Chapter 2

Using Financial Statements and Budgets

Chapter Outline

Learning Objectives

I. Mapping Out Your Financial Future
- A. The Role of Financial Statements in Financial Planning

II. The Balance Sheet: How Much Are You Worth Today?
- A. Assets: The Things You Own
- B. Liabilities: The Money You Owe
- C. Net Worth: A Measure of Your Financial Worth
- D. Balance Sheet Format and Preparation
- E. A Balance Sheet for Carl and Rachel Hawley

III. The Income and Expense Statement: What We Earn and Where It Goes
- A. Income: Cash In
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- C. Cash Surplus (or Deficit)
- D. Preparing the Income and Expense Statement
- E. An Income and Expense Statement for Carl and Rachel Hawley

IV. Using Your Personal Financial Statements
- A. Keeping Good Records
  - 1. Managing Your Financial Records
- B. Tracking Financial Progress: Ratio Analysis
  - 1. Balance Sheet Ratios
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V. Cash In and Cash Out: Preparing and Using Budgets
- A. The Budgeting Process
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- B. Dealing with Deficits
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VI. The Time Value of Money: Putting a Dollar Value on Financial Goals

A. Future Value
    1. Future Value of a Single Amount
    2. Future Value of an Annuity
B. Present Value
    1. Present Value of a Single Amount
    2. Present Value of an Annuity
    3. Other Applications of Present Value

Major Topics

We can achieve greater wealth and financial security through the systematic development and implementation of well-defined financial plans and strategies. Certain life situations require special consideration in our financial planning. Financial planners can help us attain our financial goals, but should be chosen with care. Personal financial statements work together to help us monitor and control our finances in order that we may attain our future financial goals by revealing our current situation, showing us how we used our money over the past time period, and providing a plan for expected future expenses. Time value of money calculations allow us to put a dollar value on these future financial goals and thereby plan more effectively. The major topics covered in this chapter include:

1. The importance of financial statements in the creation and evaluation of financial plans.
2. Preparing and using the personal balance sheet to assess your current financial situation.
3. The concept of solvency and personal net worth.
4. Preparing and using the personal income and expense statement to measure your financial performance over a given time period.
5. The importance of keeping and organizing your records.
6. The use of financial ratios to track financial progress.
7. Developing a personal budget and using it to monitor and control progress toward future financial goals.
8. How to deal with cash deficits.
9. The use of time value of money concepts in putting a dollar value on financial goals.

Key Concepts

Personal financial statements play an extremely important role in the financial planning process. They can help in both *setting goals* and in *monitoring progress toward goal achievement* to determine whether one is "on track." Budgeting and financial planning guide future outlays. As such, they require projections of future needs, desires, and costs. Setting up a specific set of forecasts is the basis for future success. The following phrases represent the key concepts discussed in the chapter.

1. Personal financial statements
2. Balance sheet equation

3. Types of assets, including liquid assets, investments, and personal and real property
4. Fair market value
5. Liabilities, including current liabilities, open account credit obligations, and long-term liabilities
6. Net worth and equity
7. Insolvency
8. Income
9. Expenses, including fixed and variable expenses
10. Cash basis
11. Cash surplus or deficit
12. Record keeping
13. Liquidity, solvency, savings, and debt service ratios
14. Ratio analysis of financial statements
15. Cash budgets
16. Estimating income
17. Estimating expenses
18. Monitoring and controlling actual expenses
19. Time value of money concepts and calculations
20. Income and expense statement
21. Budget control schedule
22. Future value
23. Compounding
24. Annuity
25. Present value
26. Discounting

Financial Planning Exercises

The following are solutions to problems at the end of the PFIN5 textbook chapter.

1. *Preparing financial statements*: In this exercise, we assume that the individual uses the cash basis of accounting rather than the accrual basis for reporting on the financial statements.

   a. Rent paid is listed as an expense. For the year, his rent expense would be $16,200 ($1,350 x 12) unless he has rent due, the amount of which would show up as a current liability on his balance sheet.

   b. The earrings should be shown on the balance sheet as an asset—personal property. Although the earrings have not been paid for, by definition they are an asset owned by Harrison. However, they should be listed at fair market value, which is probably less than the price paid due to the high markup on jewelry. The $900 bill outstanding is listed as a current liability on the balance sheet.

   c. Since no loan payments were made during the period, a corresponding expense would not appear, but the obligation to repay the $3,500 would be shown as a liability on the balance sheet. However since he is “borrowing” from his parents, this may not be a liability, rather a gift from his parents. If the parents expect the amount to be repaid it is a loan; otherwise, it is a gift. Regardless, it will increase cash and increase either liability or equity, depending upon whether it is a loan or a gift.

d. Assuming he made 12 payments during the year, Harrison would list loan payments as an expense of $2,700. Whether the expense is principle or interest is of no interest to Harrison; he has to pay the $2,700. If the loan cannot be prepaid [that is the principle may not be paid before it is due], the remaining liability is $4,500. If the loan can be prepaid then of the 20 remaining payments, only about half are for principal. Therefore, on the balance sheet he should show the unpaid principal of about $2,250 (20 x $225/2) as a liability. The balance of the future payments is interest not yet due and therefore should not appear on the balance sheet. If the loan was used to purchase something of value, he would list the fair market value of the item as an asset on his balance sheet.

e. The $3,800 of taxes paid should appear as an expense on the income and expense statement for the period, but because the tax refund was not received during the year it would not be included as income on the statement.

f. The investment in common stock would appear on balance sheet as a reduction in cash (an asset) and an increase in "investments” (an asset) at the current fair market value of the stock.

g. Harrison’s Aunt June gave him $300. The cash on the balance sheet will increase by $300 and the equity or net worth will also increase by $300.

2. *Preparing personal balance sheet*

BALANCE SHEET					
Name(s)	Leslie Eastman		Date	30-Jun-16	
ASSETS			**LIABILITIES**		
Liquid Assets					
Cash on hand	$ 70		**Current Liabilities**		
In checking	180		Telephone	$ 20	
Money market deposit	650		Electricity	70	
Total Liquid Assets		**$ 900**	Charge account balance	190	
			Visa	180	
Investments			MasterCard	220	
U.S. government savings bonds	$ 500		Taxes	400	
Stock of Alpha Corp.	3,000		Insurance	220	
Total Investments		**$ 3,500**	**Total Current Liabilities**		**$ 1,300**
Real Property			**Long-Term Liabilities**		
Condo and property	$68,000		Condo mortgage loan	$ 52,000	
Total Real Property		**$ 68,000**	Auto loans	3,000	
			Furniture loans	500	
Personal Property			**Total Long-Term Liabilities**		**$ 55,500**
Automobile: 2010 Honda Civic	$ 9,775				
Furniture	1,050		**Total Liabilities (II)**		**$ 56,800**
Clothing	900				
Total Personal Property		**$ 11,725**	**Net Worth [(I - II)]**		**$ 27,325**
Total Assets (I)		**$ 84,125**	**Total Liabilities and Net Worth**		**$ 84,125**

a. *Solvency:* This term refers to having a positive net worth. The calculation for her solvency ratio is as follows:

$$\text{Solvency Ratio} = \frac{\text{Total Net Worth}}{\text{Total Assets}} = \frac{\$27,325}{\$84,125} = 32.48\%$$

This indicates that Leslie could withstand about a 33% decline in the market value of her assets before she would be insolvent. Although this is not too low a value, some thought might be given to increasing her net worth.

b. *Liquidity:* A simple analysis of Leslie's balance sheet reveals that she's *not very liquid.* In comparing current liquid assets ($900) with current bills outstanding ($1,300), it is obvious that she cannot cover her bills and is, in fact, \$400 short (i.e., \$1,300 current debt – \$900 current assets). Her liquidity ratio is:

$$\text{Liquidity ratio} = \frac{\text{Liquid Assets}}{\text{Total Current Debt}} = \frac{\$\ 900}{\$1{,}300} = 69.2\%$$

This means she can cover only about 69% of her current debt with her liquid assets. If we assume that her installment loan payments for the year are about \$2,000 (half the auto loan balance and all of the furniture loan balance) and add them to the bills outstanding, the liquidity ratio at this level of liquid assets is:

$$\text{Liquidity ratio} = \frac{\text{Liquid assets}}{\text{Total Current Debts}} = \frac{\$\ 900}{\$3{,}300} = 27.3\%$$

This indicates that should her income be curtailed, she could cover only about 27% of her existing one-year debt obligations with her liquid assets—and this does *not* include her mortgage payment! This is clearly not a favorable liquidity position.

c. *Equity in her Dominant Asset:* Her dominant asset is her condo and property, which is currently valued at \$68,000. Since the loan outstanding on this asset is \$52,000, the equity is \$16,000 (i.e., \$68,000 – \$52,000). This amount indicates about a 24% equity interest (i.e., \$16,000/\$68,000) in the market value of her real estate. This appears to be a favorable equity position.

3. *Preparing personal income and expense statement.* Worksheet 2.2 is below.

INCOME AND EXPENSE STATEMENT			
Name (s) Parker and Kylie Cleary			
For the Year	Ended		December 31, 2016
INCOME			
Wages and salaries	Name: Parker and Kylie Cleary	$	47,000
	Name:		
	Name:		
Self-employment income			
Bonuses and commissions			
Investment income	Interest received	$	180
	Dividends received		
	Rents received		
	Sale of securities		
	Other		
Pensions and annuities			
Other income	Reimbursement for Travel Expenses - Amy	$	1,950
	(I) Total Income	$	49,130
EXPENSES			
Housing	Rent/mortgage payment	$	9,600
	Repairs, maintenance, improvements		
Utilities	Gas, electric, water	$	960
	Phone		
	Cable TV and other		
Food	Groceries	$	4,150
	Dining out		
Transportation	Auto loan payments	$	2,450
	License, plates, fees, etc.		
	Gas, oil, repairs, tires, maintenance	$	650
Medical	Health, major medical, disability insurance		
	Doctor, dentist, hospital, medicines		
Clothing	Clothes, shoes, and accessories	$	2,700
Insurance	Homeowner's		
	Life		
	Auto		
Taxes	Income and social security		
	Property		
Appliances, furniture, and	Loan payments	$	
	Purchases and repairs		
Personal care	Laundry, cosmetic, hair care		
Recreation and entertainment	Vacations		
	Other recreation and entertainment	$	280
Other items	Ned’s tuition, books, and supplies	$	3,300
	Beta Corp. bonds	$	4,900
	Travel expenses	$	1,950
	(II) Total Expenses	$	30,940
	CASH SURPLUS (OR DEFICIT) [(I) - (II)]	$	18,190

4. *Preparing cash budgets*:

a. Raul is correct in suggesting that only take-home pay be shown as income if the $1,083 ($5,000 – $3,917) in taxes is not shown as an expense. If they choose to show the tax expense, Felicia would be correct. Expressing income on an after-tax basis may be simpler and make sense from a cash basis accounting standpoint. However, if the taxes withheld is not reported, the information is lost. If there is a balance due for which a check is written, the report will show taxes as only the amount that was balance due.

b. By having an allowance for "fun money," the Ojedas have specifically set aside a certain portion of their income for a little self-indulgence. This will serve three basic purposes: (1) it will give a little financial independence to each member of the family; (2) to a certain extent it allows for a little impulse buying which might further the enjoyment of life. However, it allows for this luxury under a budget control and diminishes the possibility of it occurring with an allocation from another account; and (3) it generally promotes a higher quality of life. Thus, the inclusion of "fun money" is probably justified.

PLEASE NOTE: The following problems deal with time value of money, and solutions using both the tables and the financial calculator will be presented. The factors taken from the tables are as follows: future value–Appendix A; future value annuity–Appendix B; present value–Appendix C; present value annuity–Appendix D. If using the financial calculator, set on *End Mode* and *1 Payment/Year*. The +/- indicates the key to change the sign of the entry, in these instances from positive to negative. This keystroke is required on some financial calculators in order to make the programmed equation work. Other calculators require that a "Compute" key be pressed to attain the answer.

5. *Calculating present and future values:*

a. At the end of 25 years, your $45,000 investment would grow to $244,215 at a 7% return.

FV	=	PV x FV factor $_{7\%,\ 25\ yrs.}$	45000	+/-	PV
	=	$45,000 x 5.427	7		I
	=	$244,215	25		N
			FV		$\boxed{\$244,234.47}$

b. At the end of 10 years the average new home, which costs $275,000 today, will cost $447,975 if prices go up at 5% per year.

FV	=	PV x FV factor $_{5\%,\ 10\ yrs.}$	275000	+/-	PV
	=	$275,000 x 1.629	5		I
	=	$447,975	10		N
			FV		$\boxed{\$447,946.02}$

c. No, you will have approximately $78,925 less than your estimate of $214,000 (or 214,000 - $135,075).

FV	=	PV x FV factor $_{4\%,\ 15\ yrs.}$	75000	+/-	PV
	=	$75,000 x 1.801	4		I
	=	$135,075	15		N
			FV		$135,070.76

You will need to deposit $10,687.18 at the end of each year for 15 years in order to reach the $214,000 goal.

