SOLUTIONS MANUAL

PERSONAL FINANCIAL PLANNING

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Chapter 1

Understanding the Financial Planning Process

Chapter Outline

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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. The influence of government, business, and consumer actions and changing economic conditions on personal financial planning.
5. Age, marital status, education, geographic location, and career as important determinants of personal income levels.
6. 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 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. Technology in financial planning
13. The planning environment—players, economy, and price levels
14. Determinants of personal income
15. Career planning

Answers to Concept Check Questions

1-1. *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. 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. 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. 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. *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. 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. 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. 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 on p. 18 of the text 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. Normally, a complete set of *financial plans* includes asset acquisition plans, liability and insurance plans, savings and investment plans, employee benefit plans, tax plans, and retirement and estate plans. Financial plans include written goals and objectives as well as the financial budgeting needed to achieve them.

1-10. 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. 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 Mark 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 Mark 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. *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. 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. 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.

1-15. The stages of the economic cycles are *expansion, recession, depression*, and *recovery.* During an *expansion,* employment is high, the economy is active and growing, and prices tend to rise. A slowdown in economic activity, usually accompanied by lower employment levels, characterizes a *recession*. A *depression* occurs when employment is low, and economic growth and activity are almost nil. Improving employment, together with increasing economic activity and growth, are present in a *recovering economy.* 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.

1-16. *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.

1-17. 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.

1-18. *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.

Financial Planning Exercises

1. Student 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.

2. Student 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.

3. Student 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 $2,000 for a down payment on another vehicle during the next 2 years.
   b. 25-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 $5000 for emergency use during school.
   c. Couple in their thirties with two children, ages three and six—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 45-year old man with a 15-year old child and a 75-year old father who is ill—engage the help of friends or family in carpooling teenager to school and activities; 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. 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.

5. 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
   - Developing functional resume focusing on skills rather than job titles

Solutions to Contemporary Case Applications

1.1 Nathan's Need to Know: Personal Finance or Tennis?

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 Nathan 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 tennis 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 Nathan 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, Nathan 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 Nathan to take not only beginning tennis but also intermediate tennis and possibly join a tennis club.

1.2 Tony's Dilemma: Finding a New Job

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 Tony'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 Tony 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 Tony 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. Tony 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 Tony's position. Staying with one employer and one basic type of work for 28 years, as Tony 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.

Chapter 2

Developing Your Financial Statements and Plans

Chapter Outline

Learning Goals

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 Tim and Andrea Shepard
- *Concept Check*

III. The Income and Expense Statement: What We Earn and Where It Goes
- A. Income: Cash In
- B. Expenses: Cash Out
- C. Cash Surplus (or Deficit)
- D. Preparing the Income and Expense Statement
- E. An Income and Expense Statement for Tim and Andrea Shepard
- *Concept Check*

IV. Using Your Personal Financial Statements
- A. Keeping Good Records
  - 1. Organizing Your Records
- B. Tracking Financial Progress: Ratio Analysis
  - 1. Balance Sheet Ratios
  - 2. Income and Expense Statement Ratios
- *Concept Check*

V. Cash In/Cash Out: Preparing and Using Budgets
- A. The Budgeting Process
  - 1. Estimating Income
  - 2. Estimating Expenses
  - 3. Finalizing the Cash Budget
- B. Dealing with Deficits
- C. A Cash Budget for Tim and Andrea Shepard
- D. Using Your Budgets

Concept Check

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. The Rule of 72

C. Present Value
   1. Present Value of a Single Amount
   2. Present Value of an Annuity
   3. Other Applications of Present Value

Concept Check

VII. Special Planning Concerns

A. Managing Two Incomes

B. Managing Employee Benefits

C. Adapting to Other Major Life Changes

D. Using Professional Financial Planners
   1. Types of Planners
   2. Choosing a Financial Planner

Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
What's Your Condition?
Critical Thinking Cases
2.1 The Sullivans' Version of Financial Planning
2.2 Joe Garcia Learns to Budget
Money Online

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.
10. Special planning concerns, including managing two incomes, planning employee benefits, and adapting to other major life changes.
11. The use of professional financial planners in the financial planning process, the various types of financial planners, and choosing a financial planner.

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
4. Fair market value
5. Liabilities
6. Net worth
7. Solvency
8. Income
9. Expenses
10. Cash surplus or deficit
11. Record keeping
12. Ratio analysis of financial statements
13. Cash budgets
14. Estimating income
15. Estimating expenses
16. Monitoring and controlling actual expenses
17. Time value of money concepts and calculations
18. Special planning concerns
19. Financial planners

Answers to Concept Check Questions

2-1. *Personal financial statements* provide important information needed in the personal financial planning process. The balance sheet describes your financial condition at one point in time, while the income and expense statement measures financial performance over a given time period. Budgets help you plan your future spending. These statements allow you to track and monitor your financial progress so you can set realistic goals and meet them.

2-2. 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 assets that are acquired to earn a return; they may consist of either real or personal property or financial assets. *Real property* is immovable: for example, land and anything fixed to it, like a building. *Personal property* is movable property—cars, furniture, jewelry, clothing, etc. Whether real or personal property is an investment depends on the character of the property: some you acquire with the expectation that the property will go up in value while other property may be expected to go down in value.

2-3. The *balance sheet equation* is:

Total Assets – Total Liabilities = Net Worth

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. 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.)

2-5. The *income and expense statement* captures the various financial activities that have occurred over time, normally over the course of a month or a year. In personal financial planning, the statement permits comparison of actual results to the budgeted values.

2-6. The term *cash basis* indicates that only items of actual cash income and cash expense within the given period are included on the statement. For example, if you are due to receive a payment for work you have done, you do not count that amount as income until you actually receive it. A credit purchase becomes a liability on the balance sheet as soon as the debt is incurred. However, credit purchases are shown on the income statement only when payments on these liabilities are actually made. (Also, if a payment-in-full was not made, only that amount actually paid to reduce the liability is shown on the statement.) These cash payments would be treated as *expenses* because they represent disbursements of cash.

2-7. *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. Yes, a *cash deficit* appears on an 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, or incurring more debt, such as charging a purchase on a credit card.

2-9. *Accurate records* are important in the personal financial planning process. Such records help you manage and control your financial affairs, including controlling income and spending, preparing financial statements, filing tax returns, and planning future spending. A sophisticated *financial record keeping and control system* includes: (1) setting up a record book, (2) recording actual income and expenses, (3) balancing accounts periodically, (4) controlling budget expenses, and (5) balancing the books and preparing year end financial statements.

2-10. When *evaluating one's balance sheet*, primary concern should be devoted to the net worth figure since it represents a person's wealth at a given point in time. Attention should also be given to the level of various assets and liabilities to determine whether their level and mix is consistent with one's financial goals.

In *evaluating one's income and expense sta*tement, the primary concern should be whether there is a cash surplus or deficit. Consistently having a cash surplus on the income statement means that one's net worth is growing on the balance sheet, because the surplus remaining from one period will then be available to either increase one's assets or decrease one's liabilities.

It is possible to use a number of ratios to evaluate a balance sheet. However, the solvency ratio and the liquidity ratio are most frequently used. The *solvency ratio* relates total net worth to total assets. It shows, in percentage terms, the degree of market value decline in total assets, which a family could absorb before becoming technically insolvent. This ratio is a good indicator of one's exposure to potential financial problems. The *liquidity ratio* relates liquid assets to total current debts. It measures a family's ability to pay current debts and provides an estimate of their ability to meet obligations in the event their income is curtailed.

2-11. 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. Two remedies are available for the Smith family. They may be able to transfer expenses from months in which budget deficits occur to the month in which the budget surplus exists, or conversely, to transfer income from the month with a surplus to the months with deficits. Another alternative is to use savings, investments, or borrowing to cover temporary deficits. The Smiths might also want to consider increasing their income, at least temporarily, by getting a "moonlighting" job.

2-13. 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. 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. 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.

The *rule of 72* is a quick way to approximate how long it will take for an investment to double in value. Divide 72 by the percentage rate you are earning on your investment, and the answer will be approximately how many years it will take for your money to double. For example, if your investment is earning 8%, divide 72 by 8 to see that in approximately 9 years your money will double.

2-16. *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 to deposit today in order to have enough money to retire comfortably, analyze investments, and determine loan payments.

2-17. a. *Being part of a dual-income couple* requires good financial planning and open communication between partners. They need to discuss financial goals and set priorities together. Deciding how to allocate expenses and set up a money management system that is comfortable for each is especially important and avoids conflicts later. Each person should have some discretionary income to spend as he or she wishes. The partners may also want to analyze the bottom-line contribution of the second income, as shown in Worksheet 2. 1. Coordination of employee benefits and the possibility of being pushed into a higher tax bracket should be included in this analysis.

b. *Major life changes, such as marriage or divorce,* represent important points at which to review financial plans and revise them as necessary. Conflict over money is one of the leading causes of divorce. When getting married, couples need to set financial goals and plan their spending together. They cannot assume that just because they love one another their finances will work out to the satisfaction of both without careful planning and consideration. Divorce is usually a costly process, both financially and emotionally. Newly single individuals or parents may need more careful budgeting of household and personal expenses if income is reduced. Financial plans made during marriage are usually no longer valid, and each individual must now determine how to proceed from this point forward.

c. *Death of a spouse* also requires careful financial planning. A widow/widower must determine how to invest life insurance proceeds and other inherited assets. If the couple had children, the surviving spouse must consider how best to meet the future needs of the children as well as his or her own needs. Careful financial planning and advance discussions can ease the way for these tasks and provide general guidance at a difficult time in a person's life.

2-18. A *professional financial planner* is a person whose business it is to assist clients in establishing long- and short-term financial goals and in developing, implementing and carrying out comprehensive personal financial plans aimed at their achievement. Because in some cases the professional planner's compensation for plan development is based on commissions received from the sale of financial products to clients, there is a tendency to view such planners as not acting in the best interest of their clients. Fee-only compensation systems seem to result in more objective financial plans that better address the real needs of the client. However, the moral and ethical character of the financial planner along with his or her level of expertise needs to be carefully considered regardless of how the planner is compensated.

Financial Planning Exercises

1. a. Rent paid is listed as an expense. For the year, his rent expense would be $11,400 ($950 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 Chris. 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 $600 bill outstanding is listed as a current liability on the balance sheet.

   c. Assuming the loan proceeds were received during the year ending June 30, 2004, the $2,000 would be shown as income labeled "loan proceeds." Since no loan payments were made during the period, a corresponding expense would not appear, but the obligation to repay the $2,000 would be shown as a liability on the balance sheet.

   d. Assuming he made 12 payments during the year, Chris would list loan payments as an expense of $1,440. Of the 20 remaining payments, only about half are for principal. Therefore, on the balance sheet he should show the unpaid principal of about $1,200 (20 x $120/2) 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 $2,800 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 the income and expense statement as a $1,800 expense labeled "purchase of securities." Under "investments" on the balance sheet he would list the current fair market value of the stock.

2. 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. See the following page for Elizabeth Walker's balance sheet.

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

$$\text{Solvency Ratio} = \frac{\text{Total Net Worth}}{\text{Total Assets}} = \frac{\$27{,}550}{\$84{,}350} = 32.66\%$$

This indicates that Ms. Walker 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 Ms. Walker'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:

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

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.

