratio?

7. Write a one-page essay that explains at least four reasons why you believe that people do not budget or develop even a simple plan for balancing income and expenses, including saving for goals. Review Worksheet 1 or Worksheet 2 for examples of financial objectives and goals for which households are *most* or *least* prepared.

## REVIEW QUESTIONS AND ANSWERS

Review questions can be asked throughout the chapter as a way to gauge student interest and understanding. Answers follow each question.

1. What are the steps of the budgeting and planning process? Describe what happens in each step.

The first step is to evaluate your financial health, which would include preparing a balance sheet, income statement, and financial ratios. Step two is to define your financial goals. You will need to determine what is important to you, identify the cost of achieving the goal, and determine how much savings is needed to achieve the goal. Step three is to develop a plan of action by adjusting your spending to meet your goals. In step four of the budgeting and planning process, you will implement your plan by taking action to achieve your plan. This could include setting up an automatic savings plan with your bank. Finally, the last step is to continually review your progress, reevaluate, and revise your plan as needed.

2. Why is net worth a measure of financial health? What is the purpose of a personal balance sheet?

The balance sheet is often used to diagnose financial health. If the net worth is negative, then the household's financial health is considered poor. But if the net worth is highly positive, then the household would be considered to be in excellent financial health. By using the information, the household can make sound financial decisions about adjusting savings or expenses to meet identified financial or personal goals.

A balance sheet determines financial position, or net worth. It compares assets owned and liabilities incurred to determine the current level of wealth or net worth. As the name suggests, the two sides balance—the assets minus the liabilities equals the net worth.

3. What information must you gather to develop an accurate balance sheet? What can you learn by annually updating the balance sheet?

Calculation of an accurate balance sheet is based on an accurate assessment of the value of all assets and a complete listing of all current and long-term liabilities. Annual updates to the balance sheet help you track your progress toward your goals and to monitor your financial situation, or financial well-being. For example, if you have added several short- and long-term liabilities during the year, the balance sheet will help you detect the overall impact of those decisions. Reflecting on your net worth may help you decide that regardless of how good the deal, or how pressing the need may appear, continuing to commit income to credit may delay, or derail, your savings for goals.

4. Define and give examples of the seven categories of assets. How do you determine the current value of your assets?

The seven categories of assets are

1. Monetary: This is the most liquid of all assets, which are held as cash or in a form that can quickly be turned into cash with little or no loss of value. Examples include cash, checking and saving accounts, and money market funds.
2. Investment: These assets are considered financial holdings for generating wealth and are less liquid than monetary assets. They include stocks, bonds, mutual funds, and their derivatives.
3. Retirement plans: The individual or his/her employer accumulates these assets to meet future retirement goals. Examples include an IRA, 401(k) or 403(b) plan, Keogh plan, or other company pension plan.
4. Housing: This is a tangible asset that is used by the owner and is considered illiquid. Examples include house and land and usually represent the most valuable asset for most individuals.
5. Automobiles and other vehicles: These are illiquid, tangible assets that depreciate.
6. Personal property: These are tangible assets that are basically illiquid and consist of all possessions, such as furniture, electronics, jewelry, and automobiles.
7. Other assets: Any other assets or monies owed to you but not included in a previous category.

Use the fair market value, or “what a willing buyer would pay a willing seller,” to determine the current value of assets. For example, the fair market value of an auto would be entered as an asset, while the corresponding outstanding balance to pay off the auto loan, if applicable, would be a long-term liability.

5. What is a financial liability? How do you determine the amount owed on current and long-term liabilities? Give examples of each.

A financial liability is the owing or borrowing of money. A current liability is an unpaid bill or debt that will be completely paid off within the next 12 months, such as a 6-month, unsecured loan, a utility bill, or your credit card paid in full each month. In contrast, a long-term liability requires payments that extend beyond the 12-month time frame, like an auto loan, student loan, or home mortgage. Because a balance sheet represents a given date, current liabilities represent all current bills due and payable at that time. Long-term liabilities are represented by the outstanding balance(s) to pay off the loan(s) or mortgage.

6. Why is net worth a relative and not an absolute measure? For example, why might insolvency be of less concern for a college student than for the student's parents?