PMT	=	FV ÷ FVA factor $_{4\%,\ 15\ yrs.}$	214000	+/-	FV
	=	$214,000 ÷ 20.024	4		I
	=	$10,687.18	15		N
			PMT		$10,687.40

d. You will need to invest $13,577.55 at the end of each year at a rate of 4% for the next 35 years in order to retire with $1 million.

PMT	=	FV ÷ FVA factor $_{4\%,\ 35\ yrs.}$	1000000	+/-	FV
	=	$1,000,000 ÷ 73.651	4		I
	=	$13,577.55	35		N
			PMT		$13,577.32

6. *Funding a retirement goal.*

a. Jamal can withdraw $71,955.39 at the end of every year for 15 years.

PV	=	PMT x PVA factor $_{4\%,\ 15\ yrs.}$	800000	+/-	PV
PMT	=	PV ÷ PVA factor $_{4\%,\ 15\ yrs.}$	4		I
	=	$800,000 ÷ 11.118	15		N
	=	$71,955.39	PMT		$71,952.88

b. To withdraw $35,000 at the end of every year for 15 years, Jamal would need a retirement fund of $389,130.

PV	=	PMT x PVA factor $_{4\%,\ 15\ yrs.}$	35000	+/-	PMT
	=	$35,000 x 11.118	4		I
	=	$389,130	15		N
			PV		$389,143.56

c. Jamal will not need to invest any additional funds because the original investment will meet his retirement needs.

Answers to Test Yourself Questions

The following are solutions to "Test Yourself Questions" found on the student website, PFIN 5 Online, at www.cengagebrain.com. You can find the questions on the instructor site as well.

2-1 What are the two types of personal financial statements? What is a budget, and how does it differ from personal financial statements? What role do these reports play in a financial plan?

Personal financial statements provide important information needed in the personal financial planning process. The balance sheet describes your financial condition [that is what assets and liabilities you have] at one point in time. The income and expense statement measures financial performance [cash surplus or deficit] over a given time period typically monthly or annually. Budgets help you plan your future spending. The budget is a statement of the future income or expenses that will result from your financial plan. By comparing the actual income and expenses to the budget you can see when your plan needs to be modified. Together these statements give you information needed for your financial planning process.

2-2 Describe the balance sheet, its components, and how you would use it in personal financial planning. Differentiate between investments and real and personal property.

Th*e balance sheet* summarizes your financial position by showing your assets (what you own listed at fair market value), your liabilities (what you owe), and your net worth (the difference between assets and liabilities) at a given point in time. With a balance sheet, you know whether your assets are greater than your liabilities, and by comparing balance sheets for different time periods, you can see whether your net worth is growing.
Investments are intangible assets that have market value [such as stock] and you hold in hpes of future increases in value and future income. *Real property* is an asset that is affixed to the ground, example is a house. *Personal property* is tangible property that is not real property, example is a car or furniture.

2-3 What is the balance sheet equation? Explain when a family may be viewed as technically insolvent.

The *balance sheet equation* is:

Net Worth = Total Assets - Total Liabilities

A family is *technically insolvent* when their net worth is less than zero. This indicates that the amount of their total liabilities is greater than the fair market value of their total assets.

2-4 Explain two ways in which net worth could increase (or decrease) from one period to the next.

> There are basically two ways to achieve an *increase in net worth*. First, one could prepare a budget for the pending period to specifically provide for an increase in net worth by acquiring more assets and/or paying down debts. This is accomplished by planning and requires strict control of income and expenses. A second approach would be to forecast

expected increases in the market value of certain assets—primarily investment and tangible property assets. If the market value of the assets increased as expected and liabilities remained constant or decreased, an increase in net worth would result. (Note: Decreases in net worth would result from the opposite strategies/occurrences.) Of course that is also the old fashion way, you inherit wealth.

2-5 What is an income and expense statement? What role does it serve in personal financial planning?

The *income and expense statement* captures the result of financial activities that you hoped would increase your wealth summarized for a month or a year. In personal financial planning, the statement permits comparison of actual results to the budgeted values to help you evaluate your financial plan.

2-6 Explain what cash basis means in this statement: "An income and expense statement should be prepared on a cash basis." How and where are credit purchases shown when statements are prepared on a cash basis?

The cash basis only records income that is received in cash or expenses that are paid in cash during the period. It ignores any amount that you are due [receivables] or that you will have to pay in the future [liabilities]. Payments on liabilities should be divided into payment of interest and payments on principle, but both are listed as expenses on a cash statement. Obviously the cash statement does not give a complete picture of a person income or expenses, but since most individuals do not have receivables and their liabilities are managed with monthly payments, the cash statement gives good information for financial planning.

2-7 Distinguish between fixed and variable expenses, and give examples of each.

Fixed expenses are contractual, predetermined expenses that are made each period, such as rent, mortgage and loan payments, or insurance premiums. *Variable* expenses change each period. These include food, utilities, charge card bills, and entertainment.

2-8 Is it possible to have a cash deficit on an income and expense statement? If so, how?

Yes, a *cash deficit* appears on an cash basis income and expense statement whenever the period's expenses exceed income. Deficit spending is made possible by using up an asset, such as taking money out of savings, selling an asset such as an investment, or incurring more debt, such as charging a purchase on a credit card.

2-9 How can accurate records and control procedures be used to ensure the effectiveness of the personal financial planning process?

Before you can set realistic goals, develop your financial plans, or effectively manage your money, you must take stock of your current financial situation. Without accurate records, you do not have the needed information to make your financial decisions.

2-10 Describe some of the areas or items you would consider when evaluating your balance sheet and income and expense statement. Cite several ratios that could help in this effort.

Ratios are used to relate items from the financial statements. These ratios provide useful information for specific decisions. From the Balance sheet:
Current Ratio: Current Assets divided by Current Liabilities, useful for short term credit decisions
Solvency ratio: Total net worth divided by total assets; measures the degree of exposure to insolvency

Liquidity ratio: Total liquid assets divided by total current debts; measures the ability to pay current debts.

From the Income Statement:
Savings ratio: Cash surplus divided by income after taxes, indicates the portion of income you chose to save

Debt service ratio: Total monthly loan payments divided by Monthly gross (before tax) income, provides a measure of the ability to pay debts promptly

Return on Equity: Cash Surplus (a measure of net income) divided by New Worth, provides a measure of how well you managed your wealth.

2-11 Describe the cash budget and its three parts. How does a budget deficit differ from a budget surplus?

A *cash budget* is a summary of estimated cash income and cash expenses for a specific time period, typically a year. The three parts of the cash budget include: the *income* section where all expected income is listed; the *expense* section where expected expenses are listed by category; and the surplus or deficit section where the cash surplus or deficit is determined both on a month-by-month basis and on a cumulative basis throughout the year. A *budget deficit* occurs when the planned expenses for a period exceed the anticipated income in that same period. A *budget surplus* occurs when the income for the period exceeds its planned expenses.

2-12 The Gonzales family has prepared their annual cash budget for 2016. They have divided it into 12 monthly budgets. Although only 1 monthly budget balances, they have managed to balance the overall budget for the year. What remedies are available to the Gonzales family for meeting the monthly budget deficits?

Monthly deficits may be handled by shifting expenses to a later month or income to an earlier month. If that is not possible, the Gonzales family may withdraw an amount from savings or borrow a short-term loan to get the months in balance. Another alternative is to increase income perhaps with a second job or move to a higher paying job.

2-13 Why is it important to analyze actual budget surpluses or deficits at the end of each month?

By examining end-of-month budget balances, and the associated surpluses or deficits for all accounts, a person can initiate any required corrective actions to assure a balanced budget for the year. Surpluses are not problematic. Deficits normally require spending adjustments during subsequent months to bring the budget into balance by year end.

2-14 Why is it important to use time value of money concepts in setting personal financial goals?

A dollar today and a dollar in the future will be able to purchase different amounts of goods and services, because if you have a dollar today, you can invest it and it will grow to more than a dollar in the future. At the same time, inflation works against the dollar, because rising prices erode its purchasing power. *Time value of money* concepts help us quantify these changes in dollar values so that we can plan the amount of money needed at certain points in time in order to fulfill our personal financial goals.

2-15 What is compounding?

Interest is earned over a given period of time. When interest is compounded, this given period of time is broken into segments, such as months. Interest is then calculated one segment at a time, with the interest earned in one segment added back to become part of the principal for the next time segment. Thus, in *compounding*, your money earns interest on interest.

2-16 When might you use future value? Present value? Give specific examples.

Future value calculations show how much an amount will grow over a given time period. Future value is used to evaluate investments and to determine how much to save each year to accumulate a given future amount, such as the down payment on a house or for a child's college education. *Present value* concepts, the value today of an amount that will be received in the future, help you calculate how much a future cash receipt will be worth today, analyze investments, and determine loan payments.

Solutions to Online Bonus Personal Financial Planning Exercises

The following are solutions to "Bonus Personal Financial Planning Exercises" found on the student website, PFIN 5 Online, at www.cengagebrain.com. You can find these questions on the instructor site as well.

1. **Preparing Financial Statements: Chad Livingston is preparing his balance sheet and income and expense statement for the year ending June 30, 2016. He is having difficulty classifying six items and asks for your help. Which, if any, of the following transactions are assets, liabilities, income, or expense items?**

a. Chad rents a house for $1,350 a month.

The monthly rent is a monthly expense. The payment will reduce an asset, Cash.

b. On June 21, 2016, Chad bought diamond earrings for his wife and charged them using his MasterCard. The earrings cost $900, but he hasn't yet received the bill.

The purchase will result in a new asset, personal property for $900. Since he purchase using a credit card, his current liabilities also increase by $900.

c. Chad borrowed $3,500 from his parents last fall, but so far, he has made no payments to them.

Since no loan payments were made during the period, a corresponding expense would not appear. Whether or not the "loan" is a real loan or a gift from the parents is a question of fact to be determined. If real loan, the balance sheet will list a liability of $3,500. If a gift, net worth will increase by the amount of cash received.

d. Chad makes monthly payments of $225 on an installment loan; about half of it is interest, and the balance is repayment of principal. He has 20 payments left, totaling $4,500.

The income statement will show an expense: payment of loan $225 per month times 12 months, a total for the year of $2,700. When a balance sheet is prepared, the loan balance will be reduced by half of the 225 per month which represent payment of principal.

e. Chad paid $3,800 in taxes during the year and is due a tax refund of $650, which he hasn't yet received.

The payment of taxes is an expense recorded as paid, typically monthly or when paycheck is received. The refund is not recorded on the income statement until it is received. The receivable is not recorded on a cash basis balance sheet.

f. Chad invested $2,300 in some common stock.

The cash asset goes down and the asset investment goes up. The investment will appear on the balance sheet.

2. **Projecting Financial Statements: Put yourself 10 years into the future. Construct a fairly detailed and realistic balance sheet and income and expense statement reflecting what you would like to achieve by that time.**

   While everyone's financial statements will differ based on their own expectation of the future, each should have similar elements such as: assets like a home, automobiles and investments; liabilities like a mortgage, an auto loan, and consumer debt; and a positive net worth. The statement of income and expense should reflect income from a job or business, investment income, and expenses for items such as home repair and operation, debt payments, savings, taxes, and insurance.

3. Preparing Personal Balance Sheet: ***Use Worksheet 2.1.*** **Denise Fisher's banker has asked her to submit a personal balance sheet as of June 30, 2016, in support of an application for a $6,000 home improvement loan. She comes to you for help in preparing it. So far, she has made the following list of her assets and liabilities as of June 30, 2016:**

Cash on hand		**$ 70**
Balance in checking account		**180**
Balance in money market deposit account with Southwest Savings		**650**
Bills outstanding:		
Telephone	**$ 20**	
Electricity	**70**	
Charge account balance	**190**	
Visa	**180**	
MasterCard	**220**	
Taxes	**400**	
Insurance	**220**	**1,300**
Condo and property		**68,000**
Condo mortgage loan		**52,000**
Automobile: 2012 Honda Civic		**9,775**
Installment loan balances:		
Auto loans	**3,000**	
Furniture loan	**500**	**3,500**
Personal property:		
Furniture	**1,050**	
Clothing	**900**	**1,950**
Investments:		
U.S. government savings bonds	**500**	
Stock of True Lite Corp.	**3,000**	**3,500**

From the data given, prepare Denise Fisher's balance sheet, dated June 30, 2016 (follow the balance sheet form shown in Worksheet 2.1). Then evaluate her balance sheet relative to the following factors: (a) solvency, (b) liquidity, and (c) equity in her dominant asset.

See following page for Worksheet 2.1 for Denise Fisher.