Problem 3—Worksheet 2.1

BALANCE SHEET

Name(s) Elizabeth Walker   Date June 30, 2007

ASSETS			LIABILITIES AND NET WORTH		
Liquid Assets			**Current Liabilities**		
Cash on hand	$ 70.00		Utilities Phone & electric	$ 90.00	
In checking	180.00		Rent		
Savings accounts			Insurance premiums	220.00	
Money market funds and deposits	650.00		Taxes	400.00	
Certificates of deposit (<1 yr. to maturity)			Medical/dental bills		
			Repair bills		
Total Liquid Assets		$ 900.00	Bank credit card balances	400.00	
Investments			Dept. store credit card balances	190.00	
Stocks WIMCO	$ 3,000.00		Travel and entertainment card balances		
Bonds Savings bonds	500.00		Gas and other credit card balances		
Certificates of deposit (>1 yr. to maturity)			Bank line of credit balances		
Mutual funds			Other current liabilities		
Real estate					
Retirement funds, IRA			**Total Current Liabilities**		$ 1,300.00
Other			**Long-Term Liabilities**		
Total Investments		$ 3,500.00	Primary residence mortgage	$52,000.00	
Real Property			Second home mortgage		
Primary residence	$ 68,000.00		Real estate investment mortgage		
Second home			Auto loans	3,000.00	
Other			Appliance/furniture loans	500.00	
Total Real Property		$ 68,000.00	Home improvement loans		
Personal Property			Single-payment loans		
Auto(s): '03 Honda	$ 10,000.00		Education loans		
Auto(s):			Margin loans used to purchase securities		
Recreational vehicles			Other long-term loans		
Household furnishing	1,050.00				
Jewelry and artwork			**Total Long-Term Liabilities**		$ 55,500.00
Other Clothing	900.00		**(II) Total Liabilities**		$ 56,800.00
Other					
Total Personal Property		$ 11,950.00	**Net Worth [(I) - (II)]**		$ 27,550.00
(I)Total Assets		$ 84,350.00	**Total Liabilities and Net Worth**		$ 84,350.00

4. Chuck and Judy's income and expense statement follows. Note that for the purchase of the photographic equipment and the car, only the amounts actually paid during the period are listed as expenses on the income and expenses statement. (We are not told the amount of the car loan payments, so the $2,450 listed does not reflect interest charges.) The outstanding balances will appear as liabilities on the balance sheet. The fair market value of the items purchased will appear as assets on the balance sheet.

Problem 4—Worksheet 2.2

INCOME AND EXPENSE STATEMENT

Name(s) Chuck and Judy Schwartz
For the year Ended December 31, 2007

INCOME		
Wages and salaries	Name: Judy	$ 37,000.00
	Name:	
	Name:	
Self-employment income		
Bonuses and commissions		
Investment income	Interest received	180.00
	Dividends received	
	Rents received	
	Sale of securities	
	Other	
Pensions and annuities		
Other income	Reimbursement of Judy's travel expenses	1,950.00
	(I) Total Income	$ 39,130.00
EXPENSES		
Housing	Rent/mortgage payment (include insurance and taxes, if applicable)	$ 9,600.00
	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 *see note below	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	Homeowner's (if not covered by mortgage payment)	
	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 photographic equipment	600.00
	Purchases and repairs	
Personal care	Laundry, cosmetics, hair care	
Recreation and entertainment	Vacations	
	Other recreation and entertainment	280.00
Other items	Chuck's tuition, books, and supplies	3,300.00
	Alpha Corp. bonds	4,900.00
	Travel expense for Judy	1,950.00
	(II) Total Expenses	$ 31,540.00
	CASH SURPLUS (OR DEFICIT) [(I)-(II)]	$ 7,590.00

* We are not told the amount spent on car loan payments, so the $2,450 reflects on the principal paid and does not include interest charges, as it should.

5. a. Dave is correct in suggesting that only take-home pay be shown as income if the $650 ($3,000 – $2,350) in taxes is not shown as an expense. If they choose to show the tax expense, Betty would be correct. Expressing income on an after-tax basis would probably be simpler.

   b. By having an allowance for "fun money," the Williamsons 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.

Item No. (1)	Item (2)	Amount Budgeted (3)	Amount Expended (4)	Beginning Balance (5)	Monthly Surplus (Deficit) (6)	Cumulative Surplus (Deficit) (7)
1	Rent	$350	$360	$20	$(10)	$10
2	Utilities	150	145	15	5	20
3	Food	310	275	(15)	35	20
4	Auto	25	38	(5)	(13)	(18)
5	Recr. & enter.	50	60	(50)	(10)	(60)

7. This question requires a personal response that will differ for each student. Therefore, a specific example has not been provided. However, the 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 8-10 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. a. At the end of 10 years, your $10,000 investment would grow to $40,460 at 15%, but only $21,590 at 8% (about half as much).

Formula	Calculator
FV = PV x FV factor $_{15\%,10\ yrs.}$ = $10,000 x 4.406 = $40,460	10000 +/- PV 15 I 10 N FV $40,455.58
FV = PV x FV factor $_{8\%,10yrs.}$ = $10,000 x 2.159 = $21,590	10000 +/- PV 8 I 10 N FV $21,589.25

b. At the end of 25 years, your $25,000 investment would grow to $270,850 at a 10% return.

Formula	Calculator
FV = PV x FV factor $_{10\%,25yrs.}$ = $25,000 x 10.834 = $270,850	25000 +/- PV 10 I 25 N FV $270,867.65

c. At the end of 10 years the average new home, which costs $125,000 today, will cost $203,625 if prices go up at 5% per year.

Formula	Calculator
FV = PV x FV factor $_{5\%,10yrs.}$ = $125,000 x 1.629 = $203,625	125000 +/- PV 5 I 10 N FV $203,611.83

d. Yes, you will have $79,300, $4,300 more than your $75,000 goal.

Formula	Calculator
FV = PV x FV factor $_{8\%,15yrs.}$ = $25,000 x 3.172 = $79,300	25000 +/- PV 8 I 15 N FV $79,304.23

You will need to deposit $2,762.23 at the end of each year for 15 years In order to reach the $75,000 goal.

Formula	Calculator
PMT = FV ÷ FVA factor $_{8\%,15yrs.}$ = $75,000 ÷ 27.152 = $2,762.23	75000 +/- FV 8 I 15 N PMT $2,762.22

e. You will need to invest $2,316.65 at the end of each year at a rate of 12% for the next 35 years in order to retire with $1 million.

Formula	Calculator
PMT = FV ÷ FVA factor $_{12\%,35yrs.}$	1000000 +/- FV

	=	$1,000,000 ÷ 431.658	12		I
	=	$2,316.65	35		N
			PMT		$2,316.62

f. You will be able to withdraw $76,351.42 at the end of each year for 25 years if you retire with $750,000 invested at 9%.

PMT	=	PV ÷ PVA factor $_{9\%,25yrs.}$	750000	+/-	PV
	=	$750,000 ÷ 9.823	9		I
	=	$76,351.42	25		N
			PMT		$76,354.69

9. a. If Helen can earn 12% on her money, $14,188 will be worth about $25,000 in 5 years:

FV	=	PV x FV factor $_{12\%,5yrs.}$	1418	+/-	PV
			8		
	=	$14,188 x 1.762	12		I
	=	$24,999.26	5		N
			FV		$25,004.10

No, she will fall short by about $25,000.

b. Assuming that Helen 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 $3,935.27 per year. This calculation is as follows:

FV	=	PMT x FVA factor $_{12\%,5yrs.}$	25000	+/-	FV
PMT	=	FV ÷ FVA factor $_{12\%,5yrs.}$	12		I
	=	$25,000 ÷ 6.353	5		N
	=	$3,935.15	PMT		$3,935.24

c. If Helen saves only $2,000 per year she would have an additional $12,706 for a total of $37,706 ($25,000 + 12,706) and will fall $12,294 short of her $50,000 goal.

FV	=	PMT x FVA factor $_{12\%,5yrs.}$	2000	+/-	PMT
	=	$2,000 x 6.353	12		I
	=	$12,706	5		N
			FV		$12,705.69

10. a. Note what a difference 2% makes over the 20 year time period! You would have to initially invest about 44% more money to end up with the same future value [(43,000 – 29,800) ÷ 29,800].

PV	=	FV x PV factor $_{10\%,20\ yrs.}$	200000	+/-	FV
	=	$200,000 x .149	10		I
	=	$29,800	20		N
			PV		$29,728.73

PV	= FV x PV factor $_{8\%,20yrs.}$	200000	+/-	FV	
	= $200,000 x .215	8		I	
	= $43,000	20		N	
		PV		$42,909.64	

b. Bill can withdraw $27,812.54 at the end of every year for 15 years.

PV	= PMT x PVA factor $_{11\%,15yrs.}$	200000	+/-	PV
PMT	= PV ÷ PVA factor $_{11\%,15yrs.}$	11		I
	= $200,000 ÷ 7.191	15		N
	= $27,812.54	PMT		$27,813.05

c. To withdraw $35,000 at the end of every year for 15 years, Bill would need a retirement fund of $251,685.

PV	= PMT x PVA factor $_{11\%,15yrs.}$	35000	+/-	PMT
	= $35,000 x 7.191	11		I
	= $251,685	15		N
		PV		$251,680.44

d. To accumulate a retirement fund of $251,685 in 20 years, Bill needs to invest $37,501.07, or an additional $7,701.07 ($37,501.07 – $29,800).

PV	= FV x PV factor $_{10\%,20yrs.}$	251685	+/-	FV
	= $251,685 x .149	10		I
	= $37,501.07	20		N
		PV		$37,411.37

Solutions to Critical Thinking Cases

2.1 The Sullivans' Version Of Financial Planning

1. The Sullivans' personal financial statements are on the following page.

2. a. Solvency = $\frac{\text{Total Net Worth}}{\text{Total Assets}} = \frac{\$\ 44{,}745}{\$120{,}070} = .37$

The Sullivans could withstand about a 37% decline in the market value of their assets before they would be insolvent. The solvency ratio also indicates percent ownership: the Sullivans own free and clear about 37% of their total assets. While this ratio is acceptable, they should seek to improve it.

b. Liquidity = $\frac{\text{Liquid Assets}}{\text{Total Current Liabilities}} = \frac{\$3{,}070}{\$2{,}675} = 1.15$

The Sullivans can cover their current liabilities with their liquid assets and have a little to spare. However, they still have to make mortgage and auto loan payments each month and probably would not want to use up their money market funds to do so.

c. Savings = $\frac{\text{Cash Surplus}}{\text{Income after Taxes}} = \frac{\$2,440}{\$64,350 - \$16,940} = 5.1\%$

At about 5 percent, the Sullivans' current saving rate is comparable to that of the average American family. However, if they were to live off only John's income, their savings rate would be almost nil!

d. Debt Service = $\frac{\text{Total Debt Payments}}{\text{Gross Income}}$

$= \frac{\text{Mortgage + car loan + credit card payments}}{\text{Gross Income}}$

$= \frac{\$8,000 + \$2,150 + \$2,210}{\$64,350} = \frac{\$12,360}{\$64,650} = 19.2\%$

Case 2.1, Problem 1

Balance Sheet			
Name(s): John & Lisa Sullivan		**Date:** December 31, 2007	
ASSETS		**LIABILITIES**	
Liquid assets:		**Current liabilities:**	
Cash	$ 85	Bank credit card balances	$ 675
Checking	485	Travel & entertainment card balances	2,000
Money Market	2,500		
Investments:		**Long-term liabilities:**	
Common Stocks	7,500	Mortgage on home—loan balance	70,000
		Auto loan balance	2,650
Property:			
Home	98,000		
2004 Nissan	7,000	**TOTAL LIABILITIES**	**$ 75,325**
Household furnishings	4,500		
		NET WORTH (Assets - Liabilities)	**$ 44,745**
TOTAL ASSETS	**$120,070**	**TOTAL LIAB. & NET WORTH**	**$120,070**

Income & Expense Statement		
Name(s): John & Lisa Sullivan		
For the Year	**Ending** December 31, 2007	
INCOME		**AMOUNT**
John		$ 38,350
Lisa		26,000
	TOTAL INCOME	**$ 64,350**
EXPENSES		
Mortgage payments		$ 9,400
Gas, electric, water		1,990
Phone		640
Cable TV		480
Food		4,200
Auto loan payments		2,150
Transportation expense		2,800
Medical expenses—unreimbursed		600
Clothing expense		2,300
Homeowner's insurance premiums		400
Auto insurance premiums		800
Income and Social Security taxes paid		16,940
Vacation (Trip to Europe)		5,000
Recreation and entertainment		4,000
Credit card loan payments		2,210
Purchase of common stock		7,500
Addition to money market account		500
	TOTAL EXPENSES	**$ 61,910**
	CASH SURPLUS (DEFICIT)	**$ 2,440**

[Note: $1400 of the $9400 in house payments was for property taxes—only $8000 was for the mortgage. The homeowner's insurance was listed separately.]