The absolute value of net worth can be compared by the same household from year to year, and this comparison is recommended to track progress toward goals. Because household situations, characteristics, and financial goals vary within and across the life cycle stages, net worth is a relative measure for some comparisons. For example, a young professional in Stage 1, Wealth Accumulation, may initially be insolvent until more assets are acquired and student loan debt is reduced. This situation may be unavoidable for the investment in education. However, if the parents are in Stage 2, Approaching Retirement, insolvency would represent a much direr situation and suggest that financial goals are not being met and that the household could experience significant difficulty in meeting future goals.

7. What information do you need to calculate an accurate income statement? What are likely to be the four largest expenses?

In order to accurately complete an income statement, the household must compile all financial records to account for all income and all expenses during the targeted time period. These records include all statements of income, such as wages, salaries, royalties, tips, commissions, dividends, and interest. All amounts will be totaled and recorded in the income portion of the income statement. Also, all fixed and variable expenses must be recorded in the expense portion of the income statement. Checkbook registers, all receipts, and any records of cash expenditures should be reviewed. Taxes, food, housing, medical care, and transportation are the biggest expenses for the average household. However, there may be variations in medical care or transportation expenses depending on the life cycle stage.

8. Explain the practical difference between a fixed and a variable expense. Over which type of expense does a household have greater control?

The practical difference between fixed and variable expenses is that a fixed expense does not change from month to month, whereas a variable expense may change. Also, with a fixed expense, the creditor usually controls the payment amount. Typically, these expenses are established by a contractual obligation, such as a rental contract, auto lease agreement, or home mortgage. The consumer has greater control over variable expenses through the choice of whether to spend or how much to spend. For example, recreation, utilities, or clothing expenses may be controlled, or in some cases, forgone by the consumer. Granted the consumer has a choice not to sign a contract and incur another, or larger, fixed expense. But once signed, there may be little or no option for reducing the payment. Recall from the text—a major portion of financial planning is taking control of your situation.

9. Why are financial ratios important diagnostic tools? What three potential problem areas do they highlight?

Ratios analyze the information included in the balance sheet and income statement and make it more usable. Results of the ratio analysis can be compared to a preset target or to previous ratio trends for the household. Ratios diagnose if the household is maintaining liquidity, meeting obligations, or saving enough for future expenses.

10. Why are both the current measures and the trends of the ratios over time important measures of financial well-being?

Current ratio results can be compared to the recommended standards to diagnose the present household situation. However, some ratios are expected to trend up or down, depending on household circumstances or progression through the life cycle. Tracking the ratios over time offers additional insights about the household financial situation.

11. Explain the debt coverage ratio and the inverse of the ratio. Why is the inverse ratio intuitively more informative?

The long-term debt coverage ratio compares total income available for living expenses to total long-term debt payments. A ratio of less than 2.5 would be of concern as it suggests that the amount of income available would not meet the required long-term debt repayment at least 2.5 times. The inverse of the ratio intuitively offers more insight as it reflects the percentage of total income available for living expenses that is required to meet debt repayment. From another perspective, as the inverse ratio increases, say from 40 percent to 48 percent, less and less income (now only 52 percent as compared to 60 percent) is available for variable expenses.

12. List the three most important reasons for keeping accurate financial records.

The three most important reasons for keeping accurate records are as follows:

- Tax preparation takes less time and is more accurate if neat, up-to-date financial records are maintained.
- Expense control is easier if the household maintains records to track expenses thoroughly.
- Understanding the household's financial situation is dependent on accurate and complete records should someone else need information in case of an emergency.

Without an accurate record-keeping system, it is easy to feel a lack of control over financial affairs. The most obvious problem that can arise is overspending. Without accurate records, it is very difficult to accurately assess financial well-being—both for the short- and long-term.

13. Where should you keep the following records: non-tax-related checks or credit card slips, a listing of all bank accounts, your investment earnings statements, and copies of your will?

Regarding keeping the following records:

- Non-tax related checks or credit card receipts over a year old should be shredded, to avoid identity theft, and discarded. If less than a year old, they should be kept in a home file.
- Listing of all bank accounts should be kept in a bank safety deposit box.
- Investment earnings statements should be kept in a home file.
- A copy of the will should be kept in a home file and in the safety deposit box.

14. If there is no legal requirement to be a financial planner, how might **Principle 1: The Best Protection Is Knowledge** affect your decision to seek professional assistance? What accreditations might you look for when shopping for a planner?



Despite the advanced training, planners who generate all or some of their compensation from commissions may function as a salesperson for certain products. Personal finance knowledge is one of the best protections, as noted in Principle 1, when choosing professional financial assistance or any of the myriad of financial products required over the life cycle. Knowledge about how to choose a planner (e.g., understanding the scope of services/products needed, recognizing accreditations, and learning about the planner's practice and experience) is also important. Look for accreditations like PFS, CFP, or ChFC that require testing and experience to earn the designation.

