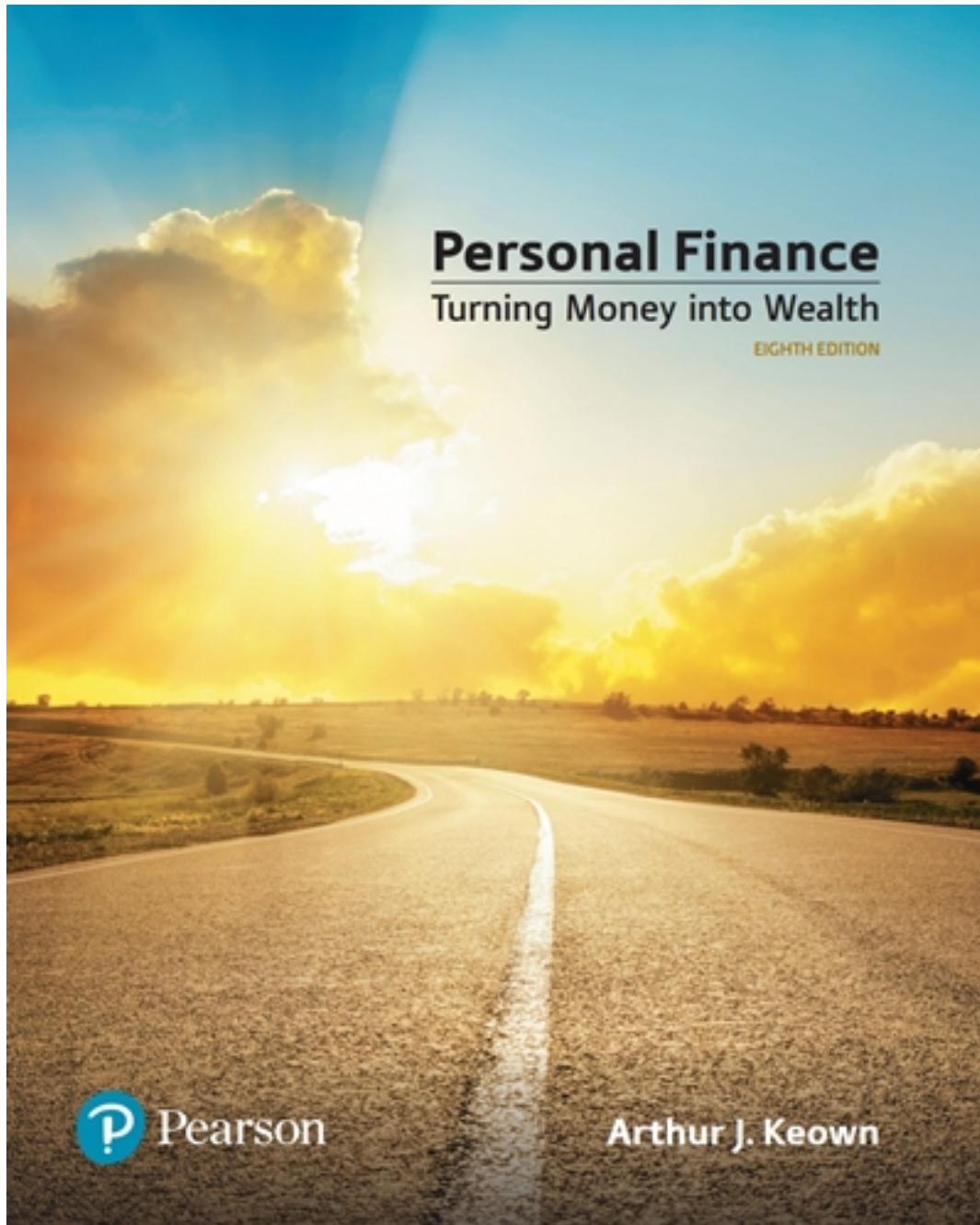


Solutions for Personal Finance 8th Edition by Keown

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Solutions

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:						

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 Louise 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 Larry 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.
- VII. Behavioral Insights
 - A. Principle 9: Mind Games, Your Financial Personality, and Your Money
- VII. Action Plan
 - A. Principle 10: Just Do It!