Problem 3 -- Worksheet 2.1					
			Balance Sheet		
Names(s) Denise Fisher			Date	30-Jun-16	
Assets			**Liabilities and Net Worth**		
Liquid Assets:			Current Libaiblities		
Cash on hand	$ 70.00		Utilities	$ 90.00	
Cash in checking	150.00		Rent		
Savings accounts			Insurance premiums	220.00	
			Taxes	400.00	
Money market funds and deposits	650.00		Medical/dental bills		
Certificates of deposit <1 yr to maturity			Repair bills		
Total Liquid Assets		$ 870.00	Bank credit card balances	400.00	
Investments			Department store credit card balances	190.00	
Stocks	$ 3,000.00		Travel and entertainment card balances		
Bonds	500.00		Gas and other credit balances		
Certificates of deposit <1 yr to maturity			Bank line of credit balances		
			Other current liabilities		
Mutual funds					
Real estate			**Total Current Liabilities**		$ 1,300.00
Retirement funds, IRA			Long-term Liabilities		
Other			Primary residence mortgage	$52,000.00	
Total Investments		$ 3,500.00	Real estate investment mortgage		
Real Property					
Primary residence	$68,000.00		Autos loans	3,000.00	
Second home			Applicance/furniture loans	500.00	
Other			Home improvement loans		
Total Real Property		$68,000.00	Single-payment loans		
Personal Property			Education loans		
Autos	$ 9,775.00		Margin loans used to purchse securities		
Autos			Other long-term liabilities		
Recreational vehicles					
Household furnishings	1,050.00		**Total Long-Term Liabilities**		$ 55,500.00
Jewelry and artwork					
Other	900.00		**Total Liabilities**		$ 56,800.00
Other					
Total Personal Property		$11,725.00	**Net Worth**		$ 27,295.00
Total Assets		$84,095.00	**Total Liabilities and Net Worth**		$ 84,095.00

3-a. Solvency Ratio: This term refers to having a positive net worth. The calculation for her solvency ratio is as follows:

$$\text{Solvency Ratio} = \frac{\text{Total Net Worth}}{\text{Total Assets}} = \frac{\$27{,}295}{\$84{,}095} = 32.46\%$$

This indicates that Denise could withstand about a 33% decline in the market value of her assets before she would be insolvent. Although this is not too low a value, some thought might be given to increasing her net worth.

3-b. *Liquidity:* A simple analysis of Denise's balance sheet reveals that she's *not very liquid.* In comparing current liquid assets ($870) with current bills outstanding ($1,300), it is obvious that she cannot cover her bills and is, in fact, $430 short (i.e., $1,300 current debt – $870 current assets). Her liquidity ratio is:

$$\text{Liquidity ratio} = \frac{\text{Liquid Assets}}{\text{Total Current Debts}} = \frac{\$\ 870}{\$1{,}300} = 66.92\%$$

This means she can cover only about 67% of her current debt with her liquid assets.

If we assume that her installment loan payments for the year are about $2,000 (half the auto loan balance and all of the furniture loan balance) and add them to the bills outstanding, the liquidity ratio at this level of liquid assets is:

$$\text{Liquidity ratio} = \frac{\text{Liquid assets}}{\text{Total Current Debts}} = \frac{\$\ 870}{\$3{,}300} = 29\%$$

This indicates that should her income be curtailed, she could cover only about 29% of her existing one-year debt obligations with her liquid assets—and this does *not* include her mortgage payment! This is clearly not a favorable liquidity position.

3-c. *Equity in her Dominant Asset:* Denise's dominant asset is her condo and property, which is currently valued at $68,000. Since the loan outstanding on this asset is $52,000, the equity is $16,000 (i.e., $68,000 – $52,000). This amount indicates about a 24% equity interest (i.e., $16,000/$68,000) in the market value of her real estate. This appears to be a favorable equity position.

4. Preparing Income and Expense Statement: ***Use Worksheet 2.2.*** **Bill and Nancy Ballinger are about to construct their income and expense statement for the year ending December 31, 2016. They have put together the following income and expense information for 2016:**

Nancy's salary		**$47,000**
Reimbursement for travel expenses		**1,950**
Interest on:		
Savings account	**110**	
Bonds of Alpha Corporation	**70**	
Groceries	**4,150**	
Rent	**9,600**	
Utilities		**960**
Gas and auto expenses		**650**
Bill's tuition, books, and supplies		**3,300**
Books, magazines, and periodicals		**280**
Clothing and other miscellaneous expenses		**2,700**
Cost of photographic equipment purchased with charge card		**2,200**
Amount paid to date on photographic equipment		**1,600**
Nancy's travel expenses		**1,950**
Purchase of a used car (cost)		**9,750**
Outstanding loan balance on car		**7,300**
Purchase of bonds in Alpha Corporation		**4,900**

Using the information provided, prepare an income and expense statement for the Ballinger's for the year ending December 31, 2016 (follow the form shown in Worksheet 2.2).

See worksheet on following page.

Problem 4 -- Worksheet 2.2						
		Income and Expense Statement				
Name(s)		**Bill and Nancy Ballinger**				
For the		Year		Ending	31-Dec-16	
Income						
Wages and salaries			Name	Nancy		$ 47,000.00
			Name			
			Name			
Self-employment						
Bonuses and commissions						
Investment Income			Interest received			180.00
			Dividends received			
			Rents received			
			Sale of securities			
			Other			
Pensions and annuities						
Other income			Reimbursements for Travel Exp			1,950.00
			Total Income			$ 49,130.00
Expenses						
Housing	Rent/mortgage payment					$ 9,600.00
	(include insurance and taxes if applicable)					
	Repairs, maintenance, improvements					
Utilities	Gas, electric, water					960.00
	Phone					
	Cable TV and other					
Food	Groceries					4,150.00
	Dining out					
Transportation	Auto loan payments					2,450.00
	License plates, fees, etc					
	Gas, oil, repairs, tires, maintenance					650.00
Medical	Health, major medical disability insurance					
	(payroll deductions or not provided by employer)					
	Doctor, dentist, hospital, medicines					
Clothing	Clothes, shoes, and accessories					2,700.00
Insurance	Homewoner's (if not covered by mortgage)					
	Life (not provided by employer)					
	Auto					
Taxes	Income and Social security					
	Property (if not included in mortgage)					
Appliances, furniture and other major purchases:						
	Loan payments					600.00
	Purchases and repairs					
Personal care	Laundry, cosmetics, hair care					
Recreation and entertainment:		Vacations				
	Other recreation and entertainment					280.00
Other items	Bill's tuition, books and supplies					3,300.00
	Alapha Corp Bonds					4,900.00
	Travel Expenses					1,950.00
	Total Expenses					31,540.00
	Cash surplus (or deficit)					$ 17,590.00

5. Preparing Cash Budget: Richard and Elizabeth Walker are preparing their 2017 cash budget. Help the Walkers reconcile the following differences, giving reasons to support your answers.

a. **Their only source of income is Richard's salary, which amounts to $5,000 a month before taxes. Elizabeth wants to show the $5,000 as their monthly income, whereas Richard argues that his take-home pay of $3,917 is the correct value to show.**

Like many questions it depends. If the taxes and other payroll deductions are considered out of their control, then only the take home pay would be listed. But, since they have some options in the computation of payroll deductions, the gross pay should be listed. Among the options is the number of exemptions for income tax withholding, the option to purchase health insurance for the non-working spouse through the employer or elsewhere, and perhaps other fringe benefits such as child care, flexible benefits, and other.

b. **Elizabeth wants to make a provision for fun money, an idea that Richard cannot understand.**
He asks, "Why do we need fun money when everything is provided for in the budget?"

By having an allowance for "fun money," the Walkers have specifically set aside a certain portion of their income for a little self-indulgence. This will serve three basic purposes: (1) it will give a little financial independence to each member of the family; (2) to a certain extent it allows for a little impulse buying which might further the enjoyment of life. However, it allows for this luxury under a budget control and diminishes the possibility of it occurring with an allocation from another account; and (3) it generally promotes a higher quality of life. Thus, the inclusion of "fun money" is probably justified.

6. Identifying Missing Budget Items: Here is a portion of Chuck Schwartz's budget record for April 2016. Fill in the blanks in columns 5 and 6. Note the answers are included. They may be deleted if you wish to use in classroom.

Item (1)	Amount Budgeted (2)	Amount Spent (3)	Beginning Balance (4)	Monthly Surplus (Deficit) (5)	Cumulative Surplus (Deficit) (6)
Rent	$550	$575	$50	-$25	**$25**
Utilities	150	145	15	**5**	**20**
Food	510	475	-45	**35**	**-10**
Auto	75	95	-25	**-20**	**-45**
Recreation	100	110	-50	**-10**	**-60**

and Entertainment					

7. ***Use Worksheet 2.3.*** **Prepare a record of your income and expenses for the last 30 days; then prepare a personal cash budget for the next three months. (Use the format in Worksheet 2.3, but fill out only three months and the Total column.) Use the cash budget to control and regulate your expenses during the next month. Discuss the impact of the budget on your spending behavior, as well as any differences between your expected and actual spending patterns.**

> This question requires a personal response that will differ for each student. Therefore, a specific example has not been provided. However, the Critical Thinking cases below provide several examples of possible answers to this question; it is recommended that the cases be examined in conjunction with this question.
>
> The question provides an effective means to involve the student in the budgeting process. Most students are somewhat amazed when they find out how they have actually been spending their money. Before assigning this question, it is interesting to ask the students to estimate how they actually spend their money. A comparison of their estimates with the actual spending records typically reflects the unconscious manner in which they may be spending. Most students will find that the use of a budget to control and regulate expenses allows them to make more meaningful and satisfying expenses.

PLEASE NOTE: Problems 8 through 10 deal with time value of money, and solutions using both the tables and the financial calculator will be presented. The factors are taken from the tables as follows: future value–Appendix A; future value annuity–Appendix B; present value–Appendix C; present value annuity–Appendix D. If using the financial calculator, set on *End Mode* and *1 Payment/Year*. The +/- indicates the key to change the sign of the entry, in these instances from positive to negative. This keystroke is required on some financial calculators in order to make the programmed equation work. Other calculators require that a "Compute" key be pressed to attain the answer.

8. Calculating present and future values: Use future or present value techniques to solve the following problems.

a. Starting with $15,000, how much will you have in 10 years if you can earn 6 percent on your money? If you can earn only 4 percent?

FV	=	PV x FV factor $_{6\%,\ 10\ yrs.}$	15000	+/-	PV
	=	$15,000 x 1.791	6		I
	=	$26,865	10		N
			FV		$26,862.72
FV	=	PV x FV factor 4%, 10 yrs.	15000	+/-	PV
	=	$15,000 x 1.480	4		I
	=	$22,200	10		N
			FV		$22,203.66

b. If you inherited $45,000 today and invested all of it in a security that paid a 7 percent rate of return, how much would you have in 25 years?

FV	=	PV x FV factor $_{7\%,\ 25\ yrs.}$	45000	+/-	PV
	=	$45,000 x 5.427	7		I
	=	$244,215	25		N
			FV		$\boxed{\$244,234.47}$

c. If the average new home costs $275,000 today, how much will it cost in 10 years if the price increases by 5 percent each year?

FV	=	PV x FV factor $_{5\%,\ 10\ yrs.}$	275000	+/-	PV
	=	$275,000 x 1.629	5		I
	=	$447,975	10		N
			FV		$\boxed{\$447,946.02}$

d. You think that in 15 years, it will cost $212,000 to provide your child with a 4-year college education. Will you have enough if you take $70,000 today and invest it for the next 15 years at 5 percent? If you start from scratch, how much will you have to save each year to have $212,000.

No, you will have $145,530, which is less than your $212,000 goal.

FV	=	PV x FV factor $_{5\%,\ 15\ yrs.}$	70000	+/-	PV
	=	$70,000 x 2.079	5		I
	=	$145,530	15		N
			FV		$\boxed{\$145,524.97}$

You will need to deposit $10,587.30 at the end of each year for 15 years In order to reach the $212,000 goal.

PMT	=	FV ÷ FVA factor $_{4\%,\ 15\ yrs.}$	212000	+/-	FV
	=	$212,000 ÷ 20.024	4		I
	=	$10,587.30	15		N
			PMT		$\boxed{\$10,587.51}$

e. If you can earn 4 percent, how much will you have to save each year if you want to retire in 35 years with $1 million?

You will need to invest $13,577.55 at the end of each year at a rate of 4% for the next 35 years in order to retire with $1 million.

PMT	=	FV ÷ FVA factor $_{4\%,\ 35\ yrs.}$	1000000	+/-	FV
	=	$1,000,000 ÷ 73.651	4		I
	=	$13,577.55	35		N
			PMT		$13,577.32

f. You plan to have $750,000 in savings and investments when you retire at age 60. Assuming that you earn an average of 8 percent on this portfolio, what is the maximum annual withdrawal you can make over a 25-year period of retirement?

You will be able to withdraw $70,257.61 at the end of each year for 25 years if you retire with $750,000 invested at 8%.

PMT	=	PV ÷ PVA factor $_{8\%,\ 25\ yrs.}$	750000	+/-	PV
	=	$750,000 ÷ 10.675	8		I
	=	$70,257.61	25		N
			PMT		$65,927.99

9. Quantifying and Evaluating a Saving Goal: Over the past several years, Catherine Lee has been able to save regularly. As a result, she has $54,188 in savings and investments today. She wants to establish her own business in five years and feels she will need $100,000 to do so.

a. If she can earn 4 percent on her money, how much will her $54,188 in savings/investments be worth in five years? Will Catherine have the $100,000 she needs? If not, how much more money will she need?