The Sullivans are okay for now. However, with only his salary, the debt service ratio becomes rather high:

$$\frac{\$12{,}360}{\$38{,}350} = 32\%$$

3. If the Sullivans continue to manage their finances as described in the case, there is no question that, in the long-run, they are headed for financial disaster. Because the Sullivans have become accustomed to living with a double income, it will be extremely difficult to change their overall way of life or standard of living. The Sullivans must realize that the bottom line of the income statement is the most important, and given their present level of expenses, their contribution to savings or investment will change from an annual surplus—and it's already very small—to an annual deficit. As a result, their net worth will decline, and the long-run consequence of these events will be financially quite detrimental to the Sullivans.

   John must understand that the family will incur additional living expenses when the child is born, that inflation will continue, and that the cost of home ownership and everyday living will more than offset his expected 10 percent increase in pay. At the present time, John's take-home income of $26,480 barely covers necessities—which actually total $25,760, not $24,885; perhaps John considers cable TV a luxury and expects to reduce some of their dining out and clothing purchases next year. A 10 percent (take-home) pay increase of $2,650 will increase his take-home pay to
   $29,130 and will leave the Sullivan family with only $4,245 to pay for the increased family size (based on John's estimate of necessities), inflation, and numerous other costs. If one conservatively estimates a 3 percent rate of inflation in the cost of these necessities, the resulting total cost would increase to $25,632. This results in a surplus of only $3,498 from which to cover the added expenses for a child as well as other unforeseen costs. Furthermore, the inflation rate could be even higher.

   The long-run consequences of John's strategy could prove very harmful. Although the Sullivans' net worth is now positive, any future annual expenses exceeding income (take-home pay) will slowly erode their savings, investments, and net worth. They do not have much excess to cover any emergency expenses. If the Sullivans wish to maintain or increase their net worth and to achieve their financial goals, they must take immediate action to find ways to either increase revenue or decrease expenses.

   The logical solution at this time is for John and Lisa to prepare a budget and follow it to live within the constraints of their expected income and expenses. They should immediately look at all expenses, past, present, and future, to develop financial plans so they can live within their means. They should review their balance sheet and income statement and then prepare projected monthly and annual budgets. The couple should record planned income and expenses month by month, monitoring monthly surpluses and deficits so they can quickly correct them. It won't be too long before they realize that maintaining their present

standard of living will seriously erode their overall net worth. John and Lisa should develop objectives or goals for both the long- and short-run. By correlating budget control with expected future goals, a realistic plan of action can be developed that allows them to achieve their financial goals and continue to increase their net worth.

2.2 Joe Garcia Learns To Budget

1. a. In order to get the big picture of Joe's expected income and expenses, it may be more useful to simply use Worksheet 2.2, the Income and Expense Statement, to project his expected position for the coming year. When doing this problem together in class, work through the given setup using a blank Income and Expense Statement on the overhead projector. Then have the class decide which items need to be slashed. (See the example which follows.) After these decisions have been made, divide the expenses into months and fill out Worksheet 2.3 as indicated in part 2 which follows.

   b. Joe's total expenses of $29,247 are greater than his expected total income of $28,500; he has a deficit of $747. There are many recommendations that students can make to help him balance his budget. The following were used to develop answers to Question 2 and are shown in the "Adjusted" column in the example shown previously:

	Savings
Reduce dining out to $900 ($75/mo.)	$1,100
Reduce clothing purchases to $1200	650
Cut furniture/TV purchases entirely	660
Cut other entertainment to $900 ($75/mo.)	1,000
Total savings	$3,410

   Other possible ideas that students may suggest include: shop garage or yard sales for furniture, drop cable TV, move to a larger apartment shared with roommates so that rent and other expenses can be divided, and consider using public transportation (if it is feasible) to reduce car expenses.

2. The above adjustments were incorporated into making Joe's annual cash budget summary shown on Worksheet 2.3 which follows. Please note that some of the monthly budgeted items vary by small amounts in order to make the totals correct.

3. (Students' answers will vary depending on the adjustments chosen.)
   By reducing his expected expenses by $3,410, Joe will have a cash surplus of $2,663 ($3,410 – $747 deficit on his planned expenses). This will enable Joe to establish an emergency account as well as begin a long-term investing program. He can deposit $663 into a money market mutual fund to use for unexpected expenses or emergencies. This will take the money out of his regular checking account but still leave it accessible, as most money market funds provide check writing privileges. He can contribute $2000 to a Roth IRA and begin his long-term investing program. The Roth IRA also offers Joe flexibility in withdrawing

the money if needed later, perhaps for purchasing a home (particularly if he withdraws only principal). He can set up a monthly withdrawal plan out of his regular checking account with a mutual fund company for both the money market fund and the IRA account in order to make his investing easy and automatic.

Case 2.2, Problem 1a

[Note: For simplicity and clarity, *only the expenses which were cut* are shown in the "Adjusted" column. Other expenses will remain the same.]

Income and Expense Statement

Name: Joe Garcia

For the Year Ending December 31, 2008

Income		Projected	Adjusted
Salary	Joe's take-home pay of $2,375/mo.	$ 28,500	$ 28,500
Other income			
	(I) Total Income	$ 28,500	$ 28,500
Expenses			
Housing	Rent	$ 9,600	$
	Repairs		
Utilities	Gas, electric, water	1,008	
	Phone	660	
	Cable TV and other	300	
Food	Groceries	2,625	
	Dining out	2,000	900
Transportation	Auto loan payments	3,340	
	Auto related expenses	1,638	
	Other transportation expenses		
Medical	Health-related insurance		
	Doctor, dentist, hospital, medicines	190	
Clothing	Clothes, shoes, accessories	1,850	1200
Insurance	Homeowner's		
	Life		
	Auto	546	
Taxes	Income and social security		
	Property (if not included in mortgage)		
Appliances, furniture & other major purchases	Loan payments	540	
	Purchases and repairs	660	0
Personal care	Laundry, cosmetics, hair care	240	
Recreation & entertainment	Vacations	1,100	
	Other recreation and entertainment	1,900	900
Other items	Misc.	600	
	Credit card pmts: 6 mo.@$75/mo.	450	
	Other expenses		
	(II) Total Expenses	$ 29,247	$ 25,837
	CASH SURPLUS (OR DEFICIT) [(I) – (II)]	$ (747)	$ 2,663

Case 2.2, Problem 2—Worksheet 2.3

ANNUAL CASH BUDGET BY MONTH

Name(s) Joe Garcia

For the Year Ending December 31, 2008

INCOME	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Take-home pay	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	28,500
[1] Total Income	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	2,375	**28,500**
EXPENDITURES													
Rent	800	800	800	800	800	800	800	800	800	800	800	800	9,600
Gas & electricity	84	84	84	84	84	84	84	84	84	84	84	84	1,008
Phone	55	55	55	55	55	55	55	55	55	55	55	55	660
Cable TV	25	25	25	25	25	25	25	25	25	25	25	25	300
Groceries	218	218	218	219	219	219	219	219	219	219	219	219	2,625
Dining out	75	75	75	75	75	75	75	75	75	75	75	75	900
Auto loan payments	279	279	279	279	278	278	278	278	278	278	278	278	3,340
Car expenses	126	247	126	126	126	126	126	127	127	127	127	127	1,638
Medical care, dentist	10	10	45	10	10	10	10	10	45	10	10	10	190
Clothing	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Auto insurance	0	0	0	0	0	273	0	0	0	0	0	273	546
Installment loan for stereo	45	45	45	45	45	45	45	45	45	45	45	45	540
Personal care	20	20	20	20	20	20	20	20	20	20	20	20	240
Vacation at Lake Tahoe	0	0	0	0	0	0	1,100	0	0	0	0	0	1,100
Other recreation & entertainment	75	75	75	75	75	75	75	75	75	75	75	75	900
Savings & investments--Money Market	56	56	56	55	55	55	55	55	55	55	55	55	663
Miscellaneous expenses	50	50	50	50	50	50	50	50	50	50	50	50	600
Credit card payments	75	75	75	75	75	75	0	0	0	0	0	0	450
Roth IRA contributions	167	166	167	166	167	166	167	166	167	166	167	168	2,000
[2] Total Expenditures	2,260	2,380	2,295	2,259	2,259	2,531	3,284	2,184	2,220	2,184	2,185	2,459	28,500
MONTHLY CASH SURPLUSES (DEFICIT) [1-2]	115	(5)	80	116	116	(156)	(909)	191	155	191	190	(84)	0
CUMULATIVE CASH SURPLUS (DEFICIT)	**115**	**110**	**190**	**306**	**422**	**266**	**(643)**	**(452)**	**(297)**	**(106)**	**84**	**0**	

Chapter 3

Preparing Your Taxes

Chapter Outline

Learning Goals

I. Understanding Federal Income Tax Principles
- A. The Economics of Income Taxes
- B. Your Filing Status
- C. Your Take-Home Pay
  - 1. Federal Withholding Taxes
  - 2. FICA and Other Withholding Taxes
- *Concept Check*

II. It's Taxable Income That Matters
- A. Gross Income
  - 1. Three Kinds of Income
  - 2. Capital Gains
    - a. Selling Your Home: A Special Case
- B. Adjustments to (Gross) Income
- C. Deductions: Standard or Itemized?
  - 1. Standard Deduction
  - 2. Itemized Deductions
  - 3. Choosing the Best Option
- D. Exemptions
- *Concept Check*

III. Calculating and Filing Your Taxes
- A. Tax Rates
- B. Tax Credits
- C. Tax Forms and Schedules
  - 1. Variations of Form 1040
- D. The 2005 Tax Return of Terry and Evelyn Becker
  - 1. Finding The Beckers' Tax Liability: Form 1040
    - a. Gross Income
    - b. Adjustments to Gross Income
    - c. Adjusted Gross Income
    - d. Itemized Deductions or Standard Deduction?
    - e. Personal Exemptions
    - f. The Beckers' Taxable Income and Tax Liability
    - g. Do They Get a Tax Refund?
- *Concept Check*

IV. Other Filing Considerations
A. Estimates, Extensions, and Amendments
1. Estimated Taxes
2. April 15: Filing Deadline
3. Filing Extensions and Amended Returns
B. Audited Returns
C. Tax Preparation Services: Getting Help on Your Returns
1. Help from the IRS
2. Private Tax Preparers
D. Computer-Based Tax Returns
Concept Check

V. Effective Tax Planning
A. Fundamental Objectives of Tax Planning
B. Some Popular Tax Strategies
1. Maximizing Deductions
2. Income Shifting
3. Tax-Free and Tax-Deferred Income
Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
Tax Relief!
Critical Thinking Cases
3.1 The Aggarwals Tackle Their Tax Return
3.2 Joan Cavander: Bartender or Tax Expert?
Money Online

Major Topics

The average American family pays about one-third of its gross income in taxes. Therefore, tax planning is a very important element of a personal financial plan. The first objective of tax planning is to maximize the amount of money available for non-tax outlays by minimizing taxes. This is done honestly by understanding the tax laws and taking advantage of favorable provisions. The major topics covered in this chapter include:

1. The economics of income taxes and their effect on take-home pay.
2. Filing status, types of income, and the adjustments and deductions available when determining the amount of taxable income and the associated tax liability.
3. Types of tax returns and a detailed explanation of how to determine taxable income and tax liability using IRS Forms 1040 and 1040EZ.
4. Estimated taxes, procedures for filing taxes, and sources of tax preparation assistance.
5. The role of effective tax planning in reducing taxes by maximizing deductions, shifting, sheltering, avoiding, and deferring taxable income.