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 = $(\$90,000 + \$20,000 + \$10,000) - (\$50,000 + \$4,000 + \$150) = \$65,850$

The Lees have a positive net worth of \$65,850. This means that if they sold all of their assets and paid off all their debt, they would still have money left over.

2. Debt ratio = $\frac{\text{total liabilities}}{\text{total assets}} = \frac{\$54,150}{\$120,000} = 0.4513 \text{ or } 45.13\%$

The ratio tells Mary Jane and Mike that 45 percent of their assets are financed with borrowing. The Lees should track this ratio to make sure it goes down as they age.

3. After accounting for all expenses, Ed and Marta's income statement shows \$200 available on a monthly basis for savings.

$$\text{Savings ratio} = \frac{\text{income available for savings}}{\text{income available for living expenses}} = \frac{\$200}{\$3,250} = 0.0615 \text{ or } 6.15\%$$

The ratio tells Ed and Marta that approximately 6 percent of their income is available for savings. This amount is significant compared to average, but lower 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. Current ratio = $\frac{\text{monetary assets}}{\text{current liabilities}} = \frac{\$6,000}{\$1,500} = 4.00$

The 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.

$$5. \text{ Current ratio} = \frac{\text{monetary assets}}{\text{current liabilities}} = \frac{\$3,125}{\$875} = 3.57$$

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.

$$\text{Savings ratio} = \frac{\text{income available for savings}}{\text{income available for living expenses}} = \frac{\$738}{\$2,400} = 0.3075 \text{ or } 30.75\%$$

Faith is to be commended for her savings rate, but it is lower than the often-recommended level of 10 percent, and 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.

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

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
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 ($20\% \times \$41,000$)
–\$4,100.00	Retirement ($10\% \times \$41,000$)
<u>–\$2,050.00</u>	<u>Additional savings ($5\% \times \\$41,000$) assumption for example</u>
\$26,650.00	Income to meet living expenses

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
<u>-\$32,000.00</u>	<u>Total Liabilities</u>
\$23,000.00	Net Worth

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>
\$10,000.00	Surplus Income

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

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

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.
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.