If Catherine can earn 4% on her money, $54,188 will be worth about $65,947 in 5 years:

FV	=	PV x FV factor $_{4\%,\ 5\ yrs.}$	54188	+/-	PV
	=	$54,188 x 1.217	4		I
	=	$65,946.80	5		N
			FV		$\boxed{\$65{,}927.99}$

No, she will fall short by about $34,053.

b. Given your answer to part a, how much will Catherine have to save each year over the next five years to accumulate the additional money? Assume that she can earn interest at a rate of 4 percent.

b. Assuming that Catherine adds a payment to her savings at the end of each year for the next five years so that the fifth payment comes at the end of the time period, she would have to save $5,077.55 per year. This calculation is as follows:

FV	=	PMT x FVA factor $_{4\%,\ 5\ yrs.}$	34072	+/-	FV
PMT	=	FV ÷ FVA factor $_{4\%,5yrs.}$	4		I
	=	$34,053 ÷ 5.416	5		N
	=	$6,287.52	PMT		$\boxed{\$6{,}290.62}$

c. If Catherine can afford to save only $4,000 a year, then given your answer to part a, will she have the $100,000 she needs to start her own business in five years?

If Catherine saves only $4,000 per year she would have an additional $21,664 for a total of $87,611 ($65,947 + $21,664) and will fall $12,389 short of her $100,000 goal.

FV	=	PMT x FVA factor $_{4\%,\ 5\ yrs.}$	4000	+/-	PMT
	=	$4,000 x 5.416	4		I
	=	$21,664	5		N
			FV		$\boxed{\$21{,}665.29}$

10. Funding a Retirement Goal: Chris Jones wishes to have $800,000 in a retirement fund 20 years from now. He can create the retirement fund by making a single lump-sum deposit today.
a. If he can earn 6 percent on his investments, how much must Chris deposit today to create the retirement fund? If he can earn only 4 percent on his investments? Compare and discuss the results of your calculations.

Note what a difference of 2% makes over the 20-year time period! You would have to initially invest about 46% more money to end up with the same future value [($364,800 – $249,600) ÷ $249,600].

PV	=	FV x PV factor $_{6\%,\ 20\ yrs.}$	800000	+/-	FV
	=	$800,000 x 0.312	6		I
	=	$249,600	20		N
			PV		$\boxed{\$249,443.78}$

If Chris only earns 4%, he will need another $115,666 to meet his goal.

PV	=	FV x PV factor $_{4\%,\ 20\ yrs.}$	800000	+/-	FV
	=	$800,000 x 0.456	4		I
	=	$364,800	20		N
			PV		$\boxed{\$365,109.56}$

b. If, upon retirement in 20 years, Chris plans to invest the $800,000 in a fund that earns 4 percent, what is the maximum annual withdrawal he can make over the following 15 years?

Chris can withdraw $71,955.39 at the end of every year for 15 years.

PV	=	PMT x PVA factor $_{4\%,\ 15\ yrs.}$	800000	+/-	PV
PMT	=	PV ÷ PVA factor $_{4\%,\ 15\ yrs.}$	4		I
	=	$800,000 ÷ 11.118	15		N
	=	$71,955.39	PMT		$\boxed{\$71,952.88}$

b. How much would Chris need to have on deposit at retirement to annually withdraw $35,000 over the 15 years if the retirement fund earns 4 percent?

To withdraw $35,000 at the end of every year for 15 years, Chris would need a retirement fund of $389,130.

PV	=	PMT x PVA factor $_{4\%,\ 5\ yrs.}$	35000	+/-	PMT
	=	$35,000 x 11.118	4		I

= $\underline{\$389,130}$

15	N
PV	$\boxed{\$389,143.56}$

d. To achieve his annual withdrawal goal of $35,000 calculated in part c, how much more than the amount calculated in part a must Chris deposit today in an investment earning 4 percent annual interest?

Chris will not need to invest any additional funds because the original investment will meet his retirement needs.

11. Funding a College Goal: Dan Weaver wants to set up a fund to pay for his daughter's education. In order to pay her expenses, he will need $23,000 in four years, $24,300 in five years, $26,000 in six years, and $28,000 in seven years. If he can put money into a fund that pays 4 percent interest, what lump-sum payment must Dan place in the fund today to meet his college funding goals?

Dan needs $81,459.60 today to fund college.

$$\begin{aligned} PV &= FV \times PV\text{ factor}_{4\%,\ 4\text{ yrs.}} \\ &= \$23,000 \times 0.855 \\ &= \underline{\underline{\$19,665}} \end{aligned}$$

$$\begin{aligned} PV &= FV \times PV\text{ factor}_{4\%,\ 5\text{ yrs.}} \\ &= \$24,300 \times 0.822 \\ &= \underline{\underline{\$19,974.60}} \end{aligned}$$

$$\begin{aligned} PV &= FV \times PV\text{ factor}_{4\%,\ 6\text{ yrs.}} \\ &= \$26,000 \times 0.790 \\ &= \underline{\underline{\$20,540}} \end{aligned}$$

$$\begin{aligned} PV &= FV \times PV\text{ factor}_{4\%,\ 7\text{ yrs.}} \\ &= \$28,000 \times 0.760 \\ &= \underline{\underline{\$21,280}} \end{aligned}$$

Add $19,665 + $19,974.60 + $20,540 + $21,280 = $81,459.60
Using a financial calculator, specifically a TI BAII+
CFO = 0
C01 = 0, F01 = 3
C02 = 23000, F02 = 1
C03 = 24300, F03 = 1
C04 = 26000, F04 = 1
C05 = 28000, F05 = 1
I = 4
CPT NPV = $81,459.21

12. Calculating a Future Value of an Investment: Jessica Wright has always been interested in stocks. She has decided to invest $2,000 once every year into an equity mutual fund that is expected to produce a return of 6 percent a year for the foreseeable future. Jessica is really curious how much money she can reasonably expect her investment to be worth in 20 years. What would you tell her?

It should be noted, that you are calculating this amount using an expected rate of return. Should the return be higher any given years, the value will be more. Should the return be lower any given years, the value will be less.

FV	=	PMT x FVA factor $_{6\%,\ 20\ yrs.}$	2000	+/-	PMT
	=	$2,000 x 36.786	6		I
	=	$\underline{\underline{\$73,572}}$	20		N
			FV		$\boxed{\$73,571.18}$

Solutions to Critical Thinking Cases

The following are solutions to "Critical Thinking Cases" found on the student website, PFIN 5 Online, at www.cengagebrain.com. You can find these questions on the instructor site as well.

2.1 The Becker's Version of Financial Planning

Terry and Evelyn Becker are a married couple in their mid-20s. Terry has a good start as an electrical engineer and Evelyn works as a sales representative. Since their marriage four years ago, Terry and Evelyn have been living comfortably. Their income has exceeded their expenses, and they have accumulated an enviable net worth. This includes $10,000 that they have built up in savings and investments. Because their income has always been more than enough for them to have the lifestyle they desire, the Beckers have done no financial planning.

Evelyn has just learned that she's two months pregnant. She's concerned about how they'll make ends meet if she quits work after their child is born. Each time she and Terry discuss the matter, he tells her not to worry because "we've always managed to pay our bills on time." Evelyn can't understand his attitude because her income will be completely eliminated. To convince Evelyn that there's no need for concern, Terry points out that their expenses last year, but for the common stock purchase, were about equal to his take-home pay. With an anticipated promotion and an expected 10 percent pay raise, his income next year should exceed this amount. Terry also points out that they can reduce luxuries (trips, recreation, and entertainment) and can always draw down their savings or sell some of their stock if they get in a bind. When Evelyn asks about the long-run implications for their finances, Terry says there will be "no problems" because his boss has assured him that he has a bright future with the engineering firm. Terry also emphasizes that Evelyn can go back to work in a few years if necessary.

Despite Terry's arguments, Evelyn feels that they should carefully examine their financial condition in order to do some serious planning. She has gathered the following financial information for the year ending December 31, 2016:

Salaries	**Take-home Pay**	**Gross Salary**
Terry	***$52,500***	***$76,000***
Evelyn	***29,200***	***42,000***

Item	**Amount**
Food	***$ 5,902***
Clothing	***2,300***
Mortgage payments, including property taxes of $1,400	***11,028***
Travel and entertainment card balances	***2,000***
Gas, electric, water expenses	***1,990***
Household furnishings	***4,500***
Telephone	***640***
Auto loan balance	***4,650***
Common stock investments	***7,500***

Bank credit card balances	*675*
Federal income taxes	*22,472*
State income tax	*5,040*
Social security contributions	*9,027*
Credit card loan payments	*2,210*
Cash on hand	*85*
2012 Nissan Sentra	*10,500*
Medical expenses (unreimbursed)	*600*
Homeowner's insurance premiums paid	*1,300*
Checking account balance	*485*
Auto insurance premiums paid	*1,600*
Transportation	*2,800*
Cable television	*680*
Estimated value of home	*185,000*
Trip to Europe	*5,000*
Recreation and entertainment	*4,000*
Auto loan payments	*2,150*
Money market account balance	*2,500*
Purchase of common stock	*7,500*
Addition to money market account	*500*
Mortgage on home	*148,000*

Critical Thinking Questions

1. **Using this information and Worksheets 2.1 and 2.2, construct the Becker's balance sheet and income and expense statement for the year ending December 31, 2016.**

Critical Thinking 2-1, Part 1 -- Worksheet 2.2				
	Income and Expense Statement			
Name(s)	**Terry and Evelyn Becker**			
For the	Year	Ending	31-Dec-16	
Income				
Wages and salaries		Name	Terry	$ 76,000.00
		Name	Evelyn	42,000.00
		Name		
Self-employment				
Bonuses and commissions				
Investment Income		Interest received		
		Dividends received		
		Rents received		
		Sale of securities		
		Other		
Pensions and annuities				
Other income		Reimbursements for Travel Exp		
		Total Income		$ 118,000.00
Expenses				
Housing	Rent/mortgage payment			$ 11,028.00
	(include insurance and taxes if applicable)			
	Repairs, maintenance, improvements			
Utilities	Gas, electric, water			1,990.00
	Phone			640.00
	Cable TV and other			680.00
Food	Groceries			5,902.00
	Dining out			
Transportation	Auto loan payments			2,150.00
	License plates, fees, etc			
	Gas, oil, repairs, tires, maintenance			2,800.00
Medical	Health, major medical disability insurance			
	(payroll deductions or not provided by employer)			
	Doctor, dentist, hospital, medicines			600.00
Clothing	Clothes, shoes, and accessories			2,300.00
Insurance	Homewoner's (if not covered by mortgage)			1,300.00
	Life (not provided by employer)			
	Auto			1,600.00
Taxes	Income and Social security			36,539.00
	Property (if not included in mortgage)			
Appliances, furniture and other major purchases:				
	Loan payments			
	Purchases and repairs			
Personal care	Laundry, cosmetics, hair care			
Recreation and entertainment:	Vacations			5,000.00
	Other recreation and entertainment			4,000.00
Other items	Credit card loan payments			2,210.00
	Purchase of common stock			7,500.00
	Addition to Money Market account			500.00
	Total Expenses			86,739.00
	Cash surplus (or deficit)			$ 31,261.00

Critical Thinking 2-1 part 1		
	Names(s) Terry and Ev	
		Assets
Liquid Assets:		
Cash on hand		
Cash in checking		
Savings accounts		
Money market funds and depo		
Certificates of deposit <1 yr to maturity		
	Total Liquid Assets	
Investments		
Stocks		
Bonds		
Certificates of deposit <1 yr to maturity		
Mutual funds		
Real estate		
Retirement funds, IRA		
Other		
	Total Investments	
Real Property		
Primary residence		
Second home		
Other		
	Total Real Property	
Personal Property		
Autos		
Autos		
Recreational vehicles		
Household furnishings		
Jewelry and artwork		
Other		
Other		
	Total Personal Prop	
		Total Ass

2. **Comment on the Becker's financial condition regarding (a) solvency, (b) liquidity, (c) savings, and (d) ability to pay debts promptly. If the Becker's continue to manage their finances as described, what do you expect the long-run consequences to be? Discuss.**

a. Solvency Ratio: This ratio shows the degree of exposure to insolvency or how much "cushion" you have as protection against insolvency. The calculation for her solvency ratio is as follows:

$$\text{Solvency Ratio} = \frac{\text{Total Net Worth}}{\text{Total Assets}} = \frac{\$55{,}245}{\$210{,}570} = 26.24\%$$

A solvency ratio of 26% is on the low side. In their assets decline in value by 26%, the Beckers would be insolvent. Not good.

b. Liquidity Ratio*:*

$$\text{Liquidity ratio} = \frac{\text{Liquid Assets}}{\text{Total Current Debts}} = \frac{\$\ 3{,}070}{\$\ 2{,}675} = 1.15$$

The liquidity ratio indicates the Becker's ability to pay current debts. A ratio of greater than 1 is acceptable, but higher would be better.

c. Savings

$$\text{Savings ratio} = \frac{\text{Cash Surplus}}{\text{Income after tax}} = \frac{\$\ 31{,}261}{\$\ 81{,}700} = 38.26\%$$

The savings ratio indicates what the Becker's are doing with their income. Saving 38% is excellent [average for American families is about 8%]. This rate will overshadow the previous lackluster ratios.

d. $$\text{Debt Service ratio} = \frac{\text{Monthly loan payments}}{\text{Monthly Gross Income}} = \frac{\$1{,}282}{\$9{,}833} = 13.04\%$$

The level of income is substantially covering their loan payments, thus assuming continued income, their debts are secured.