Key Concepts

Because nearly everyone must pay taxes, an understanding of the basic terminology of taxes and tax planning is fundamental to effective personal financial planning. Clearly, everyone who pays taxes needs to know their method of calculation, allowable deductions, and payment timing and procedures. The following phrases represent the key concepts stressed in this chapter.

1. Progressive tax structure
2. Marginal tax rate
3. Average tax rate
4. Filing status
5. Federal withholding taxes
6. FICA
7. Gross income and adjusted gross income
8. Taxable income
9. Capital gains and losses
10. Deductions and exemptions
11. Joint returns and individual returns
12. Tax calculation procedures
13. Tax credits
14. Estimated taxes
15. Filing your return
16. Tax audits
17. Tax preparation services
18. Good tax planning

Answers to Concept Check Questions

PLEASE NOTE: Tax laws change rapidly. To keep current with tax laws, find more information, or download forms, try the IRS's Web site at www.irs.gov

3-1. With a *progressive tax structure,* the larger the amount of taxable income, the higher the rate at which it is taxed. The economic rationale underlying the progressive income tax is that taxation should be based not only on income, but also on the ability to pay. In other words, persons who earn more money should be better able to pay taxes. Therefore, as a result of the progressive tax structure, they are required to pay a larger portion of their taxable income in taxes than those who earn less money.

3-2. The five filing categories and their definitions are:

- *Single*—an unmarried or legally separated person.
- *Married filing jointly*—married couples who file one tax return that combines their income and deductions.

- *Married filing separately*—each spouse files his or her own return, with only his or her own income, exemptions, and deductions.
- *Head of household*—a single person who provides at least 50% of the household support for him- or herself and a dependent child or relative.
- *Qualifying widow or widower with dependent child*—a person whose spouse has died within two years of the current tax year and who supports a dependent child.

Although filing a joint return usually results in lower taxes for couples, under some circumstances separate returns are preferable. This may occur when one person earns much less than his/her spouse and has a large amount of deductions. Taxpayers have the right to minimize their tax burden as much as is legal, so married couples should figure their taxes both ways and choose the option with the lowest tax liability.

3-3. All income (before any deductions) that is subject to federal taxes is considered *gross earnings.* Note that this amount is not necessarily every cent you bring in, as some types of income are tax exempt and are not included in gross income for federal income tax purposes. *Take-home pay* is found by deducting the total amount withheld from a person's gross earnings. The amount withheld may consist of the federal withholding tax, the Federal Insurance Contribution Act (FICA) tax (i.e., Social Security), state and local taxes, and other items such as insurance premiums. The employer retains these payments and periodically pays them to the Internal Revenue Service or some other appropriate agency.

3-4. The amount of federal withholding taxes deducted from gross earnings each pay period depends on (a) the level of earnings and (b) the number of withholding allowances claimed. Because of the progressive nature of the tax structure, the more a person earns, the greater his or her expected tax liability and the higher the level of withholding. However, the greater the number of exemptions claimed, the lower the amount of taxes withheld. Each exemption claimed in 2003 reduced taxable income by $3,050.

3-5. *Gross income* is all income (before any adjustments, deductions, and/or exemptions) that is subject to federal taxes. *Adjusted gross income (AGI)* is found by subtracting adjustments to (gross) income from gross income. Allowable adjustments to gross income (within applicable limits and restrictions) include certain types of employee and personal retirement contributions, interest on student loans, and alimony paid.

Examples of *tax-exempt income* include child support payments, compensation from insurance policies, gifts, veterans' benefits, etc. These items are not included in gross income. *Passive income* refers to income derived from certain investments, typically real estate partnerships and other tax shelters, where the investor's primary line of business is not real estate.

3-6. *Capital gains* and *capital losses* are profits or losses made on the sale of an asset such as stocks, bonds, or real estate investments. The gain or loss is the difference

between the sale price and the cost basis of the asset. (The cost basis is the purchase price plus income produced by the asset on which income taxes were paid year by year.) Long-term capital gains are taxed at lower rates than is active income, while short-term capital gains are taxed at one's ordinary tax rate. Capital losses are subtracted from gains, and if losses exceed gains, the net loss is deducted from active income up to a maximum of $3,000 for the year. Losses in excess of this amount may be carried forward on future years' tax returns. Note than capital losses will be at the taxpayer's regular income tax rate and not the lower capital gains rate, as capital losses are used to reduce active income. [For a schedule of the rates, refer to Exhibit 3.3.]

3-7. Major categories of deductions (students are to list five) include:

- Medical and dental expenses in excess of 7.5% of AGI
- State, local, and foreign income and property taxes
- Residential mortgage interest, subject to certain limitations
- Charitable contributions, up to a specified percentage of AGI
- Casualty and theft losses over 10% of AGI with a $100 deductible per loss
- Job and other expenses in excess of 2% of AGI

Since 1991, the allowable amount of itemized deductions is reduced for taxpayers with AGI above certain levels.

3-8. It would be well to refer to the 1040 instruction booklet (found at the IRS web site www.irs.gov) for a brief description of the 5 tests which must be met in order for a person to qualify as a dependent. If Larry and Rebecca use the filing status "married filing jointly," they will claim two exemptions.

If Rebecca's parents provided over half her support for the year, then it's possible they could claim her for an exemption. If they do claim her, then she cannot be claimed as an exemption on a joint return with her husband. In fact, only if she is filing to get a refund *and* no tax liability would exist for either spouse would Rebecca be able to file a joint return with her husband and still be claimed as a dependent on her parents' return. To be eligible to claim Rebecca, her parents must meet all 5 tests: 1) relationship (yes, she's their daughter); 2) joint return (already mentioned—she probably will not be able to file a joint return with her husband if her parents claim her); 3) U.S. citizen (assume yes); 4) support test (yes, parents provided over half her support for the year); and 5) income. The income test would limit Rebecca's gross income to less than $3,200 (in 2005), so this test would also be met ($225/mo. x 12 months = $2,700). Even if she made more, they could still claim her if she was under 19 or if she was a *student* under age 24. So in this case, Rebecca's parents may be able to claim her. If they do, then she cannot claim herself or be claimed on her husband's return and probably cannot file a joint return with him. If this situation applies to you, you probably would want to call the IRS and ask them.

3-9. The *average tax rate* is the rate at which *each* dollar of taxable income is taxed and is calculated by dividing the total tax liability by taxable income. The

marginal tax rate is the rate applied to the *next* dollar of taxable income (the highest applicable tax bracket). It is applied only to the portion of taxable income which falls in the last applicable tax bracket.

A *tax credit* directly reduces one's tax liability, while a *deduction from income* reduces one's taxable income before taxes are calculated. Dollar for dollar, a tax credit is more valuable than a deduction.

3-10. a. *Form 1040* is the main form used in filing federal income taxes. All individuals filing the long form use Form 1040 accompanied by appropriate schedules as needed to file their tax return. The form's two pages summarize all items of income, the deductions detailed on the accompanying schedules, and note the taxable income and associated tax liability.

b. A variety of *schedules* may accompany Form 1040, with Schedules A, B, C and D being the most frequently used. The schedules provide detailed guidelines for calculating certain entries on the first two pages of Form 1040, and their use varies among taxpayers, depending upon the relevance of these entries to their individual financial situations.

c. *Tax rate schedules* provide the information for calculating the tax due after all deductions and exemptions have been taken to arrive at taxable income. The tables cover tax rates for the various filing categories.

3-11. *Estimated taxes* are tax payments that must be made by persons earning income from sources that are not subject to withholding taxes. In order to assure that taxes are received on a "pay-as-you-go" basis, the IRS requires that taxpayers who earn income against which taxes are not withheld make quarterly estimated tax payments. The taxes are based upon the amount of this type of income expected during the year. IRS Form 1040ES is used to declare this income and tax estimate.

Taxpayers with AGI over certain amounts are subject to additional estimated tax rules. Refer to Form 1040ES for a worksheet which will help you determine if you need to make estimated tax payments. For more details, see Publication 505.

3-12. A *tax audit* is a review of a tax return to prove its accuracy with regard to proper reporting of income and deductions. Some taxpayers are chosen randomly for audits, while others are audited because certain income or deduction items fall outside of normal ranges.

The best way to be prepared for an audit is to keep thorough records of cash receipts and expenditures and receipts from other deductible items. Especially when you have deductions that fall outside the IRS norms, be sure to have proper documentation and attach an explanation of such deductions to your return.

3-13. The *IRS* provides various types of assistance to taxpayers. The agency makes available forms and publications which can be accessed by going online, by requesting a fax, by requesting a printed copy, or by picking them up at numerous locations around town. The IRS also provides direct assistance to taxpayers

through a toll-free telephone number. In certain instances, the IRS will even figure your income tax liability for you. Refer to Publication No. 967.

3-14. *Tax preparation computer software,* such as TaxCut, TurboTax/MacInTax, and similar programs, allows those with PCs to do their own tax returns. Such programs can save hours of figuring and refiguring the many forms and schedules involved in filing tax returns. However, they are not a substitute for personal knowledge of tax laws and the skill and expertise of a tax accountant or attorney, especially when the tax return is complex.

3-15. *Tax avoidance* is the practice of using various legal strategies to reduce one's tax liability. *Tax evasion,* on the other hand, refers to illegal means of reducing taxes, such as underreporting income or overstating deductions.

3-16. a. Taxpayers can *maximize deductions* by accelerating or bunching their deductions into one tax year. Examples include paying next year's property taxes early in order to be able to count both this year's and next year's taxes on this year's return, and bunching nonreimbursable elective medical procedures into one year. Such actions may make it advantageous for a taxpayer to itemize deductions for at least one year versus having to take the standard each year.

b. *Income shifting* is a technique for reducing taxes by shifting some income to a family member in a lower tax bracket. This is done by creating trusts or custodial accounts or making outright gifts of income-producing property to family members. *(Note:* The age of the family member will affect the tax benefits of this strategy.)

c. *Tax-free income* is income which is free from federal income taxation. Qualified municipal bonds pay interest income which is free from federal income taxes. However, if you live where there is a state and/or local income tax, qualified municipal bonds from *other* states will be subject to your state and local income taxes. Be aware that not all municipal bonds qualify for the tax-exempt status and that capital gains on the sale of municipal bonds are *not* tax free!

d. *Tax-deferred income* allows you to reduce or eliminate taxes today by postponing them to sometime into the future after retirement. The appeal of tax-deferred vehicles, such as IRAs and 401(k) plans, is their ability to allow the investor to accumulate earnings in a tax-free fashion. This will allow the investment to grow to a larger amount before it is subject to taxation, and the idea with this is that many people will be in a lower income tax bracket after retirement. Then, when income is taxed after retirement, not as much will be lost to taxes. However, many retired people are in the same or sometimes higher tax bracket than they were before retirement.

Financial Planning Exercises

1. Mary Parker's tax calculations are as follows (assuming a 2005 tax year). Look on page 2 of the sample Form 1040 shown on p. 110 of the text. The standard deduction amounts are shown in the top left margin, and the exemption amount is given on line 42. Mary is single and will claim herself as an exemption. Use the tax rate schedules given on p. 102 in Exhibit 3.3 to determine her tax liability.

Wages, salaries, and tips	$38,700
Plus: Interest income	142
Gross income	$38,842
Less: Adjustments to (gross) income	0
Adjusted gross income	$38,842
Less: Standard deduction	5,000
Less: Exemption (claim one only)	3,200
Taxable income	$30,642

Tax liability [4090+ 0.25(30,642 – 29,700)]	$4,325.50
Less: Taxes withheld	3,150.00
Tax due	$ 1,175.50

Note that Mary will owe additional taxes for 2005. If she has underpaid by too great an amount, she may also be subject to an underpayment penalty regardless of whether she files her return by April 15 or not. Refer to IRS Publication 505.