## PROBLEM AND ACTIVITY ANSWERS

1. Net worth = assets – liabilities

Assets:		
House	\$127,900	
Car	\$28,195	
Furniture	\$14,085	
<b>TOTAL ASSETS</b>		<b>\$170,180</b>
Mortgage	\$85,677	
Car loan	\$5,822	
Utility bills	\$181	
<b>TOTAL LIABILITIES</b>		<b>\$91,680</b>
<b>NET WORTH</b>		<b>\$78,500</b>

The Lees have a positive net worth of \$78,500. This means that if they sold all of their assets and paid off all their debt, they would still have money left over. Their annual income does not represent an asset and is not part of their net worth until they save or invest it.

2. Debt ratio =  $\frac{\text{total liabilities}}{\text{total assets}} = \frac{\$91,680}{\$170,180} = 0.5387 \text{ or } 53.87\%$

The ratio tells Mary Jane and Bao that 54 percent of their assets are financed with borrowing.

3. After accounting for all expenses, Ed and Marta's income statement shows \$361 available on a monthly basis for savings.

Take-Home Pay	\$2,410
Total Housing Expenditures	777
Total Food Expenditures	164
Total Clothing and Personal Care Expenditures	713
Total Transportation Expenditures	395
Total Living Expenditures	\$2,049
Income Available for Savings and Investment	\$361

$$\text{savings ratio} = \frac{\text{income available for savings and investment}}{\text{income available for living expenditures}}$$

$$\text{savings ratio} = \$361/\$2,410 = 0.1498 \text{ or } 14.98\%$$

The ratio tells Ed and Marta that approximately 15 percent of their income is available for savings. This amount is significant compared to average and higher than the often-recommended level of 10 percent. The ratio should be compared with past savings ratios and target savings ratios to determine if Ed and Marta are on track to reach their goals.

4. Their net worth is \$11,321 calculated as follows:

Assets:		
Checking account	\$2,100	
Savings account	\$4,541	
Stocks	\$8,828	
<b>TOTAL ASSETS</b>		<b>\$15,469</b>
Utility bills	\$485	
Credit card bills	\$985	
Auto loan	\$2,678	
<b>TOTAL LIABILITIES</b>		<b>\$4,148</b>
<b>NET WORTH</b>		<b>\$11,321</b>

$$\text{current ratio} = \frac{\text{monetary assets}}{\text{current liabilities}}$$

$$\text{current ratio} = (\$2,100 + \$4,541)/(\$485 + 985) = 4.52$$

Remember that monetary assets do not include stocks held for investment, so the total is only the balances from their checking and savings accounts. Their current liabilities include the utility and credit card bills due this year, but don't include the car loan which will be paid off over time. The current ratio tells Ojai and Kaya that their monetary assets could pay their current expenses four times. However, this ratio is not truly accurate because it does not

include the monthly auto loan payment. The auto loan is not considered a current liability because it will not be satisfied within 12 months.

5.

Take-Home Pay	<u>\$28,800</u>
Medical expenses	<u>265</u>
Mortgage payment	<u>777</u>
Car payment	<u>3,180</u>
Utilities	<u>3,300</u>
Clothing expense	<u>540</u>
Auto insurance	<u>1,800</u>
Food	<u>2,700</u>
Other expenses	<u>1,800</u>
Total Living Expenditures	<u>\$19,944</u>
Income Available for Savings and Investment	<u>\$8,856</u>

Note that amounts on the income statement are yearly or 12 times the month rate.

Assets:			
Monetary assets (checking and savings)	\$3,125		
Stocks	\$5,500		
Mutual fund	\$2,100		
Retirement account	\$4,500		
Condominium	\$65,000		
Auto	\$9,000		
Inherited coin collection	\$3,250		
Furnishings	\$5,500		
Other personal property	\$8,000		
TOTAL ASSETS			\$105,975
Current debt:			
Total monthly utilities	\$275		
Credit card debt	\$600		
<i>Total current debt</i>		\$875	
Long-term debt:			
Mortgage outstanding	\$50,000		
Auto loan outstanding	\$4,225		
<i>Total long-term debt</i>		\$54,225	
TOTAL LIABILITIES			<u>\$55,100</u>
NET WORTH			<u>\$50,875</u>

$$\text{Current ratio} = \frac{\text{monetary assets}}{\text{current liabilities}} = \frac{\$3,125}{\$875} = 3.57$$