The Becker's income is sufficient to build a better Balance Sheet in the future so that their net worth should continue to grow. This is a two wage earner family. If one loses their job, that lost income will soon create problems since their current balance sheet does not have the assets to maintain their net worth for the future without the continuing income.

3. **Critically evaluate the Becker's approach to financial planning. Point out any fallacies in Terry's arguments, and be sure to mention (a) implications for the long term, as well as (b) the potential impact of inflation in general and specifically on their net worth. What procedures should they use to get their financial house in order? Be sure to discuss the role that long- and short-term financial plans and budgets might play.**

At this point, the key to their future is maintaining the two income family. Long term if both incomes continue, the Beckers will build their net worth. While inflation is a constant threat, the impact will be on their real property and large priced personal property. They have a car and a house, thus until those must be replaced, inflation will of less concerned to them. If inflation runs away, their jobs could be at risk and all bets are off for their future financial position. Preparing a budget will certainly help guide them to better understand where they are going to be at the end of the year.

Chapter 1

Understanding the Financial Planning Process

Chapter Outline

Learning Objectives

I. The Rewards of Sound Financial Planning
- A. Improving Your Standard of Living
- B. Spending Money Wisely
  - 1. Current Needs
  - 2. Future Needs
- C. Accumulating Wealth

II. The Personal Financial Planning Process
- A. Steps in the Financial Planning Process
- B. Defining Your Financial Goals
  - 1. The Role of Money
  - 2. The Psychology of Money
- C. Money and Relationships
- D. Types of Financial Goals
- E. Putting Target Dates on Financial Goals
  - 1. Long-term Goals
  - 2. Short-term Goals and Intermediate Goals

III. From Goals to Plans: A Lifetime of Planning
- A. The Life Cycle of Financial Plans
- B. Plans to Achieve Your Financial Goals
  - 1. Asset Acquisition Planning
  - 2. Liability and Insurance Planning
  - 3. Savings and Investment Planning
  - 4. Employee Benefit Planning

5. Tax Planning
6. Retirement and Estate Planning

C. Special Planning Concerns
   1. Managing Two Incomes
   2. Managing Employee Benefits
   3. Managing Your Finances in Tough Economic Times

D. Using Professional Financial Planners

IV. The Planning Environment

A. The Players
   1. Government
   2. Business
   3. Consumers

B. The Economy
   1. Economic Cycles
   2. Inflation, Prices, and Planning

V. What Determines Your Personal Income?

A. Where You Live

B. Your Career

C. Planning Your Career

Major Topics

Personal financial planning provides major benefits that help us to more effectively marshal and control our financial resources and thus gain an improved standard of living. Because the emphasis in this text is on planning—looking at the future—we must examine many areas to set and implement plans aimed at achieving financial goals. These areas are introduced in this chapter and examined in detail in later chapters. The major topics covered in this chapter include:

1. The benefits of personal financial planning techniques in managing finances, improving one's standard of living, controlling consumption, and accumulating wealth.
2. Defining financial goals and understanding the personal financial planning process necessary to achieve them.
3. Financial planning as a lifetime activity that includes asset acquisition plans, liability and insurance plans, savings and investment plans, employee benefit plans, tax plans, and retirement and estate plans.
4. Special financial planning concerns with an emphasis on the economic environment's influence, including managing two incomes, planning employee benefits, and adapting to other major life changes.
5. The use of professional financial planners in the financial planning process, the various types of financial planners, and choosing a financial planner.
6. The influence of government, business, and consumer actions and changing economic conditions on personal financial planning.
7. Age, marital status, education, geographic location, and career as important determinants of personal income levels.

8. The important relationship between career planning and personal financial planning.

Key Concepts

To begin developing a personal financial plan, one must understand basic financial planning terminology, principles, and environmental factors. The following phrases/terms represent the key concepts stressed in the chapter.

1. Standard of living
2. Consumption patterns
3. Wealth accumulation
4. The personal financial planning process
5. Financial goals
6. The role of money
7. The psychology of money
8. Money and relationships
9. Types of financial goals
10. The life cycle of financial plans
11. Plans to achieve financial goals
12. The planning environment—players, economy, and price levels
13. Special planning concerns
14. Financial planners
15. Determinants of personal income
16. Career planning
17. Average propensity to consume
18. Financial assets, Tangible assets, and Liquid assets
19. Utility
20. Liability
21. Flexible benefit (cafeteria) plans
22. Commission-based versus fee-only planners
23. Factors of production
24. Fiscal policy
25. Monetary policy
26. Economic cycles (business cycles)
27. Expansion versus Contraction
28. Peak versus Trough
29. Inflation
30. Consumer price index and Purchasing power

Financial Planning Exercises

The following are solutions to problems at the end of the PFIN 5 textbook chapter.

1. *Benefits of Personal financial Planning*: Students' answers will vary. In general, using personal financial planning tools helps individuals to organize their finances, evaluate

their current financial condition, and track changes in their financial condition through time to see if they are making progress toward their financial goals. Note the example, "Bob Cuts Back on Lunch Out and Lattes". Personal Choices impact your financial plan.

2. *Personal Financial Goals and the Life cycle*: Students' answers will vary depending on their personal situation. The purpose of this exercise is to encourage students to focus on how their personal goals and plans will change over their financial planning life cycle and also to help them be specific in setting their goals by designating dollar amounts and dates. The example Worksheet 1.1 on page 11 can be used as an example for class discussion.

3. *Personal Financial Goals*: Students' answers will vary. Suggestions may include the following:
    a. Junior in college—pay off all credit card debt by graduation; pay off all student loans within 10 years of graduation; save $4,000 for a down payment on another vehicle during the next four years; review selection of major.
    b. 30-year old computer programmer who plans to earn an MBA—pay off auto loan before beginning degree; find a cheaper place to live; set aside $5,000 for emergency use during school.
    c. Couple in their 30s with two children, ages five and nine—begin college fund for each child; fund Roth IRAs for both parents; max out employer-sponsored retirement plan, such as 401k, each year.
    d. Divorced 42-year old man with a 16-year old child and a 72-year old father who is ill—engage the help of friends or family in carpooling teenager to school and activities; establish or continue college fund; explore community or church programs which might provide assistance for the father, such as Meals on Wheels or a visitation program; help father with estate planning needs, hiring an attorney if needed.

4. *Life Cycle of Financial Plans*: As you move through life and your income patterns change, you'll typically have to pursue a variety of financial plans. By having gone through the planning process, you are better able to adjust your plans to your changing situation. As we pass from one stage of maturation to the next, this life cycle of financial plans reflects our patterns of income, home ownership, and debt changes. The role of these plans is important in achieving our financial goals which can range from short-term goals, such as saving for a new sound system, to long-term goals, such as saving enough to start your own business. Reaching your particular goals requires different types of financial planning.

5. *Impact of Economic Environment on Financial Planning*: Answers on economic trends will depend on current economic conditions. If the GDP is growing, the economy is expanding and general economic conditions are considered favorable. Unemployment is probably low, and jobs are available. If the GDP is slowing, the economy may not be doing well, and jobs may be scarce. Changes in the CPI indicate the level of inflation. If inflation is rising, purchasing power is declining, and you will need more money to achieve your financial goals. In periods of high inflation, interest rates rise making it

more difficult to afford big-ticket items. Inflation is of vital concern to financial planning. Changing economic conditions requires that you review you financial plans at least annually.

6. *Effects of Inflation*: Inflation is a state of the economy in which the general price level is rising. The inflation rate is one of the important factors that impacts the interest rates and security prices in the market and will in turn impact the financial planning of an individual. High rates of inflation leads to high interest rates as the lenders demand more money to compensate their decreasing purchasing power. High rates of inflation also have a harmful effect on the prices of stocks and bonds. The rate of inflation not only affects what an individual pays for the goods and services, but also affects what an individual earns in his/her job. High inflation rates decrease the purchasing power of an individual and he/she needs more money to achieve the financial goals. Thus, inflation affects the financial planning of an individual.

7. *Effect of Age and Geography on Income*: Age, education, and geographic location all impact personal income. For example, the amount of money you earn is closely tied to your age and education. Generally, the closer you are to middle age (45–65) and the more education you have, the greater your income will be. Heads of households who have more formal education earn higher annual incomes than do those with lesser degrees. Geographic factors can also affect your earning power. Salaries vary regionally, tending to be higher in the Northeast and West than in the South. Typically, salaries will also be higher if you live in a large metropolitan area rather than a small town or rural area. Of course these higher wages reflect the higher cost of living in these locations. Note Exhibit 1-8 for examples of the impact of ag and education.

8. *Career choices and Financial Planning*: Possible steps to "repackage" yourself might include:

- Analyzing skills and experience to identify transferable skills
- Looking for companies in related fields and industries
- Considering your own interests to see if other career paths make sense
- Networking extensively
- Researching fields that use your skills focusing on the careers that are in high demand.
- Developing functional resume focusing on skills rather than job titles

9. *Career Planning*: In today's business world, changes in the economy and in corporate strategies often result in workforce downsizing. Many students may be faced with the loss of a job during their working years. They may find themselves in Nolan's position, overqualified for some jobs and underqualified for others. Knowing what steps to take to avoid this situation is an important aspect of career and financial planning.

   a. Important career factors for Nolan to consider when looking for a new job include salary, opportunity for advancement, his transferable skills that could apply to a field other than retailing, availability of benefits, available training programs, types of industries and companies (size, work environment, etc.) that interest him, and tuition reimbursement policies so he can finish his degree.

b. Nolan should consider his age and his geographical location when deciding about his career options. He is 50 years old and it is difficult for him to start a new career now. He should also think if he is ready to relocate to other part of the country in order to get better career opportunities. The fact that he has followed a financial plan and has funds to support himself means that he is able to put greater weight on his family than what job he has.

c. Considering the age, educational qualification, and geographical factors of Nolan, he should consider looking out for other types of jobs that could benefit from his managerial skills which he gained during his 25-year career. Management skills are transferrable to other industries including non-profit organizations.

d. Today's workers plan their careers carefully to improve their work situation and to gain personal and professional satisfaction. They should identify their skills and interests and based on this should create short-term and long-term goals. They should also develop a career plan that helps in achieving their career goals. They should frequently review and revise the career plans as and when their career situation changes. Their financial plan should consider an interruption in their income stream due to job loss. Having financial resources to cover the time you are out of work will prevent you from making sub-optimal decisions.

10. *Income and Education*: In an individual's career, the annual income earned is directly proportional to the level of education completed by the individual. The individuals with highest level of education earn higher income, whereas individuals with lowest level of education earn lower income. An individual with a bachelor's degree will earn approximately $30,130 more income from his job on an average compared to an individual with no high school diploma. Similarly, an individual having a professional degree will earn approximately $46,920 more income on average when compared to an individual having only a bachelor's degree.

Answers to Test Yourself Questions

The following are solutions to "Concept Check Questions" found on the student website, PFIN 5 Online, at www.cengagebrain.com. You can find the questions on the instructor site as well.

1-1 What is a *standard of living?* What factors affect the quality of life?

Standard of living, which varies from person to person, represents the necessities, comforts, and luxuries enjoyed by a person. It is reflected in the material items a person owns, as well as the costs and types of expenditures normally made for goods and services.

Although many factors such as geographic location, public facilities, local costs of living, pollution, traffic, and population density affect one's quality of life, the main determinant of quality of life is believed to be wealth.

1-2 Are consumption patterns related to quality of life? Explain.

Generally, consumption patterns are related to quality of life, which depends on a person's socioeconomic strata. This implies that wealthy persons, who are likely to consume non-necessity items, quite often live higher quality lives than persons whose wealth permits only consumption of necessities.

1-3 What is *average propensity to consume?* Is it possible for two people with very different incomes to have the same average propensity to consume? Why?

The *average propensity to consume* is the percentage of each dollar of a person's income that is spent (rather than saved), on average, for current needs rather than savings. Yes, it is quite possible to find two persons with significantly different incomes with the same average propensity to consume. Many people will increase their level of consumption as their incomes rise, i.e., buy a nicer home or a newer car. Thus, even though they may have more money, they may still consume the same percentage (or more) of their incomes as before.

1-4 Discuss the various forms in which wealth can be accumulated.

An individual's *wealth* is the accumulated value of all items he or she owns. People accumulate wealth as either financial assets or tangible assets. *Financial assets* are intangible assets such as savings accounts or securities, such as stocks, bonds and mutual funds. Financial assets are expected to provide the investor with interest, dividends, or appreciated value. *Tangible assets* are physical items, such as real estate, automobiles, artwork, and jewelry. Such items can be held for either consumption or investment purposes or both.