2. a. Gross Income:

Salary	$33,500
Dividends	800
Interest on savings account	250
Rental income	900
Total gross income	$35,450

b. Tax-Exempt Income:

Gift from Mother	$ 500
Child support from ex-husband	3,600
Loan from bank	2,000
Interest on state government bonds	300
Total tax-exempt income	$6,400

3. Jenny would pay the following capital gains taxes according to the regulations for capital gains in effect in 2005. Please note that no mention is made of interest or dividends earned during the time these securities were held, and we will disregard these items for this problem. Interest or dividends earned increase a security's basis, or the starting amount for the capital gains calculation. This would serve to lower the capital gains realized, and thus lower the capital gains taxes due on the security.

a. Sale price $1,200
Purchase price 1,000
Capital gain $ 200

Tax due ($200 x .28) $ 56

(The stock was held for less than 12 months; therefore the gain is a short-term capital gain and taxed at ordinary income tax rates.)

b. Sale price $4,000
Purchase price 3,000
Capital gain $1,000

Tax due ($1,000 x .15) $150

(The bonds were held longer than 12 months but less than 5 years. The gain is a long-term capital gain and is taxed at 15% for someone in her tax bracket.)

c. Sale price $1,000
Purchase price 1,500
Capital loss ($ 500)

Tax savings* (–$500 x .28) ($140)

*If the stock in part c was Jenny's only capital gain or loss for the year, this loss would reduce her active income by $500. At the 28% tax rate, Jenny would pay $140 less in taxes than would have been the case without the $500 capital loss. If Jenny has other capital gains or losses, the long-term capital gains would be netted with one another, the short-term capital gains would be netted with one another, and finally the overall short-term gain or loss netted with the overall long-term gain or loss.

4. Assuming "pre-tax income" to mean "taxable income," the impact of an extra $1000 deduction vs. a $1000 tax credit for a single taxpayer in the 25% tax bracket (as of 2005) is as follows:

a. $1,000 **b.**
$1,000
Deduction
Credit

(1) Taxable income $40,000.00
$40,000.00
Less: Deduction from income 1,000.00 0
Income before taxes $39,000.00
$40,000.00

Taxes for **a:**
4,090 + .25(39,000 – 29,700) $6,415.00
Taxes for **b:**

4,090 + .25(40,000 – 29,700)
$6,665.00

Less: Tax credit 0
1,000.00

(2) Taxes due $6,415.00
$5,665.00

(3) After-tax income [(1) – (2)] $32,585.00
$34,335.00

As can be readily observed, a tax credit reduces the taxes due (line 2) more than does a deduction, thus causing the after-tax income (line 3) to be greater with the $1,000 credit than with the $1,000 deduction. A tax deduction reduces taxable income (a larger number) whereas a tax credit reduces the tax due (a much smaller number), so dollar for dollar, the tax credit has a greater impact.

5. a. John can use Form 1040EZ because his income is only from eligible sources and he has less than $1,500 in interest income. (Generally, tuition scholarships and grants are generally considered tax exempt, while those that go for room and board are not.)

b. In order to deduct his contribution for a traditional IRA, John would have to use Form 1040A or the standard 1040 long form. The Roth IRA (available beginning 1998) is not tax deductible, so the illustration for part b assumes a contribution to a traditional IRA.

John's tax calculations on the appropriate forms are shown on the following pages.

5a. 1040EZ

Form **1040EZ** Department of the Treasury—Internal Revenue Service
Income Tax Return for Single and Joint Filers With No Dependents (99) **2005** OMB No. 1545-0074

Label (See page 11.) Use the IRS label. Otherwise, please print or type.

LABEL HERE

Your first name and initial	Last name	Your social security number
John	Otsubo	987 : 65 : 4321
If a joint return, spouse's first name and initial	Last name	Spouse's social security number

Home address (number and street). If you have a P.O. box, see page 11. — 123 Stadium Way — Apt. no. 101

▲ You must enter your SSN(s) above. ▲

City, town or post office, state, and ZIP code. If you have a foreign address, see page 11. — College Town TX 77777

Checking a box below will not change your tax or refund.

Presidential Election Campaign (page 12) ▶ Check here if you, or your spouse if a joint return, want $3 to go to this fund? . . . ▶ ☐ You ☐ Spouse

Income — Attach Form(s) W-2 here. Enclose, but do not attach, any payment.

Line	Description		Amount
1	Wages, salaries, and tips. This should be shown in box 1 of your Form(s) W-2. Attach your Form(s) W-2.	1	32,100
2	Taxable interest. If the total is over $1,500, you cannot use Form 1040EZ.	2	185
3	Unemployment compensation and Alaska Permanent Fund dividends (see page 13).	3	
4	Add lines 1, 2, and 3. This is your **adjusted gross income.**	4	32,285
5	If someone can claim you (or your spouse if a joint return) as a dependent, check the applicable box(es) below and enter the amount from the worksheet on back. ☐ You ☐ Spouse. If someone cannot claim you (or your spouse if a joint return), enter $8,200 if **single;** $16,400 if **married filing jointly.** See back for explanation.	5	8,200
6	Subtract line 5 from line 4. If line 5 is larger than line 4, enter -0-. This is your **taxable income.** ▶	6	24,085

Payments and tax

Line	Description		Amount
7	Federal income tax withheld from box 2 of your Form(s) W-2.	7	2,600
8a	**Earned income credit (EIC).**	8a	
b	Nontaxable combat pay election. 8b		
9	Add lines 7 and 8a. These are your **total payments.** ▶	9	2,600
10	**Tax.** Use the amount on **line 6 above** to find your tax in the tax table on pages 24–32 of the booklet. Then, enter the tax from the table on this line.	10	3,246

Refund — Have it directly deposited! See page 18 and fill in 11b, 11c, and 11d.

Line	Description		Amount
11a	If line 9 is larger than line 10, subtract line 10 from line 9. This is your **refund.** ▶	11a	
▶ b	Routing number ☐☐☐☐☐☐☐☐☐ ▶ c Type: ☐ Checking ☐ Savings		
▶ d	Account number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐		

Amount you owe

Line	Description		Amount
12	If line 10 is larger than line 9, subtract line 9 from line 10. This is the **amount you owe.** For details on how to pay, see page 19. ▶	12	646

Third party designee — Do you want to allow another person to discuss this return with the IRS (see page 19)? ☐ **Yes.** Complete the following. ☑ **No**

Designee's name ▶ Phone no. ▶ ( ) Personal identification number (PIN) ▶

Sign here — Joint return? See page 11. Keep a copy for your records.

Under penalties of perjury, I declare that I have examined this return, and to the best of my knowledge and belief, it is true, correct, and accurately lists all amounts and sources of income I received during the tax year. Declaration of preparer (other than the taxpayer) is based on all information of which the preparer has any knowledge.

Your signature	Date	Your occupation	Daytime phone number
		systems analyst	(555) 666-9898
Spouse's signature. If a joint return, both must sign.	Date	Spouse's occupation	

Paid preparer's use only

Preparer's signature	Date	Check if self-employed ☐	Preparer's SSN or PTIN
Firm's name (or yours if self-employed), address, and ZIP code: self-prepared		EIN	
		Phone no. ( )	

For Disclosure, Privacy Act, and Paperwork Reduction Act Notice, see page 23. Cat. No. 11329W Form **1040EZ** (2005)

5b. 1040-A

Form **1040A** Department of the Treasury—Internal Revenue Service **U.S. Individual Income Tax Return** (99) **2005** IRS Use Only—Do not write or staple in this space. OMB No. 1545-0074

Label (See page 18.) LABEL HERE — Use the IRS label. Otherwise, please print or type.

Field	Entry
Your first name and initial	John
Last name	Otsubo
Your social security number	987 : 65 : 4321
If a joint return, spouse's first name and initial	
Last name	
Spouse's social security number	
Home address (number and street). If you have a P.O. box, see page 18.	123 Stadium Way
Apt. no.	101
City, town or post office, state, and ZIP code. If you have a foreign address, see page 18.	College Town, TX 77777

▲ You must enter your SSN(s) above. ▲

Checking a box below will not change your tax or refund.

Presidential Election Campaign ▶ Check here if you, or your spouse if filing jointly, want $3 to go to this fund (see page 18) ▶ ☐ You ☐ Spouse

Filing status Check only one box.

1 ☑ Single
2 ☐ Married filing jointly (even if only one had income)
3 ☐ Married filing separately. Enter spouse's SSN above and full name here. ▶
4 ☐ Head of household (with qualifying person). (See page 19.) If the qualifying person is a child but not your dependent, enter this child's name here. ▶
5 ☐ Qualifying widow(er) with dependent child (see page 19)

Exemptions

6a ☑ **Yourself.** If someone can claim you as a dependent, **do not** check box 6a.
b ☐ **Spouse**

Boxes checked on 6a and 6b: 1

c **Dependents:**

(1) First name Last name	(2) Dependent's social security number	(3) Dependent's relationship to you	(4) √ if qualifying child for child tax credit (see page 21)
			☐
			☐
			☐
			☐
			☐
			☐

If more than six dependents, see page 21.

No. of children on 6c who:
- lived with you ____
- did not live with you due to divorce or separation (see page 22) ____

Dependents on 6c not entered above ____

d Total number of exemptions claimed. Add numbers on lines above ▶ 1

Income

Attach Form(s) W-2 here. Also attach Form(s) 1099-R if tax was withheld.

If you did not get a W-2, see page 24.

Enclose, but do not attach, any payment.

Line	Description		Line	Amount
7	Wages, salaries, tips, etc. Attach Form(s) W-2.		7	32100
8a	**Taxable** interest. Attach Schedule 1 if required.		8a	185
b	**Tax-exempt** interest. **Do not** include on line 8a.	8b		
9a	Ordinary dividends. Attach Schedule 1 if required.		9a	150
b	Qualified dividends (see page 25).	9b		
10	Capital gain distributions (see page 25).		10	
11a	IRA distributions. 11a	11b Taxable amount (see page 25).	11b	
12a	Pensions and annuities. 12a	12b Taxable amount (see page 26).	12b	
13	Unemployment compensation and Alaska Permanent Fund dividends.		13	
14a	Social security benefits. 14a	14b Taxable amount (see page 28).	14b	
15	Add lines 7 through 14b (far right column). This is your **total income.** ▶		15	32435

Adjusted gross income

Line	Description	Line	Amount	Line	Amount
16	Educator expenses (see page 28).	16			
17	IRA deduction (see page 28).	17	4000		
18	Student loan interest deduction (see page 31).	18			
19	Tuition and fees deduction (see page 32).	19			
20	Add lines 16 through 19. These are your **total adjustments.**			20	4000
21	Subtract line 20 from line 15. This is your **adjusted gross income.** ▶			21	28435

For Disclosure, Privacy Act, and Paperwork Reduction Act Notice, see page 58. Cat. No. 11327A Form **1040A** (2005)

5b. 1040-A (page 2)

Form 1040A (2005) Page 2

Tax, credits, and payments

Line	Description	Line	Amount
22	Enter the amount from line 21 (adjusted gross income).	22	28435
23a	Check if: ☐ You were born before January 2, 1941, ☐ Blind; ☐ Spouse was born before January 2, 1941, ☐ Blind. Total boxes checked ▶	23a	
b	If you are married filing separately and your spouse itemizes deductions, see page 32 and check here ▶	23b ☐	
24	Enter your **standard deduction** (see left margin).	24	5000
25	Subtract line 24 from line 22. If line 24 is more than line 22, enter -0-.	25	23435
26	If line 22 is over $109,475, or you provided housing to a person displaced by Hurricane Katrina, see page 33. Otherwise, multiply $3,200 by the total number of exemptions claimed on line 6d.	26	3200
27	Subtract line 26 from line 25. If line 26 is more than line 25, enter -0-. This is your **taxable income.** ▶	27	20235
28	**Tax,** including any alternative minimum tax (see page 34).	28	2670
29	Credit for child and dependent care expenses. Attach Schedule 2. (29)		
30	Credit for the elderly or the disabled. Attach Schedule 3. (30)		
31	Education credits. Attach Form 8863. (31)		
32	Retirement savings contributions credit. Attach Form 8880. (32)		
33	Child tax credit (see page 38). Attach Form 8901 if required. (33)		
34	Adoption credit. Attach Form 8839. (34)		
35	Add lines 29 through 34. These are your **total credits.**	35	0
36	Subtract line 35 from line 28. If line 35 is more than line 28, enter -0-.	36	2670
37	Advance earned income credit payments from Form(s) W-2.	37	
38	Add lines 36 and 37. This is your **total tax.** ▶	38	2670
39	Federal income tax withheld from Forms W-2 and 1099. (39) 2600		
40	2005 estimated tax payments and amount applied from 2004 return. (40)		
41a	**Earned income credit (EIC).** (41a)		
b	Nontaxable combat pay election. 41b		
42	Additional child tax credit. Attach Form 8812. (42)		
43	Add lines 39, 40, 41a, and 42. These are your **total payments.** ▶	43	2600

Standard Deduction for—
- People who checked any box on line 23a or 23b or who can be claimed as a dependent, see page 32.
- All others:

Single or Married filing separately, $5,000

Married filing jointly or Qualifying widow(er), $10,000

Head of household, $7,300

If you have a qualifying child, attach Schedule EIC.