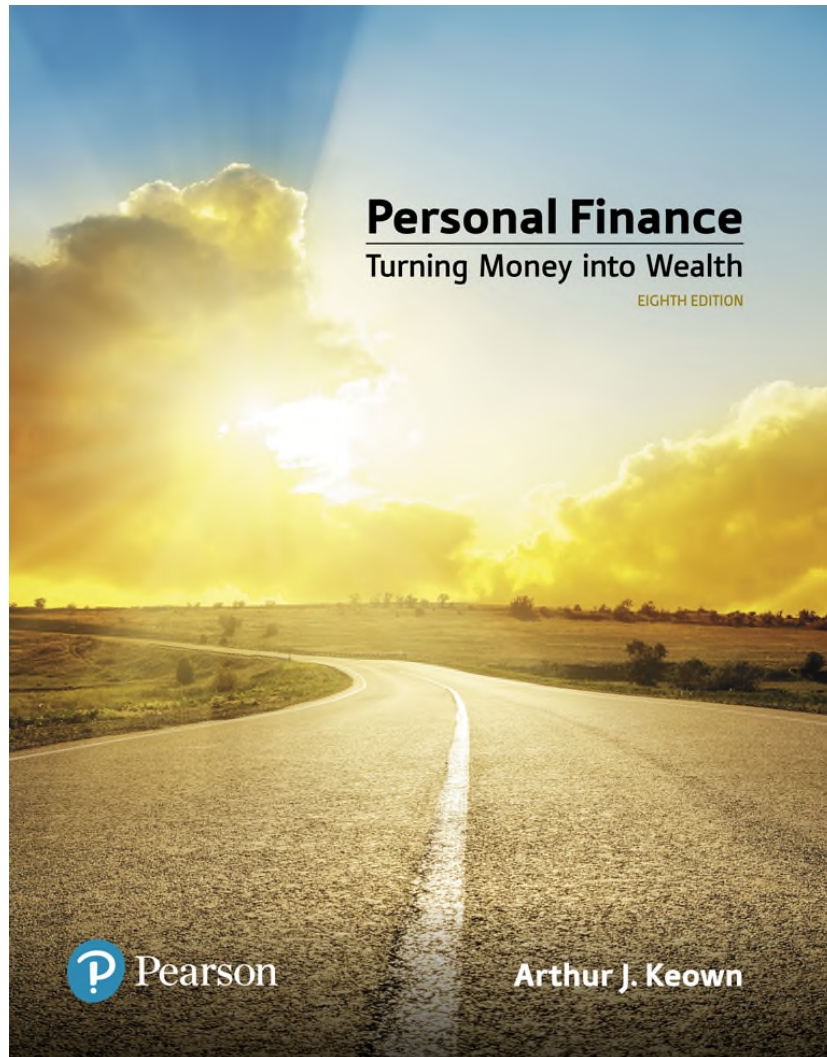
DISCUSSION CASE 2 ANSWERS

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 Taylors' situation and serve as a foundation for calculating the Taylors' financial ratios. Armed with this information, the planner and the Taylors 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 Taylors 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 Taylors 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 Taylors are not interested in making big changes that would generate sales, and commissions, for the planner.
6. The Taylors 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.