1-5 What is the role of money in setting financial goals? What is the relationship of money to utility?

Money is the exchange medium used as the measure of value in our economy. Money provides the standard unit of exchange (in the case of the U.S., the dollar) by which specific personal financial plans—and progress with respect to these plans—can be measured. Money is therefore the key consideration in establishing financial plans. *Utility* refers to the amount of satisfaction derived from purchasing certain types or quantities of goods and services. Since money is used to purchase these goods and services, it is generally believed that greater wealth (money) permits the purchase of more and better goods and services that in turn result in greater utility (satisfaction).

1-6 Explain why financial plans must be psychologically as well as economically sound. What is the best way to resolve money disputes in a relationship?

Money is not only an *economic* concept; it is also a *psychological* one that is linked through emotion and personality. Each person has a unique personality and emotional makeup that determines the importance and role of money in his or her life, as well as one's particular money management style. Personal values also affect one's attitudes to money. Money is a primary motivator of personal behavior and has a strong impact on self-image. To some, money is of primary importance, and accumulation of wealth is a dominant goal. For others, money may be less important than lifestyle considerations. Therefore, every financial plan must be developed with a view towards the wants, needs, and financial resources of the individual and must also realistically consider his or her personality, values, and money emotions.

Money is frequently a source of conflict in *relationships*, often because the persons involved aren't comfortable discussing this emotion-laden topic. Each person may have different financial goals and personal values, leading to different opinions on how to spend/save/invest the family's money. To avoid arguments and resolve conflicts, it is essential to first become aware of each person's attitude toward money and his or her money management style, keep the lines of communication open, and be willing to listen and to compromise. It is possible to accommodate various money management styles within a relationship or family by establishing personal financial plans that take individual needs into account. Some families are able to avoid conflict by establishing separate accounts, such as yours, mine and household, with a set amount allocated to each account each pay period. This way, no one feels deprived, and enough has been set aside to pay the bills and to meet common financial goals.

1-7 Explain why it is important to set realistically attainable financial goals. Select one of your personal financial goals and develop a brief financial plan for achieving it.

Realistic goals are set with a specific focus and a reasonable time frame to achieve results. It is important to set realistically attainable financial goals because they form the basis upon which our financial plans are established. If goals are little more than "pipe dreams," then the integrity of the financial plans would be suspect as well
Students' descriptions of the steps to achieve a specific goal will, of course, vary. They should follow the general guidelines in the chapter: define financial goals, develop financial plans and strategies to achieve goals, implement financial plans and strategies, periodically develop and implement budgets to monitor and control progress toward goals, use financial statements to evaluate results of plans and budgets, and redefine goals and revise plans as personal circumstances change.

1-8 Distinguish between long-term, intermediate, and short-term financial goals. Give examples of each.

Individual time horizons can vary, but in general individuals would expect to achieve their *short-term* financial goals in a year or less, *intermediate-term* goals in the next 2-5 years, and *long-term* financial goals in more than 5 years. Refer to Worksheet 1.1 for examples of financial goals.

In making personal financial goals, individuals must first carefully consider their current financial situation and then give themselves a pathway to reach their future goals. People in the early stages of their financial planning life cycle may need more time to accomplish long-term goals than those who are already established in their careers and may also need to give themselves more flexibility with their goal dates.

1-9 What types of financial planning concerns does a complete set of financial plans cover?

Financial plans provide the roadmap for achieving your financial goals. The six-step financial planning process (introduced in Exhibit 1.3) results in separate yet interrelated components covering all the important financial elements in your life. Some elements deal with the more immediate aspects of money management, such as preparing a budget to help manage spending. Others focus on acquiring major assets, controlling borrowing, reducing financial risk, providing for emergency funds and future wealth accumulation, taking advantage of and managing employer-sponsored benefits, deferring and minimizing taxes, providing for financial security when you stop working, and ensuring an orderly and cost effective transfer of assets to your heirs.

1-10 Discuss the relationship of life-cycle considerations to personal financial planning. What are some factors to consider when revising financial plans to reflect changes in the life cycle?

Personal needs and goals change as you move through different *stages of your life*. So, too, do financial goals and plans, because they are directly influenced by personal needs. When your personal circumstances change, your goals must reflect the new situation. Factors such as job changes, a car accident, marriage, divorce, birth of children or the need to care for elderly relatives must be considered in revising financial plans.

1-11 Chad Jackson's investments over the past several years have not lived up to his full return expectations. He is not particularly concerned, however, because his return is only about 2 percentage points below his expectations. Do you have any advice for Chad?

The loss of *two percentage points* on investment returns is anything but inconsequential, particularly if the loss occurs annually over a period of several years. For example, if Chad had invested $1,000 at an 8 percent return and subsequently had invested all earnings from the initial investment at 8 percent, in 40 years he would have accumulated $21,725 from the initial $1,000 investment. If, on the other hand, he had earned a 10 percent return on the same investment, he would have accumulated $45,259 in 40 years—more than double his return at 8 percent! Clearly, two percentage points over time can make a significant difference! Calculate various rates of return on a $1,000 investment to see that for every 2 percent increase in return, your investment results will more than double over a 40-year period.

By carefully considering his investment and banking choices, it is likely that Chad would be able to get a 2 percent greater rate of return without taking on additional risk. This can be done both by choosing investments and bank accounts that hold down expenses, as well as by finding investments of the same type that have performed better.

1-12 Describe employee benefit and tax planning. How do they fit into the financial planning framework?

Employee benefits, such as insurance (life, health, and disability) and pension and other types of retirement plans, will affect your personal financial planning. You must evaluate these benefits so that you have the necessary insurance protection and retirement funds. If your employer's benefits fall short of your needs, you must supplement them. Therefore, employee benefits must be coordinated with and integrated into other insurance and retirement plans.

Tax planning involves looking at an individual's current and projected earnings and developing strategies that will defer and/or minimize taxes. For income tax purposes, income may be classified as active income, passive income, or portfolio income. While most income is currently subject to income taxes, some may be tax free or tax deferred. Tax planning considers all these dimensions and more. Tax planning is an important element of financial planning because it guides the selection of investment vehicles and the form in which returns are to be received. This means that it is closely tied to investment plans and often dictates certain investment strategies.

1-13 "There's no sense in worrying about retirement until you reach middle age." Discuss this point of view.

This statement reflects a very limited and too often expressed point of view. Due to the inconsistencies and vagaries of our economic system—and of life itself!—the goals of and plans for retirement should be established early in life. If retirement goals are incorporated into an individual's financial planning objectives, short- and long-term financial plans can be coordinated. Thus, financial plans can guide present actions not only to maximize current wealth and/or utility, but also to provide for the successful fulfillment of retirement goals. Furthermore, if retirement is desired earlier than anticipated, the plans may still permit the fulfillment of retirement goals.

1-14 Discuss briefly how the following situations affect personal financial planning:

a. Being part of a dual-income couple

Couples should discuss their money attitudes and financial goals and decide how to manage joint financial affairs *before* they get married. Take an inventory of your financial assets and liabilities, including savings and checking accounts; credit card accounts and outstanding bills; auto, health, and life insurance policies; and investment portfolios. You may want to eliminate some credit cards. Too many cards can hurt your credit rating, and most people need only one or two. Each partner should have a card in his or her name to establish a credit record. Compare employee benefit plans to figure out the lowest-cost source of health insurance coverage, and coordinate other benefits. Change the beneficiary on your life insurance policies as desired. Adjust withholding amounts as necessary based on your new filing category.

b. Major life changes, such as marriage or divorce

Major life changes such as marriage and divorce:
Marriage. Finances must be merged and there may be a need for life insurance.
Divorce. Financial plans based on two incomes are no longer applicable. Revised plans must reflect any property settlements, alimony, and/or child support.

c. Death of a spouse

The surviving spouse is typically faced with decisions on how to receive and invest life insurance proceeds and manage other assets. In families where the deceased made most of the financial decisions with little or no involvement of the surviving spouse, the survivor may be overwhelmed by the need to take on financial responsibilities. Advance planning can minimize many of these problems.

1-15 What is a *professional financial planner?* Does it make any difference whether the financial planner earns money from commissions made on products sold as opposed to the fees he or she charges?

Unlike accounting and law, the field professional financial planning field is largely unregulated, and almost anyone can call themselves a *professional financial planner.* Most financial planners are honest and reputable, but there have been cases of fraudulent practice. So, it’s critical to thoroughly check out a potential financial advisor–preferably interview two or three.

Most financial planners fall into one of two categories based on how they are paid: commissions or fees. *Commission-based planners* earn commissions on the financial products they sell, whereas *fee-only planners* charge fees based on the complexity of the plan they prepare. Many financial planners take a hybrid approach and charge fees and collect commissions on products they sell, offering lower fees if you make product transactions through them.

The way a planner is paid—commissions, fees, or both—should be one of your major concerns. Obviously, you need to be aware of potential conflicts of interest when using a planner with ties to a brokerage firm, insurance company, or bank. Many planners now provide clients with disclosure forms outlining fees and commissions or various transaction costs.

1-16 **Discuss the following statement: "The interactions among government, business, and consumers determine the environment in which personal financial plans must be made."**

Government, businesses, and consumers are the three major participants in the economic system. *Government* provides the structure within which businesses and consumers function. In addition, it provides a number of essential services that generally improve the quality of the society in which we live. To create this structure, various regulations are set forth, and to support its activities and provision of essential services, taxes are levied. These activities tend to constrain businesses and consumers.

Businesses provide goods and services for consumers and receive money payments in return. They also employ certain inputs in producing and selling goods and services. In exchange they pay wages, rents, interest, and profit. Businesses are a key component in the circular flow of income that sustains our economy. They create the competitive environment in which consumers select from many different types of goods and services. By understanding the role and actions of businesses on the cost and availability of goods and services, consumers can better function in the economic environment and, in turn, implement more efficient personal wealth maximizing financial plans.

Consumers are the focal point of the personal finance environment. Their choices ultimately determine the kinds of goods and services that businesses will provide. Also, consumer spending and saving decisions directly affect the present and future circular flows of income. Consumers must; however, operate in the financial environment created by the actions of government and business. Consumers may affect change in this environment through their elected officials, purchasing decisions and/or advocacy groups. Yet, basically, change occurs slowly and tediously, often with less than favorable results. Thus, consumers should attempt to optimize their financial plans within the existing financial environment.

1-17 **What are the stages of an economic cycle? Explain their significance for your personal finances**.

The stages of the economic cycles are *expansion, peak, contraction*, and *trough.* Each of these stages relates to real gross domestic product (GDP), which is an important indicator of economic activity. The stronger the economy, the higher the levels of real GDP and employment. During an *expansion*, employment is high, the economy is active and growing, and prices tend to rise. During an expansion, real GDP increases until it hits a peak, which usually signals the end of the expansion and the beginning of a contraction. During a contraction, real GDP falls into a trough, which is the end of a contraction and the beginning of an expansion. An understanding of these four basic stages, coupled with knowledge of the stage in which the economy is presently operating, should permit individuals to adjust and implement financial actions in order to efficiently and successfully achieve their personal financial goals.

1-18 **What is *inflation*, and why should it be a concern in financial planning?**

Inflation is a state of the economy in which the general price level is rising. It is important in financial planning because it affects what we pay for goods and services; it impacts how much we earn on our jobs; it directly affects interest rates and, therefore, it affects such things as mortgage and car loan payments. The most common measure of inflation is the *consumer price index*, which is based on the changes in the cost of a typical "market basket" of consumer goods and services. This can be used to compare changes in the cost of living over time for the typical family. Inflation is measured by the percentage change in the consumer price index from one time period to another, so that as the CPI rises, the cost of living also increases.

1-19. **"All people who have equivalent formal education earn similar incomes." Do you agree or disagree with this statement? Explain your position.**

Disagree. Although higher levels of education may result in higher levels of income, this does not mean that everyone with a given level of education will achieve a specified level of income. Factors such as age, marital status, geographical location, and career choice also impact a person's level of income. A number of other factors, such as the degree of personal motivation and the methods by which one utilizes his or her formal education, can also affect one's income level.

1-20 **Discuss the need for career planning throughout the life cycle and its relationship to financial planning. What are some of your own personal career goals?**

Career planning is a critical part of the life cycle of the personal financial planning process. The choice of a career affects the amount you earn. By setting both short- and long-term career goals, you can incorporate them into your financial plans. For example, if you need additional education and/or other training for a particular job, you may include a savings plan to obtain the needed funds. You should reevaluate your career decision periodically to see if it still meets your personal and financial goals. Other important considerations with regard to a specific job (and company) include the earnings potential, advancement opportunities, and benefits, plus how well the job fits your lifestyle and values. In today's rapidly changing job environment, you should expect to change careers several times. It is important to keep up with developments in your industry, acquire a broad base of experience, and continue to learn new skills, both general and technical.