Refund

Line	Description	Line	Amount
44	If line 43 is more than line 38, subtract line 38 from line 43. This is the amount you **overpaid.**	44	
45a	Amount of line 44 you want **refunded to you.** ▶	45a	
▶ b	Routing number ☐☐☐☐☐☐☐☐☐ ▶ c Type: ☐ Checking ☐ Savings		
▶ d	Account number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐		
46	Amount of line 44 you want **applied to your 2006 estimated tax.** (46)		

Direct deposit? See page 53 and fill in 45b, 45c, and 45d.

Amount you owe

Line	Description	Line	Amount
47	**Amount you owe.** Subtract line 43 from line 38. For details on how to pay, see page 54. ▶	47	70
48	Estimated tax penalty (see page 54). (48)		

Third party designee

Do you want to allow another person to discuss this return with the IRS (see page 55)? ☐ Yes. Complete the following. ☐ No

Designee's name ▶ Phone no. ▶ ( ) Personal identification number (PIN) ▶

Sign here

Joint return? See page 18. Keep a copy for your records.

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and accurately list all amounts and sources of income I received during the tax year. Declaration of preparer (other than the taxpayer) is based on all information of which the preparer has any knowledge.

Your signature	Date	Your occupation	Daytime phone number
	3/15/06	systems analyst	(555) 666-9898
Spouse's signature. If a joint return, both must sign.	Date	Spouse's occupation	

Paid preparer's use only

Preparer's signature ▶	Date	Check if self-employed ☐	Preparer's SSN or PTIN
Firm's name (or yours if self-employed), address, and ZIP code ▶ self-prepared		EIN	
		Phone no. ( )	

Form 1040A (2005)

6. Taxable income for 2005 is calculated as follows:

Gross wages and salaries		$50,770
Dividends and interest		610
Capital gains realized	$1,450	
Less: Capital losses	3,475	
Net capital gains		($2,025)
Passive income—limited partnership		200
Gross income		$49,555
Less: Adjustments to Gross Income		
IRA contributions	$4,000	
Alimony paid	6,000	
Total Adjustments		(10,000)
Adjusted gross income (AGI)		$39,555

Now total the itemized deductions and compare to the standard deduction. Subtract the larger of these two numbers from the AGI.

Itemized deductions:		
Mortgage interest	$5,200	
Property taxes	700	
State income taxes	1,700	
Charitable contributions	1,200	
Job and other expenses [875 – (39,555 x .02)]	84	
Total itemized deductions	(8,884)	
Standard deduction for married filing jointly (for 2005)		(10,000)
Less: Personal exemptions (3 x $3,200)		(9,600)
Taxable income		$19,955

Exclusions:

- Medical expenses of $1,155 are less than the 7.5 % minimum of AGI ($39,555 x 0.075 = $2,967) allowed by law before deductions can be taken.
- Sales tax and personal interest expenses are not allowed. Social Security taxes are not deductible.
- Job and other qualified miscellaneous expenses are limited to the amount which is over 2% of AGI.

The standard deduction of $10,000 was used because it was greater than this family's itemized deductions of $8,884. The IRA contribution was assumed to be to a traditional deductible IRA, as contributions to Roth IRAs are not deductible.

7. Typically, tax audits question whether all income received has been properly reported and if the deductions claimed are legitimate and for the correct amounts.

Therefore, in preparation for the audit Maureen and Bob should get all their documentation in order for these items, particularly those for cash receipts and cash payments. They should contact their CPA or other tax preparer if they have one to seek both their advice and guidance through the audit. If they did not have a professional prepare their return, they would still do well to consult with one before the audit. In fact, they might want to seek the counsel of a tax attorney.

If the O'Flaherty's do not agree with the IRS examiner on disputed items, the taxpayer can meet with the examiner's supervisor to discuss the case further. If there is still disagreement, they can appeal through the IRS Appeals Office. If they do not wish to use the Appeals Office or if they disagree with its findings, they may be able to take their case to the U.S. Tax Court, U.S. Court of Federal Claims, or the U.S. District Court where they live. [For more information, IRS Publication 1 deals with "Your Rights as a Taxpayer" which can be printed off from the IRS Web site, www.irs.gov.]

Solutions to Critical Thinking Cases

3.1 The Aggarwals Tackle Their Tax Return

1. The Aggarwals' tax return on Form 1040 is included on the following pages. Please note that the tax return shown was prepared using tax preparation software, so the tax calculation may be slightly different from what it would be if figured using the tax rate schedule. Also note that in addition to the forms shown, other forms would have to be filed with this family's tax return for credit for qualified retirement savings contributions, additional child tax credit, and earned income credit.

   This family's itemized deductions total $6,339 ($831 + $4,148 + $1,360), which is less than the standard deduction of $10,000. Therefore, they will take the standard deduction, because it will lower their taxable income and hence their tax liability more than would itemizing deductions. Note that their $200 of unreimbursed medical and dental expenses is less than 7.5% of their adjusted gross income, so this amount would not be considered toward their itemized deductions.

   A completed Schedule A is included in the tax forms which follow to illustrate how deductions are listed. This family would NOT file this form, because they would take the standard deduction instead. Note Sabash's $366 in job expenses are too low to have any effect on their itemized deductions, as these expenses do not exceed 2% of their AGI. Also, medical and dental expenses are far below the 7.5% of AGI required for deductibility.

2. The Aggarwals would get a refund **of $3,504** if they itemize deductions versus a refund **of $3,819** if they take the standard deduction, a difference of **$315**. They would definitely choose to take the standard.

3. Their son's income of $200 from dividends is considered unearned income and is below the minimum for which a single return has to be filed ($800 in unearned income for 2005). The only reason why they would file with income below this level is to receive a refund of any taxes withheld, which is not necessary in this case.

4. Due to current tax laws, the Aggarwals' refund was greater than the amount of taxes they owed. However, if they make more money in the future and actually owe taxes, some possible tax planning strategies for them might include:

   - Purchase Series EE savings bonds to use for Rohn's education (interest is not taxed so long as the parents' taxable income falls within specified limits when redeemed for Rohn’s education). However, since Rohn is very young, the family might better provide for his education with more aggressive taxable investments than with savings bonds. Also, the family's income might be above the allowable limits for tax exemption when it is time to cash in the bonds.

- Shift some interest-earning investments into tax-free municipal bonds or bond funds. Caution: since this family is only in the 10% tax bracket, the yield on municipals may be lower than the after-tax yield on comparable corporate bonds. If this were the case, then municipals would not be a good choice for this family. In fact, this family needs to examine their investment objectives and time horizon to determine if bonds are an appropriate investment for them.

- Start a Coverdell Education Savings Account for Rohn. These accounts are allowed to grow tax-free, and the distributions are not taxed if Rohn's higher education expenses in the year of withdrawal are at least as much as the withdrawal. If Rohn doesn't use all the money in the account for his higher education, this money can be passed on to other family members for their higher education expenses. The family might also want to consider a Section 529 Plan for Rohn's education. See IRS Publication 970, *Tax Benefits for Education*.

- Continue to fund an IRA and add the allowed spousal contribution. As long as the family's income is below the phase-out level, they can continue to make contributions to a traditional IRA even with a company-sponsored retirement plan. However, they may decide to go with Roth IRAs in the future, as withdrawals from Roths in retirement are not subject to taxes (if all conditions have been met). Even though taxes will have to be paid now on any money contributed to a Roth IRA, this family is in the lowest tax bracket, so taxes paid now on this amount would be small. The family's earnings can rise much higher before reaching the phase-out level for a Roth IRA than for a traditional IRA.

- Investigate whether his company offers a flexible spending account for medical expenses that would reduce taxable income.

- Watch the timing of medical and miscellaneous expenses to see if they can be grouped in the same tax year to qualify to be deducted.

- If their taxable income rises enough to move them into a higher bracket, consider shifting some investments to their son (but keep the income within the required limits) so that more income is taxed at his lower level.

Case 3.1, Problem 1—Form 1040, p. 1

Form 1040 Department of the Treasury—Internal Revenue Service
U.S. Individual Income Tax Return 2005 (99) IRS Use Only—Do not write or staple in this space.

For the year Jan. 1–Dec. 31, 2005, or other tax year beginning , 2005, ending , 20 — OMB No. 1545-0074

Label

(See instructions on page 16.) Use the IRS label. Otherwise, please print or type.

Field	Value
Your first name and initial	Sabash
Last name	Aggarwal
Your social security number	345 67 0000
If a joint return, spouse's first name and initial	Sue
Last name	Aggarwal
Spouse's social security number	000 76 5432
Home address (number and street). If you have a P.O. box, see page 16.	1234 Lakeway Drive
Apt. no.	404
City, town or post office, state, and ZIP code. If you have a foreign address, see page 16.	Dallas TX 77777

▲ You must enter your SSN(s) above. ▲

Presidential Election Campaign ▶ Check here if you, or your spouse if filing jointly, want $3 to go to this fund (see page 16) ▶ ☐ You ☐ Spouse

Checking a box below will not change your tax or refund.

Filing Status

Check only one box.

1 ☐ Single
2 ☑ Married filing jointly (even if only one had income)
3 ☐ Married filing separately. Enter spouse's SSN above and full name here. ▶
4 ☐ Head of household (with qualifying person). (See page 17.) If the qualifying person is a child but not your dependent, enter this child's name here. ▶
5 ☐ Qualifying widow(er) with dependent child (see page 17)

Exemptions

6a ☑ **Yourself.** If someone can claim you as a dependent, do not check box 6a
b ☑ Spouse

Boxes checked on 6a and 6b: 2

c Dependents:

(1) First name Last name	(2) Dependent's social security number	(3) Dependent's relationship to you	(4) ✓ if qualifying child for child tax credit (see page 19)
Rohn Aggarwal	358 00 9000	son	☑
			☐
			☐
			☐

If more than four dependents, see page 19.

No. of children on 6c who:
- lived with you: 1
- did not live with you due to divorce or separation (see page 20):

Dependents on 6c not entered above:

d Total number of exemptions claimed — Add numbers on lines above ▶ 3

Income

Attach Form(s) W-2 here. Also attach Forms W-2G and 1099-R if tax was withheld.

If you did not get a W-2, see page 22.

Enclose, but do not attach, any payment. Also, please use Form 1040-V.