Personal Finance: Turning Money into Wealth

Eighth Edition



Chapter 2

Measuring Your Financial Health and Making a Plan

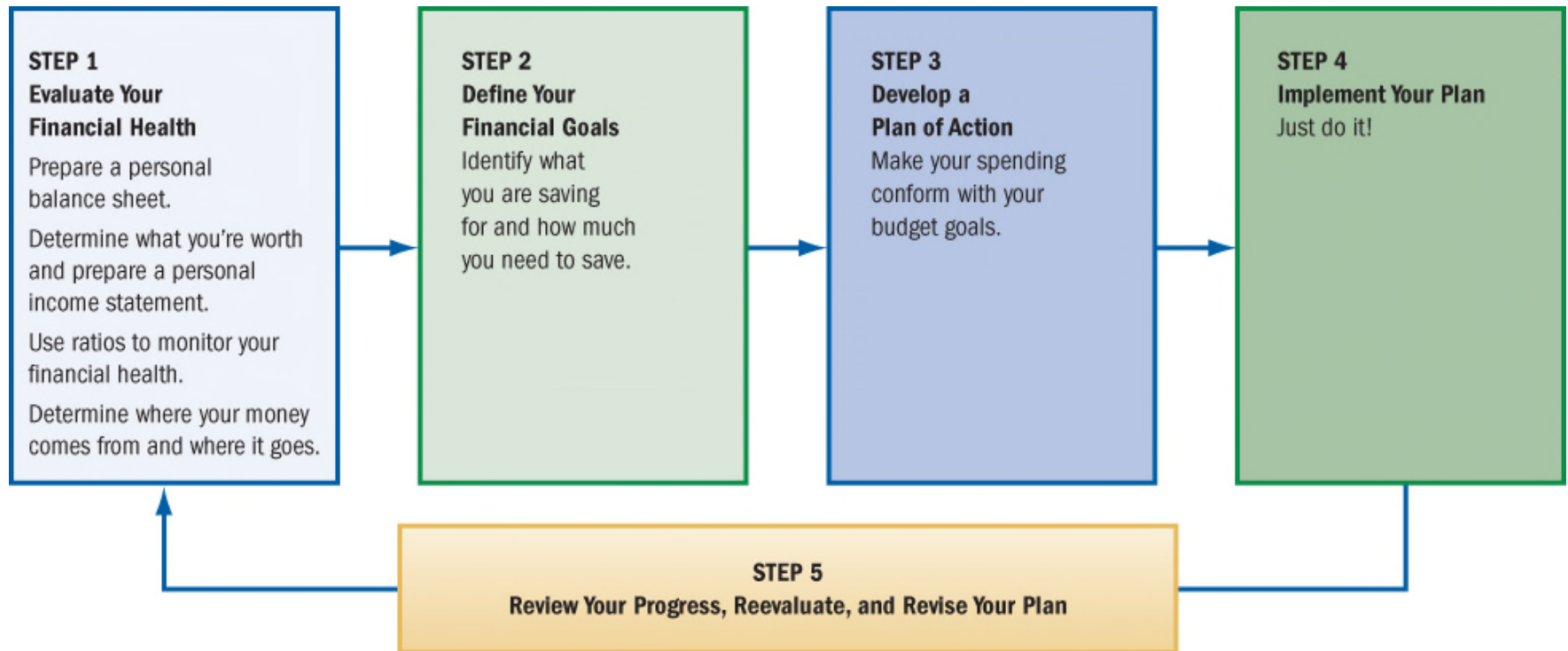
Learning Objectives

- 2.1** Calculate your level of net worth or wealth using a balance sheet.
- 2.2** Analyze where your money comes from and where it goes using an income statement.
- 2.3** Use ratios to identify your financial strengths and weaknesses.
- 2.4** Set up a record-keeping system to track your income and expenditures.
- 2.5** Implement a financial plan or budget that will provide for the level of savings needed to achieve your goals.
- 2.6** Decide if a professional financial planner will play a role in your financial affairs.

Introduction

- Where does all your money go?
- Planning and budgeting require control.
- Evaluate your financial health.
- Develop a plan of action.

Figure 2.1 The Budgeting and Planning Process: Evaluating Your Financial Health and Developing a Plan of Action



Using a Balance Sheet to Measure Your Wealth

- A snapshot of your financial status at a particular time
- Assets you own
- Debt or liabilities you owe
- Your net worth or equity

Figure 2.2 Personal Balance Sheet

Assets (What You Own)	
A. Monetary Assets (bank account, etc.) (Chapter 5)	_____
B. Investments (Chapters 11-15)	+ _____
C. Retirement Plans (Chapter 16)	+ _____
D. Housing (market value) (Chapter 8)	+ _____
E. Automobiles (Chapter 8)	+ _____
F. Personal Property	+ _____
G. Other Assets	+ _____
H. Your Total Assets (add lines A-G)	= _____
Liabilities or Debt (What You Owe)	
Current Debt	
I. Current Bills	_____
J. Credit Card Debt (Chapter 6)	+ _____
Long-Term Debt	
K. Housing (Chapter 8)	_____
L. Automobile Loans (Chapter 8)	+ _____
M. Other Debt (Chapter 7)	+ _____
N. Your Total Debt (add lines I-M)	= _____
Your Net Worth	
H. Total Assets	_____
N. Less: Total Debt	- _____
O. Equals: Your Net Worth	= _____

Assets: What You Own (1 of 2)

- Assets are your possessions even if you owe money on them.
- List assets using their fair market value.
- All values must be current.

Assets: What You Own (2 of 2)

- Monetary assets—cash or liquid asset
- Investments
- Retirement plans
- Tangible assets—physical assets
 - House, vehicles, furniture, jewelry, collectibles, etc.

Liabilities: What You Owe (1 of 2)

- Liability is debt that must be repaid in the future.
- Current liabilities must be paid off within the next year.
- Long-term liabilities come due beyond a year.
- List only the unpaid balances.

Liabilities: What You Owe (2 of 2)

- Current bills—utility bills, insurance premiums, or credit card balances
- Long-term liabilities—home, car, or student loans
- Other loans—other installment loans, bank loans, or insurance policy loans

Net Worth: A Measure of Your Wealth

- Net worth = total assets – total debt
- If liabilities > assets, negative net worth and insolvent
- If liabilities < assets, positive net worth
- Good level of net worth depends on your goals and your place in the financial life cycle.