With Faith's available monetary assets, she could meet her current liabilities approximately 3.5 times, which is good. Financial advisors suggest a ratio above 2, with a trend for the ratio to be increasing.

$$\text{Savings ratio} = \frac{\text{income available for savings}}{\text{income available for living expenses}} = \frac{\$8,856}{\$28,280} = 0.3075 \text{ or } 30.75\%$$

Faith is to be commended for her savings rate, but Faith's records show no annual expenditures for recreation. She may have underestimated her living expenses, especially given her monthly credit card and cash expenditures. Accurate ratios depend on accurate records.

$$\text{Months living expense covered ratio} = \frac{\text{monetary assets}}{\frac{\text{annual living expenses}}{12}} = \frac{\$3,125}{\$2,262} = 1.38 \text{ months}$$

An emergency fund equal to 3 to 6 months of expenses is traditionally recommended. Availability of credit to offset committing such a large sum to low earning liquid accounts may reduce the emergency fund. But Faith could meet expenses for just over one month—a precarious financial situation that can only be remedied through increased savings.

$$\text{Debt ratio} = \frac{\text{total liabilities}}{\text{total assets}} = \frac{\$55,100}{\$105,975} = 0.52 \text{ or } 52\%$$

The debt ratio suggests that 52 percent of Faith's assets are financed through borrowing. As is typical, her mortgage represents the bulk of her liabilities as well as her assets. Over time, this ratio is likely to decline; however, an increasing trend would be cause for concern.

$$\text{Long-term debt coverage ratio} = \frac{\text{income available for living expenses}}{\text{long-term debt payments}} = \frac{\$2,400}{\$795} = 3.02 \text{ times}$$

The long-term debt ratio of 3.02 exceeds the recommended minimum of 2.5, which implies that Faith could meet her mortgage and auto payments, her only long-term debt obligations, three times from her current income. The reciprocal of the ratio offers another useful insight on Faith's financial situation. Of every take-home dollar, Faith has committed 33 percent, or 33 cents, to service long-term debt obligations. Although her long-term debt ratio is not high enough to raise a caution flag, before taking on additional debt she should seriously consider the impact of having less than 67 percent of her take home pay to meet all other expenses.

On first inspection, Faith seems to be financially sound. However, based on a review of the ratios and the information provided, Faith should consider the following:

- Improving her recordkeeping. She has omitted budget categories that might typically occur (e.g., recreation) and has a lot of “unaccounted for” spending on her credit cards and with cash.
- Increasing her savings for an emergency fund and financial goals (e.g., specific goals, retirement, etc.)
- Decreasing her spending to increase savings *or* increasing her income. The latter may not be an option, and the impact of the tax “bite” should not be ignored.
- Identifying financial goals and developing a financial plan
- Keeping her liabilities low and not adding more debt without first checking her ratios

Using an online tool like Mint or Goodbudget will allow Donovan and Rudabeh to track their income and expenses in real time and make better decisions.

6. A budget is a plan for controlling cash flows, specifically income, expenses, and savings. This budget should accurately match a household’s abilities with its financial goals. With a well-planned budget, money will seem to go further, and they will be able to do more with what they have. A strong budget also prepares someone for the future and the unforeseen events that the future holds. A successful budget can only be derived from accurate record keeping; if someone does not know where they are, the best map in the world will not help them get where they want to go. Once an accurate picture of a household’s current financial status is developed through the use of an income statement and balance sheet, one can set goals and plan for the future. With the help of a budget and accurate record keeping, even someone who is not a financial wizard can achieve financial success.
7. Dario needs to track his expenses for a month to identify how he is spending his money and then evaluate his true needs and wants. He may consider implementing an envelope system for variable expenses that he may have troubles sticking to, such as entertainment and food. Dario may also want to consider using an automated budgeting system, such as Mint, which sends him reminders as he is approaching his spending limit.
8. According to common practice, an emergency fund should equal approximately 3 to 6 months’ living expenses. However, an exact amount should also be based on job stability, life-cycle stage, credit availability, and lifestyle. For the Potinsky household, the figure should range between \$9,750 and \$19,500. To avoid having a large sum in a liquid account earning little interest, they should have some funds available, with the remainder invested with higher earnings. In case of an emergency, they could use credit immediately and then liquidate other assets to repay the bill—assuming all accounts are not charged to the limit.