Line	Description	Inner	Amount
7	Wages, salaries, tips, etc. Attach Form(s) W-2		33550
8a	Taxable interest. Attach Schedule B if required		350
8b	Tax-exempt interest. Do not include on line 8a		
9a	Ordinary dividends. Attach Schedule B if required		400
9b	Qualified dividends (see page 23)		
10	Taxable refunds, credits, or offsets of state and local income taxes (see page 23)		
11	Alimony received		
12	Business income or (loss). Attach Schedule C or C-EZ		
13	Capital gain or (loss). Attach Schedule D if required. If not required, check here ▶ ☐		300
14	Other gains or (losses). Attach Form 4797		
15a	IRA distributions 15a; b Taxable amount (see page 25)		
16a	Pensions and annuities 16a; b Taxable amount (see page 25)		
17	Rental real estate, royalties, partnerships, S corporations, trusts, etc. Attach Schedule E		
18	Farm income or (loss). Attach Schedule F		
19	Unemployment compensation		
20a	Social security benefits 20a; b Taxable amount (see page 27)		
21	Other income. List type and amount (see page 29)		
22	Add the amounts in the far right column for lines 7 through 21. This is your **total income** ▶		34600

Adjusted Gross Income

Line	Description	Inner	Amount
23	Educator expenses (see page 29)		
24	Certain business expenses of reservists, performing artists, and fee-basis government officials. Attach Form 2106 or 2106-EZ		
25	Health savings account deduction. Attach Form 8889		
26	Moving expenses. Attach Form 3903		
27	One-half of self-employment tax. Attach Schedule SE		
28	Self-employed SEP, SIMPLE, and qualified plans		
29	Self-employed health insurance deduction (see page 30)		
30	Penalty on early withdrawal of savings		
31a	Alimony paid b Recipient's SSN ▶		
32	IRA deduction (see page 31)	4000	
33	Student loan interest deduction (see page 33)		
34	Tuition and fees deduction (see page 34)		
35	Domestic production activities deduction. Attach Form 8903		
36	Add lines 23 through 31a and 32 through 35		4000
37	Subtract line 36 from line 22. This is your **adjusted gross income** ▶		30600

For Disclosure, Privacy Act, and Paperwork Reduction Act Notice, see page 78. Cat. No. 11320B Form **1040** (2005)

Case 3.1, Problem 1—Form 1040, p. 2 (*Note:* forms for child tax credit are not included here, but may be downloaded from www.irs.gov, and completed if desired.)

Form 1040 (2005) Page 2

Tax and Credits

Line	Description		Amount
38	Amount from line 37 (adjusted gross income)		30600
39a	Check if: ☐ You were born before January 2, 1941, ☐ Blind. ☐ Spouse was born before January 2, 1941, ☐ Blind. Total boxes checked ▶ 39a		
b	If your spouse itemizes on a separate return or you were a dual-status alien, see page 35 and check here ▶39b ☐		
40	Itemized deductions (from Schedule A) or your standard deduction (see left margin)		10000
41	Subtract line 40 from line 38		20600
42	If line 38 is over $109,475, or you provided housing to a person displaced by Hurricane Katrina, see page 37. Otherwise, multiply $3,200 by the total number of exemptions claimed on line 6d		9600
43	Taxable income. Subtract line 42 from line 41. If line 42 is more than line 41, enter -0-		11600
44	Tax (see page 37). Check if any tax is from: a ☐ Form(s) 8814 b ☐ Form 4972		1085
45	Alternative minimum tax (see page 39). Attach Form 6251		
46	Add lines 44 and 45 ▶		1085
47	Foreign tax credit. Attach Form 1116 if required		
48	Credit for child and dependent care expenses. Attach Form 2441		
49	Credit for the elderly or the disabled. Attach Schedule R		
50	Education credits. Attach Form 8863		
51	Retirement savings contributions credit. Attach Form 8880	1000	
52	Child tax credit (see page 41). Attach Form 8901 if required	88	
53	Adoption credit. Attach Form 8839		
54	Credits from: a ☐ Form 8396 b ☐ Form 8859		
55	Other credits. Check applicable box(es): a ☐ Form 3800 b ☐ Form 8801 c ☐ Form ______		
56	Add lines 47 through 55. These are your total credits		1088
57	Subtract line 56 from line 46. If line 56 is more than line 46, enter -0- ▶		0

Standard Deduction for—
- People who checked any box on line 39a or 39b or who can be claimed as a dependent, see page 36.
- All others:

Single or Married filing separately, $5,000

Married filing jointly or Qualifying widow(er), $10,000

Head of household, $7,300

Other Taxes

Line	Description	Amount
58	Self-employment tax. Attach Schedule SE	
59	Social security and Medicare tax on tip income not reported to employer. Attach Form 4137	
60	Additional tax on IRAs, other qualified retirement plans, etc. Attach Form 5329 if required	
61	Advance earned income credit payments from Form(s) W-2	
62	Household employment taxes. Attach Schedule H	
63	Add lines 57 through 62. This is your total tax ▶	0

Payments

Line	Description		Amount
64	Federal income tax withheld from Forms W-2 and 1099	3150	
65	2005 estimated tax payments and amount applied from 2004 return		
66a	Earned income credit (EIC)	7	
b	Nontaxable combat pay election ▶ 66b		
67	Excess social security and tier 1 RRTA tax withheld (see page 59)		
68	Additional child tax credit. Attach Form 8812	912	
69	Amount paid with request for extension to file (see page 59)		
70	Payments from: a ☐ Form 2439 b ☐ Form 4136 c ☐ Form 8885		
71	Add lines 64, 65, 66a, and 67 through 70. These are your total payments ▶		4069

If you have a qualifying child, attach Schedule EIC.

Refund

Direct deposit? See page 59 and fill in 73b, 73c, and 73d.

Line	Description	Amount
72	If line 71 is more than line 63, subtract line 63 from line 71. This is the amount you overpaid	4069
73a	Amount of line 72 you want refunded to you ▶	4069
b	Routing number 8 8 8 8 8 8 8 8 8 ▶ c Type: ☑ Checking ☐ Savings	
d	Account number 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
74	Amount of line 72 you want applied to your 2006 estimated tax ▶ 74	

Amount You Owe

Line	Description	Amount
75	Amount you owe. Subtract line 71 from line 63. For details on how to pay, see page 60 ▶	0
76	Estimated tax penalty (see page 60) 76	

Third Party Designee

Do you want to allow another person to discuss this return with the IRS (see page 61)? ☐ Yes. Complete the following. ☑ No

Designee's name ▶ Phone no. ▶ ( ) Personal identification number (PIN) ▶

Sign Here

Joint return? See page 17. Keep a copy for your records.

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Your signature | Date | Your occupation: Sales assistant | Daytime phone number: (555) 444-0000

Spouse's signature. If a joint return, both must sign. | Date | Spouse's occupation: housewife

Paid Preparer's Use Only

Preparer's signature | Date | Check if self-employed ☐ | Preparer's SSN or PTIN

Firm's name (or yours if self-employed), address, and ZIP code | EIN | Phone no. ( )

Form **1040** (2005)

Printed on recycled paper

Case 3.1, Problem 1—Schedule A

SCHEDULES A&B (Form 1040) — Department of the Treasury, Internal Revenue Service (99)

Schedule A—Itemized Deductions

(Schedule B is on back)

▶ Attach to Form 1040. ▶ See Instructions for Schedules A&B (Form 1040).

OMB No. 1545-0074 — 2005 — Attachment Sequence No. 07

Name(s) shown on Form 1040: Sabash and Sue Aggarwal — Your social security number: 345 67 0000

Section	Line	Description	Line box	Amount	Line	Amount
Medical and Dental Expenses		Caution. Do not include expenses reimbursed or paid by others.				
	1	Medical and dental expenses (see page A-2)	1			
	2	Enter amount from Form 1040, line 38 [2]				
	3	Multiply line 2 by 7.5% (.075)	3			
	4	Subtract line 3 from line 1. If line 3 is more than line 1, enter -0-			4	
Taxes You Paid (See page A-2.)	5	State and local (check only one box): a ☐ Income taxes, or b ☐ General sales taxes (see page A-3)	5			
	6	Real estate taxes (see page A-5)	6	831		
	7	Personal property taxes	7			
	8	Other taxes. List type and amount ▶	8			
	9	Add lines 5 through 8			9	831
Interest You Paid (See page A-5.)	10	Home mortgage interest and points reported to you on Form 1098	10	4148		
	11	Home mortgage interest not reported to you on Form 1098. If paid to the person from whom you bought the home, see page A-6 and show that person's name, identifying no., and address ▶	11			
Note. Personal interest is not deductible.	12	Points not reported to you on Form 1098. See page A-6 for special rules	12			
	13	Investment interest. Attach Form 4952 if required. (See page A-6.)	13			
	14	Add lines 10 through 13			14	4148
Gifts to Charity	15a	Total gifts by cash or check. If you made any gift of $250 or more, see page A-7	15a	1360		
If you made a gift and got a benefit for it, see page A-7.	b	Gifts by cash or check after August 27, 2005, that you elect to treat as qualified contributions (see page A-7) [15b]				
	16	Other than by cash or check. If any gift of $250 or more, see page A-7. You must attach Form 8283 if over $500	16			
	17	Carryover from prior year	17			
	18	Add lines 15a, 16, and 17			18	1360
Casualty and Theft Losses	19	Casualty or theft loss(es). Attach Form 4684. (See page A-8.)			19	
Job Expenses and Certain Miscellaneous Deductions (See page A-8.)	20	Unreimbursed employee expenses—job travel, union dues, job education, etc. Attach Form 2106 or 2106-EZ if required. (See page A-8.) ▶	20			
	21	Tax preparation fees	21			
	22	Other expenses—investment, safe deposit box, etc. List type and amount ▶ Employee business expenses	22	366		
	23	Add lines 20 through 22	23	366		
	24	Enter amount from Form 1040, line 38 [24] 30600				
	25	Multiply line 24 by 2% (.02)	25	612		
	26	Subtract line 25 from line 23. If line 25 is more than line 23, enter -0-			26	0
Other Miscellaneous Deductions	27	Other—from list on page A-9. List type and amount ▶			27	
Total Itemized Deductions	28	Is Form 1040, line 38, over $145,950 (over $72,975 if married filing separately)? ☑ No. Your deduction is not limited. Add the amounts in the far right column for lines 4 through 27. Also, enter this amount on Form 1040, line 40. ☐ Yes. Your deduction may be limited. See page A-9 for the amount to enter. ▶			28	6339
	29	If you elect to itemize deductions even though they are less than your standard deduction, check here ▶ ☐				

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Note: This form would NOT be filed with the Aggarwals' tax return, as taking the standard deduction is more advantageous for them. This form is included to illustrate how itemized deductions are listed and calculated.

Case 3.1, Problem 1—Schedule D, page 1

SCHEDULE D (Form 1040)
Department of the Treasury Internal Revenue Service (99)

Capital Gains and Losses

▶ Attach to Form 1040 or Form 1040NR. ▶ See Instructions for Schedule D (Form 1040).
▶ Use Schedule D-1 to list additional transactions for lines 1 and 8.