Figure 2.3 A Balance Sheet for Louise and Larry Tate, December 31, 2017

MONETARY ASSETS			
A. Total Monetary Assets	A.	=	3,590
INVESTMENTS			
Mutual Funds			5,600
Individual Stocks and Bonds		+	9,500
Investment Real Estate (REITs, partnerships)		+	0
Other (life insurance—cash value, REITs, other)		+	0
B. Total Investments	B.	=	15,100
RETIREMENT PLANS			
401(k) and 403(b), SEP-IRA Plan			2,500
Company Pension		+	8,000
IRA		+	8,000
C. Total Retirement Plans	C.	=	18,500
HOUSING			
Primary Residence			170,000
Time-Shares/Condominiums and Second Home		+	70,000
D. Total Housing (market value)	D.	=	240,000
AUTOMOBILES			
E. Total Automobiles	E.	=	12,000
PERSONAL PROPERTY			
F. Total Personal Property	F.	=	11,000
OTHER ASSETS			
G. Total Other Assets	G.	=	0
TOTAL ASSETS			
H. Total Assets (add lines A–G)	H.	=	300,190
Liabilities or Debt (What They Owe)			
CURRENT BILLS			
I. Current Bills (unpaid balance)	I.	=	350
CREDIT CARD DEBT			
J. Total Credit Card Debt	J.	=	1,150
HOUSING LOANS			
First Mortgage			105,000
Second-Home Mortgage		+	52,000
Home Equity Loan		+	9,000
K. Total Housing Loans	K.	=	166,000
AUTOMOBILE LOANS			
L. Total Automobile Loans	L.	=	3,000
OTHER DEBT			
College Loans			4,000
Other Loans (installment, bank, other)		+	1,000
M. Total Other Debt	M.	=	5,000
TOTAL DEBT			
N. Total Debt (add lines I–M)	N.	=	175,500
Net Worth			
TOTAL ASSETS			
H. Total Assets	H.	+	300,190
LESS: TOTAL DEBT			
N. Less: Total Debt	N.	–	175,500
EQUALS: NET WORTH			
O. Equals: Net Worth	O.	=	124,690

Assets: This includes everything they own.

The Tates' primary investments are their home and their vacation condominium in Vail, which have market values of \$170,000 and \$70,000, respectively.

Adding all the assets together shows that the Tates own or have total assets of \$300,190.

Liabilities: This includes everything they owe.

Just as the Tates' homes make up their primary assets, their mortgages on these homes make up their primary liabilities. Their mortgage loans total \$166,000.

The Tates' total liabilities, or what they owe, equals \$175,500.

We use net worth to gauge financial progress. If in future balance sheets the Tates' net worth is higher, the Tates are accumulating more wealth.

Net Worth: This is the difference between assets and liabilities and is a measure of wealth.

If the Tates sold off all their assets and paid off all their debts, they would have \$124,690 in cash—that is their net worth.

Using an Income Statement to Trace Your Money

- Financial motion picture—tells you where your money has come from and where it has gone over some period of time
- Income and expenditure, net income statement
- Cash basis—based on actual cash flows
- Income – expenses (over given time period)

Figure 2.4 A Simplified Income Statement

Your Take-Home Pay

A. Total Income		A.	_____
B. Total Income Taxes	—	B.	_____
C. After-Tax Income Available for Living Expenditures or Take-Home Pay (line A minus line B)	=	C.	_____

Your Living Expenses

D. Total Housing Expenditures		D.	_____
E. Total Food Expenditures	+	E.	_____
F. Total Clothing and Personal Care Expenditures	+	F.	_____
G. Total Transportation Expenditures	+	G.	_____
H. Total Recreation Expenditures	+	H.	_____
I. Total Medical Expenditures	+	I.	_____
J. Total Insurance Expenditures	+	J.	_____
K. Total Other Expenditures	+	K.	_____
L. Total Living Expenditures (add lines D–K)	=	L.	_____

Total Available for Savings and Investment

C. After-Tax Income Available for Living Expenditures or Take-Home Pay		C.	_____
L. Total Living Expenditures (add lines D–K)	—	L.	_____
M. Income Available for Savings and Investment (line C minus line L)	=	M.	_____