9. Student responses will vary, but an example of a \$41,000 income would yield an emergency fund ranging from \$6,662 to \$13,325.

\$41,000.00	Starting salary
−\$8,200.00	Taxes (20% × \$41,000)
−\$4,100.00	Retirement (10% × \$41,000)
−\$2,050.00	<u>Additional savings (5% × \$41,000) assumption for example</u>
<b>\$26,650.00</b>	<b>Income to meet living expenses</b>

Assuming another 5 percent of income is saved and the target for the emergency fund is 3 to 6 months, then

$$3 \text{ Months} = \left( \frac{\$26,650}{12} \right) \times 3 = \$6,662.50$$

$$6 \text{ Months} = \left( \frac{\$26,650}{12} \right) \times 6 = \$13,325.00$$

The time frame for saving this amount could vary widely, contingent on the individual financial situation and commitment to savings. But again, using the 5 percent additional savings assumption, it should take 3 to 6 years to accumulate the requisite amount by simply dividing the goal by the annual savings amount.

## DISCUSSION CASE 1 ANSWERS

1. In order to get an accurate financial picture, Donovan and Rudabeh should prepare an income statement and balance sheet.

Donovan and Rudabeh should keep records to develop an income statement and a balance sheet. They will need to document all sources of income. Expense records should include all fixed and variable living expenses, as well as records of all short- and long-term debt payments. Knowledge of their liabilities and assets will enable them to calculate net worth. Based on the income statement and the balance sheet, they can track their ratios to further diagnose their financial situation. With accurate record keeping, they will be able to prepare a budget to control their income and expenses to accomplish future goals.

2. Their net worth is calculated on a balance sheet by subtracting total liabilities from total assets.

\$55,000.00	Total Assets
−\$32,000.00	<u>Total Liabilities</u>
<b>\$23,000.00</b>	<b>Net Worth</b>

Their income surplus, or income available for savings, is calculated on the income statement by subtracting their total annual living expenses, long-term debt payments, and taxes from their total annual income. Because net income is given, income taxes have already been subtracted.

\$65,000.00	Net Income
<u>-\$55,000.00</u>	<u>Expenses</u>
<b>\$10,000.00</b>	<b>Surplus Income</b>

3. Assuming their income stopped, Donovan and Rudabeh could meet their current level of living expenses for slightly more than 2.5 months.

$$\text{Months living expense covered ratio} = \frac{\text{monetary assets}}{\frac{\text{annual living expenses}}{12}} = \frac{\$12,000}{\$4,583} = 2.62 \text{ months}$$

Depending on availability of credit, job and income stability, life cycle stage, and lifestyle, an emergency fund equal to 3 to 6 months of expenses is recommended. Their monetary savings is inadequate for their emergency needs; furthermore, the total amount is earmarked for the house purchase and is not really available for emergency needs.

$$\text{Debt ratio} = \frac{\text{total liabilities}}{\text{total assets}} = \frac{\$32,000}{\$55,000} = 0.58 \text{ or } 58\%$$

Donovan and Rudabeh currently have 58 percent of their assets financed—a high proportion considering that they do not own their home. They should track this ratio over time to ensure that it does not continue upward.

4. Student answers will vary but should include the following.

Accurate and recent financial statements are always recommended when determining financial health. Further, past records should be kept as a method for spotting and analyzing financial trends. Also, a list of personal and financial goals would aid in analyzing Donovan and Rudabeh's financial direction.

5. To develop their budget, Donovan and Rudabeh need to follow the steps below.
- Locate and examine their most recent annual personal income statement. If this is not available, they should accumulate all records to track past income and expenses.
  - Estimate their tax liability.
  - Identify and calculate all sources of fixed expenses (e.g., mortgage, auto loan).
  - Identify and calculate all sources of variable expenses (e.g., food, entertainment).
  - Identify areas for possible reduction in the variable expense category.
  - Determine amount available for savings by subtracting anticipated living expenditures from anticipated take-home pay.
  - Compare anticipated monthly savings with target savings levels required to achieve financial goals.
  - Adapt the budget in accordance with their goals through efforts to earn more, spend less, or downsize the goals.

Using a tool such as Mint or Goodbudget will allow Donovan and Rudabeh to track their income and expenses in real time.