Each student will, of course, have a different list of personal career goals based upon his or her career orientation and goals. However, responses should include discussion of personal financial planning and associated career planning goals and how a career choice would best fulfill quality of life, standard of living, and wealth maximization objectives. Goals might include getting a bachelor's, master's or other degree, working in a specific industry, owning one's own business, finding a job in a different area of the country or overseas, achieving a desired salary and/or responsibility level by a certain age, or finding a job that meets lifestyle needs.

Solutions to Critical Thinking Cases

The following are solutions to “Critical Thinking Cases” found on the student website, PFIN 5 Online, at www.cengagebrain.com. You can find these questions on the instructor site as well.

1.1 Jim’s Need to Know: Personal Finance or Golf?

During the Christmas break of his final year at the University of Maryland (UMD), Jim Curtis plans to put together his résumé in order to seek full-time employment as a software engineer during the spring semester. To help Jim prepare for the job interview process, his older brother has arranged for him to meet with a friend, Lisa Bancroft, who has worked as a software engineer since her graduation from UMD two years earlier. Lisa gives him numerous pointers on résumé preparation, the interview process, and possible job opportunities. After answering Jim’s many questions, Lisa asks Jim to update her on UMD. As they discuss courses, Lisa indicates that of all the electives she took, the personal financial planning course was most useful. Jim says that, although he had considered personal financial planning for his last elective, he’s currently leaning toward a beginning golf course. He feels that the course will be fun because some of his friends are taking it. He points out that he doesn’t expect to get rich and already knows how to balance his checkbook. Lisa tells him that personal financial planning involves much more than balancing a checkbook, and that the course is highly relevant regardless of income level. She strongly believes that the personal financial planning course will benefit Jim more than beginning golf—a course that she also took while at UMD.

Critical Thinking Questions

1. Describe to Jim the goals and rewards of the personal financial planning process.
2. Explain to Jim what is meant by the term *financial planning* and why it is important regardless of income.
3. Describe the financial planning environment to Jim. Explain the role of the consumer and the impact of economic conditions on financial planning.
4. What arguments would you present to convince Jim that the personal financial planning course would benefit him more than beginning golf?

Jim’s Need to Know: Personal Finance or Golf?

1. Personal financial planning is a process through which financial plans are developed and implemented to achieve personal financial goals. An individual can develop these goals in a fashion consistent with his or her emotional needs and preferences. As a process, personal financial planning is dynamic and prospective as well as immediate and retrospective. Furthermore, it can be adjusted to changes in goals, emotional orientation, available resources, and the economic environment.

2. Personal financial planning covers the key elements of one's financial affairs and provides a plan to achieve financial goals. Income level is one input in the process but does not dictate its importance. An efficient, well-developed personal financial plan can help to maximize an individual's wealth and quality of life given his or her income and goals. If desired goals cannot be met with a given level of income, financial planning will help evaluate what is really important and establish realistic and attainable goals. Thus, financial planning is important regardless of one's income.

3. The personal financial planning environment is made up of three key groups, all of which Jim will contact directly or indirectly. *Government* establishes an intangible structure in which an economy or society must function. It levies taxes to fund its operations and institutes regulations which direct and control the actions of the participants in the economic environment. *Businesses* produce goods and services, employ labor, and use land and capital. They receive money as payment for their goods and services and pay wages, rents, interest, and profit. Businesses are a key part of the circular flow of income supporting our economy. Businesses establish the price and availability of goods and services in our economy through competitive interaction with each other and interfacing with government and consumers. Finally, the *consumer* is the focal point of the financial planning environment. Consumer choices determine the types of products and services businesses provide. Because consumers are net providers of funds to government and businesses, their decisions to spend or save have a major effect on the planning environment. However, government and businesses place a number of constraints on the environment, and consumers must therefore function within those limits.

The economy is a dynamic mechanism that reacts to numerous inputs. Economic fluctuations can cause significant changes in one's wealth, thereby affecting financial plans. Changes in price levels result from increases in inflation, which can directly affect an individual's present and future consumption patterns, level of wealth, standard of living, and quality of life. Changes in economic conditions also affect nearly all aspects of one's financial life, from career choices to retirement. Thus, the state of the economy and its fluctuations are important factors defining the financial planning environment and affecting how one implements a financial plan.

4. Although beginning golf would probably provide a great deal of personal satisfaction, personal finance would, in the long run, provide more benefits. The personal finance course will help Jim better understand the financial environment, thereby allowing him to establish a realistic quality of life and personal financial goals. He could then develop a plan to achieve his goals and a methodology for monitoring the ongoing effectiveness of that plan. With an understanding of the personal finance environment, the financial planning process, and goal setting techniques, Jim can optimize the use of his assets, provide for a secure financial future, and acquire the resources to realize his quality of life goals. Finally, the rewards achieved from using these financial planning techniques could, in the future, allow Jim to take not only beginning golf but also intermediate golf and possibly join a golf club.

1.2 Brad's Dilemma: Finding a New Job

Brad Smitham, a 53-year-old retail store manager earning $75,000 a year, has worked for the same company during his entire 28-year career. Brad was recently laid off and is still unemployed 10 months later, and his 10 months' severance pay and 6 months' unemployment compensation have run out. Because he has

consistently observed careful financial planning practices, he now has sufficient savings and investments to carry him through several more months of unemployment. Brad is actively seeking work but finds that he is overqualified for available lower-paying jobs and underqualified for higher-paying, more desirable positions. There are no openings for positions equivalent to the manager's job he lost. He lost his wife several years earlier and is very close to his two grown children, who live in the same city.

Brad has these options:

- **Wait out the recession until another retail store manager position opens up.**
- **Move to another area of the country where store manager positions are more plentiful.**
- **Accept a lower-paying job for two or three years and then go back to school evenings to finish his college degree and qualify for a better position.**
- **Consider other types of jobs that could benefit from his managerial skills.**

Critical Thinking Questions

1. What important career factors should Brad consider when evaluating his options?
2. What important personal factors should Brad consider when deciding among his career options?
3. What recommendations would you give Brad in light of both the career and personal dimensions of his options noted in Questions 1 and 2?
4. What career strategies should today's workers employ in order to avoid Brad's dilemma?

This case asks students to consider the long-range implications of career and financial planning. In today's business world, changes in the economy and in corporate strategies often result in workforce downsizing. Many students may be faced with the loss of a job during their working years. They may find themselves in Brad's position, overqualified for some jobs and underqualified for others. Knowing what steps to take to avoid this situation is an important aspect of career and financial planning.

There are many correct answers to these questions; some possibilities are given below.

1. Important career factors for Brad to consider when looking for a new job include salary, opportunity for advancement, his transferable skills that could apply to a field other than retailing, availability of benefits, available training programs, types of industries and companies (size, work environment, etc.) that interest him, and tuition reimbursement policies so he can finish his degree.

2. Personal factors that Brad should take into account as he investigates job opportunities include location/need to relocate (his children live in the area), personal lifestyle needs (is he willing to travel, work overtime, commute further?), type of work situation most suitable for him (managing others, part of a team, level of public contact, etc.), and any personal interests that could open doors to a new career. (There is some overlap between career and personal factors.)

3. Brad should consider a lower-paying job on a short-term basis and at the same time look for a managerial job in another field. He cannot afford to wait out the recession; his funds will run out in a few months. This two-pronged approach is therefore preferable to one or the other. A job at a lower salary, particularly one with good benefits and a tuition reimbursement policy, would allow him to finish his degree or obtain other job training to qualify for a better position. Because he has no dependents, he should be able to cover his living expenses, although he may have to cut back on some discretionary expenses. He should look in several fields and not limit himself to retailing, particularly if he does not wish to relocate to another area of the country away from his grown children. If he is committed to staying in retailing, he probably will have to move. He needs to determine his personal priorities to make these decisions. We do not have enough information to know what they would be. He may want to participate in some career workshops or get some career counseling to work out some of these issues.

4. There are many strategies today's workers can employ to avoid being placed in Brad's position. Staying with one employer and one basic type of work for 28 years, as Brad did, will be the exception rather than the rule. Job changes, whether voluntary or involuntary, should be made with certain objectives in mind, such as broadening your base of experience and learning new skills—for example, computer skills and management responsibility. Keeping up with industry trends and overall economic conditions is very important. This can alert you to the skills needed for future success and provide advance warning of possible downsizings. Don't allow yourself to be "pigeonholed" into one very specific type of job for too long; look for opportunities to transfer within your company or to another firm to get more diverse experience. Think of your capabilities in terms of general skills that can be applied to other jobs, companies, and industries. Develop and maintain a network of professional contacts in firms and industries that appeal to you, and be willing to share your knowledge with others who need your help.

BILLINGSLEY/ GITMAN/ JOEHNK/

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2

USING FINANCIAL STATEMENTS AND BUDGETS

LEARNING OUTCOMES

1 Understand the relationship between financial plans and statements

2 Prepare a personal balance sheet

3 Generate a personal income and expense statement

4 Develop a good record-keeping system and use ratios to evaluate personal financial statements

LEARNING OUTCOMES *(continued)*

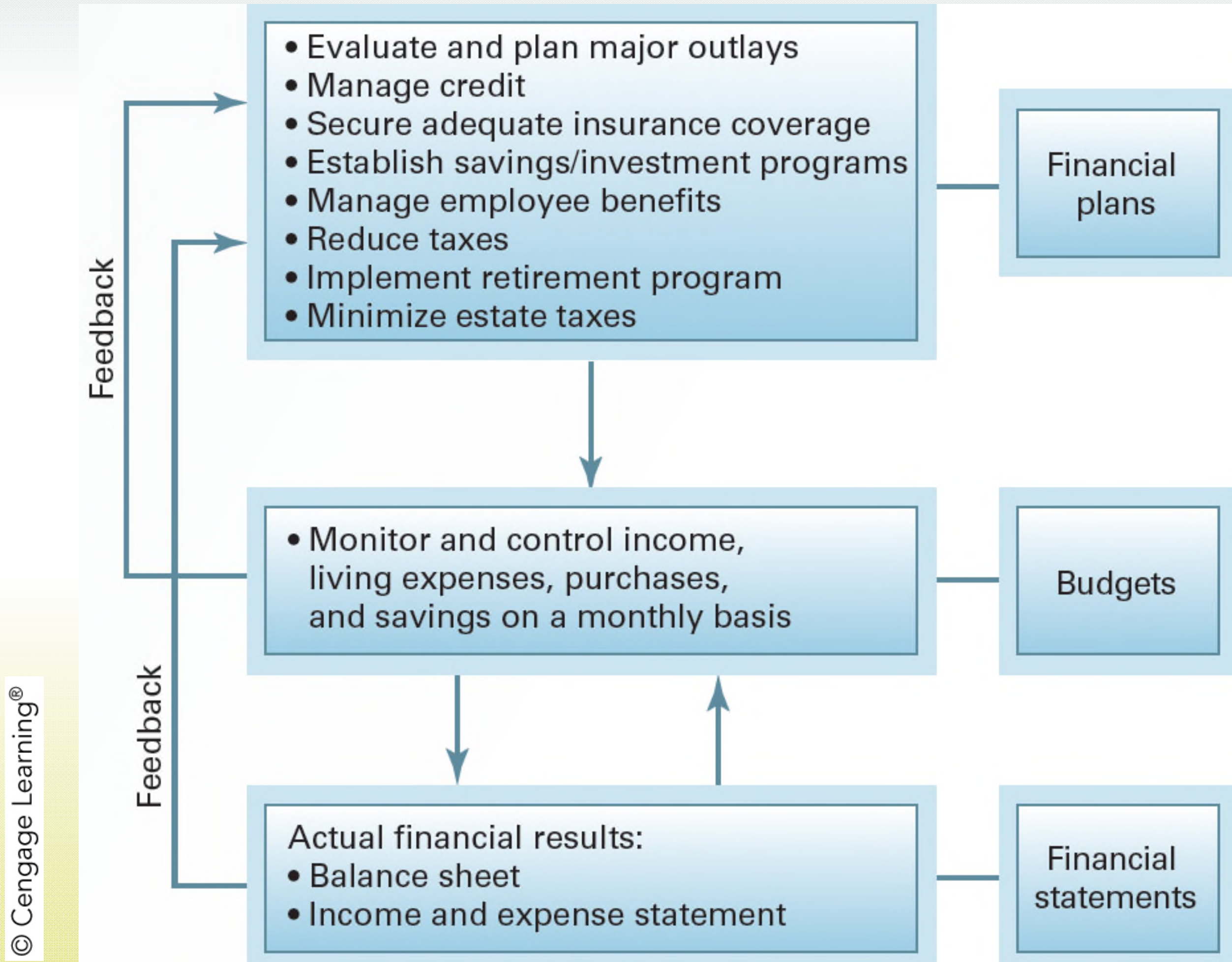
5 Construct a cash budget and use it to monitor and control spending

6 Apply time value of money concepts to put a monetary value on financial goals

Financial Statements

- **Balance sheets** and **income and expense statements**
  - *Serve as planning tools that are essential to develop and monitor personal financial plans*
- **Budget**: Detailed financial report that looks forward based on expected income and expenses