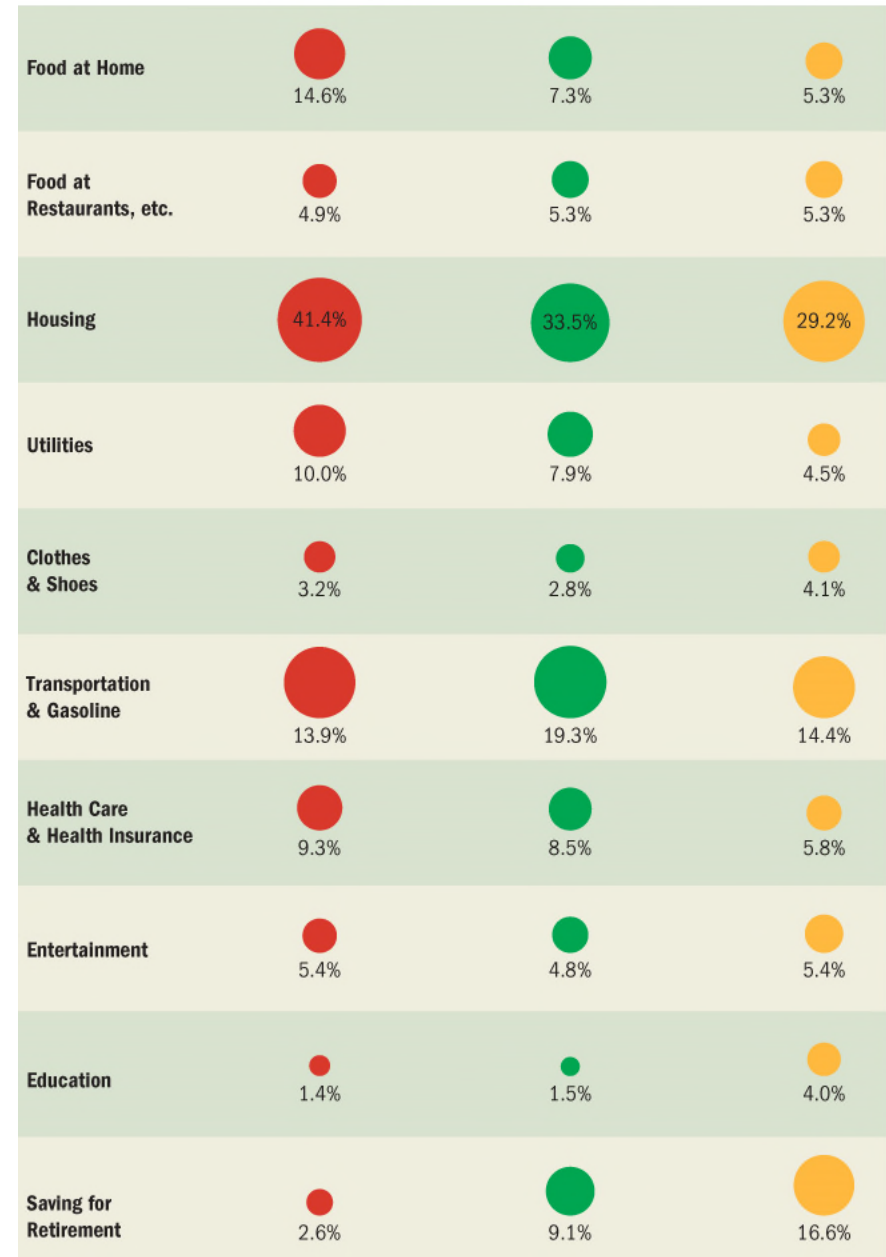
Income: Where Your Money Comes from

- Income or cash inflows:
 - Wages, salary, bonuses, tips, commissions
 - Other sources: family income, government payments (veterans benefits, welfare), investment income
- Subtract federal, state, social security taxes from earnings to calculate your take-home pay.

Expenditures: Where Your Money Goes

- Cash transactions may not leave a paper trail.
- Variable or fixed expenditures
- Control over expenditures

Figure 2.5 How Americans Spent Their Money in 2016



Note: Note: Because some family units spend more than their income, totals may exceed 100%.

Source: Consumer Expenditures (U.S. Department of Labor, U.S. Bureau of Labor Statistics, August 2016).