6. Principle 6 would be applicable in this situation because of their limited assets and knowledge. Donovan is cautious, but Rudabeh “likes” the idea; therefore, they need to carefully balance *want* with *need*. Given their anticipated raises, it would be too easy to take the additional money for granted and jump into a housing situation that becomes untenable. A financial planner could help them plan for the purchase of a home and suggest ways to reduce expenses so that they could save more. They could go it alone, but professional advice at a reasonable price could prove to be money well spent, thus enhancing the “smartness” of their purchase.
7. According to a TD Ameritrade survey, nearly half of all couples feel regret about waiting too long to discuss money. It is possible that Donovan and Rudabeh are worried about arguments they may start by opening up an honest conversation about money. Encourage them to pick a happy time to sit down and talk about their financial goals. Recommend that they read an article online together about financial communication.

## DISCUSSION CASE 2 ANSWERS

1. Tim and Jill should expect to provide the planner with sufficient information to develop an income statement and balance sheet. Both will provide useful insights into the Nguyens’ situation and serve as a foundation for calculating the Nguyens’ financial ratios. Armed with this information, the planner and the Nguyens can project a budget for meeting their short-, intermediate-, and long-term goals. These assessments will be necessary to ensure a smooth transition into retirement and to help the Nguyens enjoy the future without worrying about their finances or being forced back into employment.
2. Knowing the total of their investment assets can be useful in two ways. First, the information can be used to develop a balance sheet to determine their current net worth. It will be important for them to track this periodically to ensure that they are not depleting their assets too quickly. Second, they can use the investment information to project future income and prepare a budget. By preparing a realistic budget to match their income, Tim and Jill will be able to live the “good life,” not overspend their assets, and leave enough money to help pay for their grandchildren’s education. They also will be able to manage their assets better by balancing their goals with their budget.
3. An income statement can help the Nguyens monitor their past income and expenses. Both are likely to change as they transition into retirement. Knowledge of past expenses could be very helpful as they plan for future retirement years. Based on this information, they can develop a cash budget to ensure that they meet expenses and leave the desired amount to their grandchildren without outliving their assets.
4. Develop a budget in accordance with their goals. Track expenses to control spending. When a lifestyle change occurs, it is very easy to change past spending habits that fostered a strong financial position. By identifying and pricing their goals, tracking their net worth, and budgeting to control spending, Tim and Jill will know exactly how much of the “good life”

they can realistically afford. It is always wise to provide for the future by preparing in the present.

5. Whether or not Tim and Jill continue to work with a financial planner depends on their financial knowledge, time, and commitment. Given their successful, independent, management of their financial situation to date, they may want to develop their own plan and have it reviewed by a planner as confirmation that they are on the right track. But successfully managing a large investment portfolio takes a great deal of time and knowledge. They may prefer to find a reputable planner with appropriate credentials and experience. It will be important for them to shop around to find someone with whom they feel comfortable. A fee-only planner might be the best choice, especially if their current investments are doing well and the Nguyens are not interested in making big changes that would generate sales, and commissions, for the planner.
6. The Nguyens should track their expenses more closely because overspending without replacement income can be disastrous. In the event of an unexpected bad financial situation or a long downturn in the economy, they would not have the time or resources to rectify their misfortune and achieve their goals. Their big five expenses are likely to be the same as the average U.S. household—taxes, food, housing, medical care, and transportation. Most retirement benefits will be taxable, as will other investment earnings. Depending on the age of the house or appliances, repairs or replacements may be necessary.

## WORKSHEET 2—Financial Objectives Worksheet

The generic objectives provided are typical for people of all ages and are geared to assist you with your goal setting. Please rank the objectives on the following scale.

0 – Not applicable at this time

1 – Not important

2 – Somewhat important

3 – Important

4 – Very important

5 – Crucial

Financial/Personal Objectives	0	1	2	3	4	5
Becoming more financially knowledgeable						
Improving record keeping methods						
Finding a life partner						
Starting a family						
Acquiring additional home furnishings						
Reducing revolving debt						
Increasing savings						
Reducing taxes						
Paying off student loans						
Evaluating insurance needs						
Increasing insurance protection						
Advancing in current career						
Changing careers						
Increasing investment diversification						
Increasing investment return						
Starting a small business						
Planning for children's education costs						
Saving to return to college						
Purchasing a vehicle						
Saving for the down payment on a home						
Purchasing a home						
Caring for parents						
Investing an inheritance						
Saving for retirement						
Retiring early						
Traveling extensively in retirement						
Giving to charity						
Transferring estate assets						
Other:						