Exhibit 2.1 The Interlocking Network of Financial Plans and Statements



Balance Sheet

- Describes a person's financial position at a given time
- Total assets = Total liabilities + net worth
- Net worth = Total assets - total liabilities

Assets

- Items that one owns
  - **Liquid assets**: Held in form of cash
  - **Investments**: Acquired to earn a return
  - **Real property**: Immovable assets
  - **Personal property**: Movable and used in everyday life

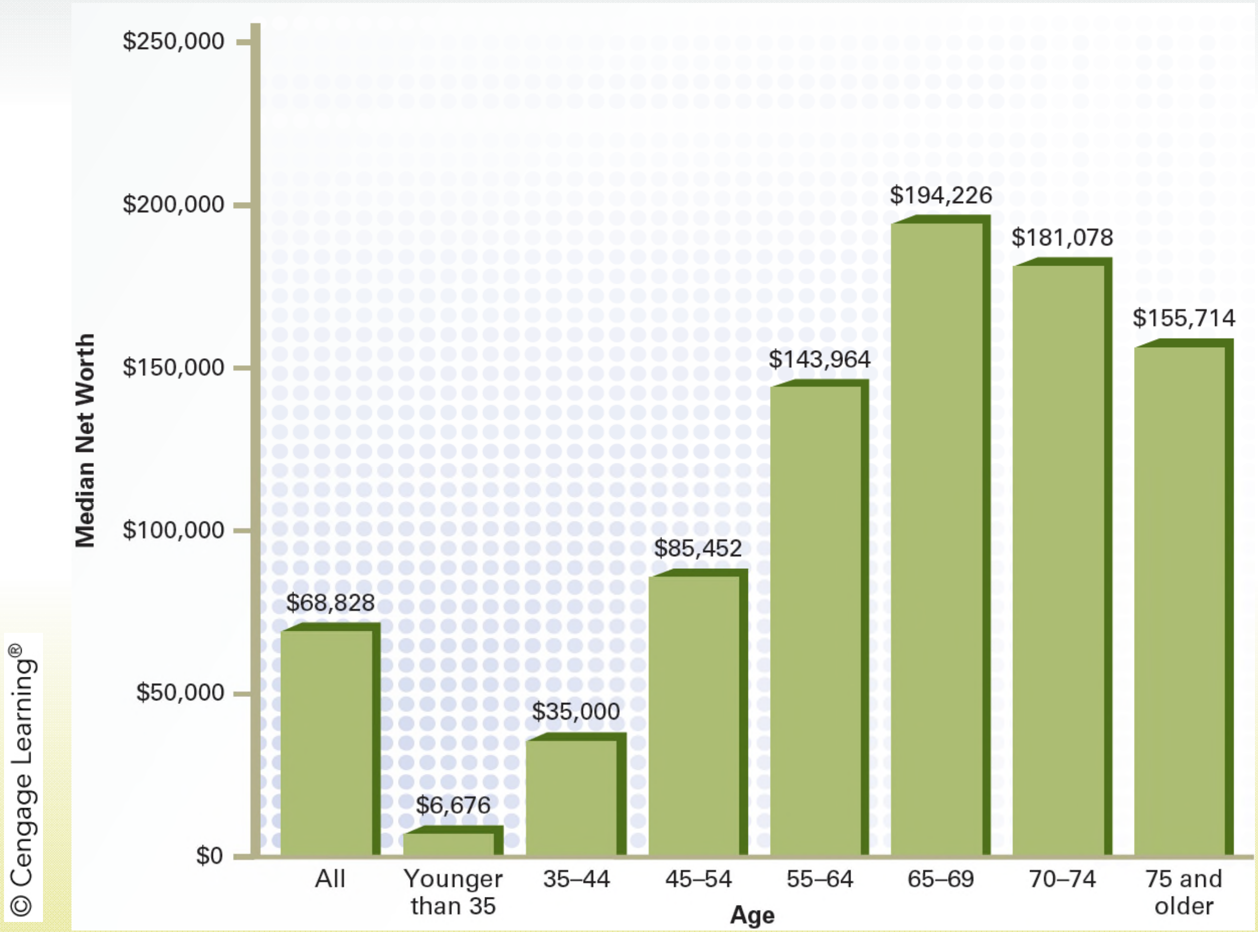
Liabilities

- Debts like credit card charges, loans, and mortgages
  - ***Current or short-term****: Due within 1 year of the date of the balance sheet*
    - ***Open account credit obligations****: Current liabilities that represent the balances outstanding against established credit lines*
  - ***Long-term****: Debt due 1 year or more from the date of the balance sheet*

Net Worth

- Individual's or family's actual wealth
  - ***Equity***: *Actual ownership interest in a specific asset or group of assets*
- If the net worth is less than zero, then the individual or family is **insolvent**

Exhibit 2.2 Median Net Worth by Age



Source: Adapted from United States Census Bureau, "Net Worth and Asset Ownership of Households: 2011," Table 1, http://www.census.gov/people/wealth/.

Balance Sheet Format and Preparation

- List your assets at their fair market value as of the date you are preparing the balance sheet
- List all current and long-term liabilities
- Calculate net worth

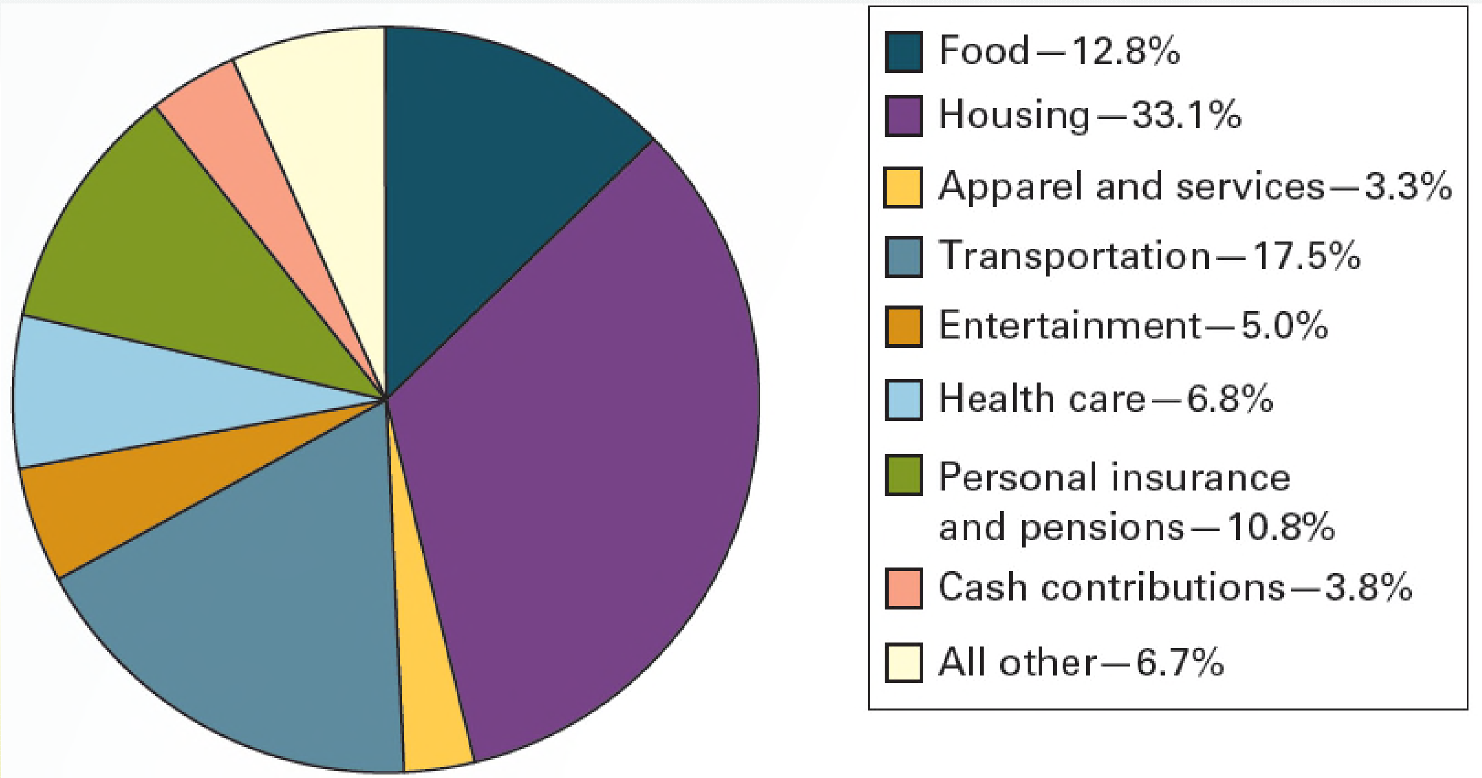
Income and Expense Statement

- Prepared on a cash basis
  - ***Cash basis****: Only transactions involving actual cash inflows or actual cash outlays are recorded*
- **Income**: earnings received as wages, salaries, bonuses, commissions, interest and dividends, or proceeds from the sale of assets
- **Expenses**: Money spent on living expenses and to pay taxes, purchase assets, or repay debt

Income and Expense Statement

- **Cash surplus**: Excess amount of income over expenses
  - *Results in increased net worth*
- **Cash deficit**: Excess amount of expenses over income
  - *Results in insufficient funds and decreased net worth*

Exhibit 2.3 How we Spend our Income



Source: Derived from data in "Consumer Expenditures Midyear Update - July 2012 through June 2013 Average," Washington, D.C.: U.S. Department of Labor, Bureau of Labor Statistics, News Release, USDL-14-0874, Table A, "Average Expenditures and Characteristics of All Consumer Units and Percent Changes, May 23, 2014, http://www.bls.gov/news.release/cesmy.nr0.htm, accessed July 2014.

Preparing the Income and Expense Statement

- Record your income from all sources for the chosen period
- Establish meaningful expense categories
- Subtract total expenses from total income to get the cash surplus or deficit

Exhibit 2.4 Ratios for Personal Financial Statement Analysis

Ratio	Formula	2016 Calculation for the McPhersons
Solvency ratio	$\frac{\text{Total net worth}}{\text{Total assets}}$	$\frac{\$93,535}{\$266,485} = 0.351$, or 35.1%
Liquidity ratio	$\frac{\text{Total liquid assets}}{\text{Total current debts}}$	$\frac{\$2,285}{\$17,710^{(a)}} = 0.129$, or 12.90%
Savings ratio	$\frac{\text{Cash surplus}}{\text{Income after taxes}}$	$\frac{\$21,551}{\$86,15 - \$18,319} = \frac{\$21,551}{\$68,396} 0.315$, or 31.5%
Debt service ratio	$\frac{\text{Total monthly loan payments}}{\text{Monthly gross (before-tax) income}}$	$\frac{\$1,387^{(b)}}{\$7,226^{(c)}} = 0.192$, or 19.2%

Cash Budget

- Takes into account estimated monthly cash receipts and cash expenses for the coming year
- Helps to:
  - *Maintain the necessary information to monitor and control finances*

Cash Budget

- *Decide how to allocate income to reach financial goals*
- *Implement a system of disciplined spending*
- *Reduce needless spending*
- *Achieve long-term financial goals*

Dealing With Temporary Budget Deficit

- Shift expenses from months with budget deficits to months with surpluses
- Use savings, investments, or borrowing to cover temporary deficits

Dealing With Annual Budget Deficit

- Liquidate savings and investments or borrow to meet the total deficit
- Cut low-priority expenses from the budget
- Increase income

Budget Control Schedule

- Summary that shows how actual income and expenses compare with:
  - *Budget categories*
  - *Existing variances*

Time Value of Money

- Concept that a dollar today is worth more than a dollar received in the future
  - ***Future value***: *Today's amount that will grow if it earns a specific rate of interest over a given period*
    - Growth in value occurs because of earning interest and **compounding**
    - Future value = Amount invested x
      future value of factor

Time Value of Money

- ***Annuity**: Fixed sum of money that occurs annually*
  - Yearly savings = $\dfrac{\text{amount of money desired}}{\text{future value of annuity factor}}$
- ***Present value**: Value today of an amount to be received in the future*
  - **Discounting**: Process of finding present value
  - Present value = Future value x Present value factor

KEY TERMS

- Personal financial statements
- Balance sheet
- Income and expense statement
- Budget
- Liquid assets
- Real property
- Personal property
- Fair market value
- Current (short-term) liabilities
- Open account credit obligations
- Long-term liabilities
- Net worth
- Equity
- Insolvency
- Cash basis
- Income
- Cash surplus
- Cash deficit
- Solvency ratio

KEY TERMS

- Liquidity ratio
- Savings ratio
- Debt service ratio
- Cash budget
- Budget control schedule
- Time value of money
- Future value
- Compounding
- Present value
- Discounting

SUMMARY

- Financial plans, financial statements, and budgets provide direction by helping you work toward specific financial goals
- Balance sheet preparation enables you to know your financial status
- Income and expense statement is prepared on a cash basis recording only actual cash inflows and actual cash outlays
- Preparing, analyzing, and monitoring your personal budget are essential steps for successful personal financial planning