Figure 2.6 A Personal Income Statement for Louise and Larry Tate

Take-Home Pay			
Income			
Wages and Salaries			
Wage Earner 1	\$57,500		
Wage Earner 2	12,000		
= Total Wages and Salaries		69,500	
+ Interest, Dividends, Royalties, Other		720	
= A. Total Income		\$70,220	
Taxes			
Federal Income and Social Security		11,830	
+ State Income		1,880	
= B. Total Income Taxes		\$13,710	
C. After-Tax Income Available for Living Expenditures or Take-Home Pay (line A minus line B)		\$56,510	
Living Expenses			
Housing			
Rent		0	
+ Mortgage Payments		19,656	
+ Utilities, Maintenance, Taxes, Furniture, Other		10,820	
= D. Total Housing Expenditures		\$30,476	
Food			
Food and Supplies		5,800	
+ Restaurant Expenses		1,400	
= E. Total Food Expenditures		\$ 7,200	
Clothing and Personal Care			
= F. Total Clothing and Personal Care Expenditures		\$ 2,590	
Transportation			
Automobile Loan Payments		2,588	
+ Gas, Tolls, Parking, Repairs, Other		1,550	
= G. Total Transportation Expenditures		\$ 4,138	
Recreation			
Vacation		2,000	
Other Recreation		1,700	
= H. Total Recreation Expenditures		\$ 3,700	
Medical Expenditures			
= I. Total Medical Expenditures		\$ 410	
Insurance Expenditures			
Health and Life		420	
+ Automobile		1,260	
+ Disability, Liability, Other		260	
= J. Total Insurance Expenditures		\$ 1,940	
Other Expenditures			
Educational Expenditures (college loan payments)		1,600	
+ Child Care, Other		180	
= K. Total Other Expenditures		\$ 1,780	
L. Total Living Expenditures (add lines D-K)		\$52,234	
Total Available for Savings and Investment			
= M. Income Available for Savings and Investment (line C minus line L)		\$ 4,276	

Take-home pay is after-tax income—it is what you have available to spend or save.

Your income statement makes sense only if you know where your money goes. To determine your living expenses, keep a small notebook or some notepaper in your purse or wallet, and write down all your cash expenditures—do this for a month. You'll probably be surprised to see where your money went. In addition, make use of your credit card bills and cancelled checks to help you keep track.

If your take-home pay is greater than your living expenses, you can save and invest—but if your take-home pay is less than your living expenses, you've got some changes to make.

Using Ratios: Financial Thermometers

- Financial ratios allow you analyze raw data in the balance sheet or income statement and then compare it to targets.
- Ratios help you understand how you are managing financial resources.

Question 1: Do I Have Enough Liquidity to Meet Emergencies?

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

- Should be greater than 1.0
- Aim for above 2.0

$$\text{month's living expenses covered ratio} = \frac{\text{monetary assets}}{\text{annual living expenditures} / 12}$$

- Should aim for 3 to 6 months of liquid assets
- Less if enough credit and insurance

Question 2: Can I Meet My Debt Obligations?

- Should decrease as you get older

$$\text{debt ratio} = \frac{\text{total debt or liabilities}}{\text{total assets}}$$

- Red flag if less than 2.5

$$\text{long-term debt coverage ratio} = \frac{\text{total income available for living expenses}}{\text{total long-term debt payments}}$$

Question 3: Am I Saving as Much as I Think I Am?

- Effective saving is by paying yourself first.

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

Record Keeping

- Without records, it's difficult to prepare taxes.
- By tracking expenses, you know how much and where you are spending.
- It's also easier for someone to step in during an emergency and understand your financial situation.

Record Keeping Steps

1. Track your financial dealings.
 - Credit card and check expenditures are easy to track, but cash expenditures are more difficult to track.
2. File and store your financial records so they are readily accessible.

Figure 2.7 Web-Based Financial Planning with Mint and Level Money

- ◆ Free.
- ◆ Recommended by the *Wall Street Journal* and *Businessweek*.
- ◆ Award-winning, top-rated online finance service by PC World.
- ◆ Extremely easy to use.
- ◆ Connects securely with more than 16,000 U.S. financial institutions and automatically updates all transactions.
- ◆ Spending is automatically categorized to make it easy to see how much you're spending on food, gas, groceries, entertainment, and more.
- ◆ Has a free app available for smartphones and other electronic devices.

What can you do with Mint.com?

- ◆ View all your accounts together at the same time – from checking and savings to credit cards, retirement, and more.
- ◆ Mint automatically pulls in and categorizes your transactions daily. You only need to enter your cash transactions. All other transactions are automatically entered.
- ◆ Mint can create a budget based on your actual spending, or you can create your own. Your budget works in real time, allowing you to know how much you can spend while you're out.
- ◆ Late fees and monitor cash flow. Mint allows you to stay up-to-date with e-mail or text alerts (your choice) for budgets, fees, due dates, low balances, unusual activity, and more.
- ◆ Mint allows you to track all your expenses at a particular merchant – for example, Starbucks – to see whether you are spending more or less than usual there.
- ◆ Mint tracks all of your investments, including your brokerage and bank accounts, 401(k)s, and IRAs, keeping you up-to-date on the performance of your investments.
- ◆ Mint helps you plan for your goals – like buying a car, retirement, and buying a house – and works those goals into your budget.

Web site: Level Money – “the mobile money meter”

Address: <https://levelmoney.com/>

Features:

- ◆ Free.
- ◆ Extremely simple and easy to use.
- ◆ Automatically updates spendable cash as you make purchases each day, providing a simple, real-time picture of how you're doing in order to stay in the black.
- ◆ Top US banks support connections with Level Money.

What can you do with Level Money?

- ◆ Extremely simple – if you'd like some financial control without the effort, this is for you, and it's free.
- ◆ Automatically updates spendable cash as you make purchases each day.
- ◆ Automatically tracks spending history and cash flow.
- ◆ Reinforces positive habits and provides necessary insights about spending and saving.
- ◆ Calculates total income and recurring bills, calculates how much you want to save every month and subtracts that from your spendable monthly income—it then shows you how much you can spend today, this week, and this month.

Putting It All Together: Budgeting

- Evaluate your financial health by using the balance sheet and income statement:
 - To set financial goals
 - To achieve financial goals
- Develop a plan of action and cash budget using the income statement.
- Monitor your progress using the balance sheet and income statement.

Developing a Cash Budget

- Plan for controlling cash inflows and outflows.
- Allocate dollar amounts for different spending categories.

Preparing a Cash Budget

- Estimate anticipated after-tax income or take home pay from most recent annual personal income statement.
- Estimate fixed and variable living expenses.
- Estimate income available for saving and investing: subtract anticipated living expenditures from anticipated take-home pay.

Implementing the Cash Budget

- Try it for a month.
- Compare actual expenditures in each category with budget amounts at the end of the month.
- Evaluate whether you should change budget estimates or exert self-control.
- Stick your desired budget for a month with in an envelope system.

Love & Money

- Communication, especially about money, is one of the keys to a good relationship.
- Money talk involves sharing goals, personal feelings, and intimacies.
- Pick a “happy time” to start the conversation.

Hiring a Professional

Three options for working with professionals

1. Go it alone and have your plan checked by a professional.
2. Work with a professional to develop a plan.
3. Leave it all in the hands of a pro.

What Planners Do

- More unique financial situations need professional help.
- They give advice.
- You still need to know the basics and still bear ultimate responsibility.

Choosing a Professional Planner

- Check accreditations:
 - Personal financial specialist (PFS)
 - Certified financial planner (CFP)
 - Chartered financial consultants (ChFC)
- Check experience
- Referrals

How Financial Planners Are Paid

- Fee-only planners
- Fee-and-commission planners
- Fee offset planners
- Commission-based planners

Summary (1 of 2)

- Use a balance sheet to determine the level of wealth that you or your family has accumulated on a given date.
- Use an income statement to understand where your money comes from and goes to be able to save enough to meet goals.
- Use financial ratios as targets or standards in managing financial resources.

Summary (2 of 2)

- A sound record-keeping systems makes tax preparation and tracking of spending easier.
- Use a budget to plan and evaluate spending and saving.
- Professional financial planners can help by validating your plan or developing a plan.

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