OMB No. 1545-0074
2006
Attachment Sequence No. 12

Name(s) shown on return: Sabash and Sue Aggarwal
Your social security number: 345 | 67 | 0000

Part I Short-Term Capital Gains and Losses—Assets Held One Year or Less

	(a) Description of property (Example: 100 sh. XYZ Co.)	(b) Date acquired (Mo., day, yr.)	(c) Date sold (Mo., day, yr.)	(d) Sales price (see page D-6 of the instructions)	(e) Cost or other basis (see page D-7 of the instructions)	(f) Gain or (loss) Subtract (e) from (d)
1	Stock A	8/31/05	12/31/05	700 00	800 00	- 100 00
2	Enter your short-term totals, if any, from Schedule D-1, line 2			2		
3	**Total short-term sales price amounts.** Add lines 1 and 2 in column (d)			3 700 00		
4	Short-term gain from Form 6252 and short-term gain or (loss) from Forms 4684, 6781, and 8824				4	
5	Net short-term gain or (loss) from partnerships, S corporations, estates, and trusts from Schedule(s) K-1				5	
6	Short-term capital loss carryover. Enter the amount, if any, from line 10 of your **Capital Loss Carryover Worksheet** on page D-7 of the instructions				6	( )
7	**Net short-term capital gain or (loss).** Combine lines 1 through 6 in column (f)				7	-100 00

Part II Long-Term Capital Gains and Losses—Assets Held More Than One Year

	(a) Description of property (Example: 100 sh. XYZ Co.)	(b) Date acquired (Mo., day, yr.)	(c) Date sold (Mo., day, yr.)	(d) Sales price (see page D-6 of the instructions)	(e) Cost or other basis (see page D-7 of the instructions)	(f) Gain or (loss) Subtract (e) from (d)
8	Stock B	12/31/02	12/31/05	1,500 00	400 00	400 00
9	Enter your long-term totals, if any, from Schedule D-1, line 9			9		
10	**Total long-term sales price amounts.** Add lines 8 and 9 in column (d)			10		
11	Gain from Form 4797, Part I; long-term gain from Forms 2439 and 6252; and long-term gain or (loss) from Forms 4684, 6781, and 8824				11	
12	Net long-term gain or (loss) from partnerships, S corporations, estates, and trusts from Schedule(s) K-1				12	
13	Capital gain distributions. See page D-2 of the instructions				13	
14	Long-term capital loss carryover. Enter the amount, if any, from line 15 of your **Capital Loss Carryover Worksheet** on page D-7 of the instructions				14	( )
15	**Net long-term capital gain or (loss).** Combine lines 8 through 14 in column (f). Then go to Part III on the back				15	400 00

For Paperwork Reduction Act Notice, see Form 1040 or Form 1040NR instructions. Cat. No. 11338H Schedule D (Form 1040) 2006

Case 3.1, Problem 1—Schedule D, page 2

Schedule D (Form 1040) 2006 Page **2**

Part III **Summary**

		Line	Amount	
16	Combine lines 7 and 15 and enter the result. If line 16 is a loss, skip lines 17 through 20, and go to line 21. If a gain, enter the gain on Form 1040, line 13, or Form 1040NR, line 14. Then go to line 17 below	16	300	00
17	Are lines 15 and 16 **both** gains? ☑ **Yes.** Go to line 18. ☐ **No.** Skip lines 18 through 21, and go to line 22.			
18	Enter the amount, if any, from line 7 of the **28% Rate Gain Worksheet** on page D-8 of the instructions ▶	18		
19	Enter the amount, if any, from line 18 of the **Unrecaptured Section 1250 Gain Worksheet** on page D-9 of the instructions ▶	19		
20	Are lines 18 and 19 **both** zero or blank? ☑ **Yes.** Complete Form 1040 through line 43, or Form 1040NR through line 40. Then complete the **Qualified Dividends and Capital Gain Tax Worksheet** on page 38 of the Instructions for Form 1040 (or in the Instructions for Form 1040NR). **Do not** complete lines 21 and 22 below. ☐ **No.** Complete Form 1040 through line 43, or Form 1040NR through line 40. Then complete the **Schedule D Tax Worksheet** on page D-10 of the instructions. **Do not** complete lines 21 and 22 below.			
21	If line 16 is a loss, enter here and on Form 1040, line 13, or Form 1040NR, line 14, the **smaller** of: • The loss on line 16 or • ($3,000), or if married filing separately, ($1,500) **Note.** When figuring which amount is smaller, treat both amounts as positive numbers.	21	(	)
22	Do you have qualified dividends on Form 1040, line 9b, or Form 1040NR, line 10b? ☐ **Yes.** Complete Form 1040 through line 43, or Form 1040NR through line 40. Then complete the **Qualified Dividends and Capital Gain Tax Worksheet** on page 38 of the Instructions for Form 1040 (or in the Instructions for Form 1040NR). ☐ **No.** Complete the rest of Form 1040 or Form 1040NR.			

Schedule D (Form 1040) 2006

3.2 Joan Cavander: Bartender or Tax Expert?

1.

Gross income: wages	$10,500
tips	8,200
Adjusted gross income	$18,700
Less: Standard deduction (for 2005)	– 5,000
	$13,700
Less: Exemption (for 2005)	– 3,200
Taxable income	$10,500

2. Joan is incorrect in her assumption that she is allowed to both itemize deductions and take the standard deduction if her income is below a certain level. She appears to be confusing the standard deduction with the personal exemption, which she did not include in her calculations. Itemized deductions are allowable personal and job-related expenses that can be used to reduce adjusted gross income in order to arrive at taxable income. The standard deduction is a blanket deduction that serves as an alternative to itemizing deductions. Those who itemize cannot take the standard deduction as well, and vice versa.

3. At a taxable income of $10,500, Joan and Sam would each pay $1,210 in taxes filing as single taxpayers [$730 + .15($10,500 – $7,300)]. That totals $2,420 for the two of them. The taxes they would pay if married filing jointly are as follows:

Adjusted gross income (2 x $18,700)	$37,400
Less: Standard deduction (for 2005 for married filing jointly)	– 10,000
	$27,400
Less: Exemptions (2 x $3,200 for 2005)	– 6,400
Taxable income	$21,000

Their tax would be $2,420, the same as it would be for two single people filing individually [$1,460 + .15($21,000 – $14,600)]. Due to recent tax law changes, the "marriage penalty" was eliminated, at least for 2005. Prior to that year, two single people filing individually would usually pay less in taxes than a married couple filing jointly.

Chapter 4

Managing Your Cash and Savings

Chapter Outline

Learning Goals

I. The Role of Cash Management in Personal Financial Planning
Concept Check

II. Today's Financial Services Marketplace
- A. Types of Financial Institutions
  - 1. Depository Financial Institutions
  - 2. Nondepository Financial Institutions
  - 3. How Safe Is Your Money?

Concept Check

III. The Growing Menu of Cash Management Products
- A. Checking and Savings Accounts
  - 1. Checking Accounts
  - 2. Savings Accounts
  - 3. Interest-Paying Checking Accounts
    - a. NOW Accounts
    - b. Money Market Deposit Accounts
    - c. Money Market Mutual Funds
  - 4. Asset Management Accounts
- B. Electronic Banking Services
  - 1. Electronic Funds Transfer Systems
    - a. Debit Cards and Automated Teller Machines
    - b. Preauthorized Deposits and Payments
    - c. Bank-by-Phone Accounts
  - 2. Online Banking and Bill Payment Services
- C. Regulation of EFTS Services
- D. Other Bank Services

Concept Check

IV. Maintaining a Checking Account
- A. Opening and Using Your Checking Account
  - 1. The Cost of a Checking Account
  - 2. Individual or Joint Account
  - 3. General Checking Account Procedures
  - 4. Overdrafts
  - 5. Stopping Payment
- B. Monthly Statements
  - 1. Account Reconciliation
- C. Special Types of Checks

Concept Check

V. Establishing a Savings Program
- A. Starting Your Savings Program
- B. Earning Interest on Your Money
  - 1. The Effects of Compounding
  - 2. Compound Interest Equals Future Value
- C. A Variety of Ways to Save
  - 1. Certificates of Deposit
  - 2. U.S. Treasury Bills
  - 3 . Series EE Bonds

Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
Manage Your Cash!
Critical Thinking Cases
4.1 Amy Chan's Savings and Banking Plans
4.2 Reconciling the Pattersons' Checking Account
Money Online

Major Topics

This chapter is concerned with cash management, which involves making sure that adequate funds are available for meeting both planned and unplanned expenditures and that spending patterns are in line with budgetary guidelines. Cash management is an important aspect of personal financial planning; it ensures that adequate funds are available for paying bills and that an effective savings program is established and implemented. This process begins with an understanding of the financial marketplace, which includes a tremendous variety of institutions providing numerous account and transaction services. Financial institutions provide checking facilities that allow transactions to be made safely and efficiently. They also make available numerous savings vehicles that can be used to earn a return on temporarily idle funds. In addition, a variety of other ways to save are also available from the government and brokerage firms. The major topics covered in this chapter include:

1. The importance of cash management in personal financial planning.
2. A discussion of the financial marketplace and how financial deregulation has greatly increased the number of financial services and financial service providers.
3. The role of traditional financial institutions—"banks"—in providing individuals with the financial services they need.
4. Federal deposit insurance programs.
5. The growing menu of financial products available to the individual.
6. Other important money management services, especially electronic funds transfer services.
7. How to save by purchasing short-term securities.
8. Understanding checking account procedures and how to reconcile accounts.
9. Procedures involved in establishing a savings program and factors that determine how much interest you earn on deposits.

Key Concepts

Managing savings and liquid assets requires an understanding of the numerous opportunities available in the financial marketplace as a result of deregulation. Today, many new providers offer various types of savings accounts and vehicles. It is also necessary for those using these services to understand procedures relating to interest calculations, differences in account features, and procedures for opening, utilizing, and managing accounts—especially checking accounts. The following phrases represent the key concepts stressed in this chapter:

1. Traditional banks: commercial banks and thrift institutions
2. Deposit insurance
3. Checking and savings products
4. Interest-paying checking accounts
5. Electronic banking
6. Electronic funds transfer
7. Account balance determination
8. The variety of savings instruments
9. Checking account procedures
10. Checking account reconciliation
11. Special types of checks
12. Compound interest

Answers to Concept Check Questions

4-1. *Cash management* is an activity that involves the day-to-day administration of cash and near-cash liquid resources by an individual or family. The major functions of cash management are (1) making sure that adequate funds are available to meet both planned and unplanned expenditures and (2) establishing an ongoing savings program that cushions against financial emergencies and accumulates funds to meet financial goals.

4-2. Liquid assets are held for two broad reasons: (1) to meet known, near-term spending needs and (2) to meet unplanned future needs.

Per Exhibit 4, 1, the popular types of liquid assets include:

Cash: pocket money—the coin and currency in one's possession.

Checking Account: a substitute for cash offered by commercial banks and other financial institutions, such as savings and loans and credit unions.

Savings Account: a standard savings account pays a relatively low rate of interest and does not permit withdrawal of funds by check.

Money Market Deposit Account (MMDA): primarily a savings vehicle that pays market rates of interest, offers limited check-writing privileges, and requires a fairly large (typically $1,000 or more) minimum deposit. These are offered by banking institutions and are federally insured.

Money Market Mutual Fund (MMMF): a savings vehicle that is actually a mutual fund and, like money market deposit accounts, offers check-writing privileges. These are offered by investment companies and are not federally insured.

Certificate of Deposit (CD): funds left on deposit in a financial institution for a stipulated period of time where a penalty is imposed for early withdrawal of the funds. Usually pays an attractive interest rate, which can vary depending on the size and maturity of the CD. CDs do not have any check-writing privileges.

U.S. Treasury Bill (T-bill): short-term, highly marketable securities issued in various maturities of 52 weeks or less by the U.S. Treasury. Typically offer competitive short-term interest rates.

U.S. Savings Bond (EE): a popular savings vehicle issued by the U.S. Treasury. They are sold in denominations as low as $50 and are purchased for half their face value.

4-3. a. *Commercial banks* are the largest of the four traditional banking institutions. They provide a full array of financial services including checking accounts, a variety of savings vehicles, credit cards, several kinds of loans, trust services, and numerous other services like safe deposit boxes, traveler's checks, and check-cashing privileges. They are often referred to as full-service banks.

b. *Savings and loan associations (S&Ls)* are financial institutions that channel people's savings deposits into mortgage loans for purchasing and improving homes. Since deregulation, S&Ls have expanded their product offerings so that today they offer many of the same checking, savings, and lending services as commercial banks. In fact, on the surface it is hard to distinguish them from commercial banks. One major difference is that S&Ls *do not offer regular checking accounts* (regular checking accounts do not pay interest). They instead provide NOW accounts and money market deposit accounts. Another major

difference between commercial banks and S&Ls is that some S&Ls are formed as mutual associations in which the depositors actually own the institution and the returns they receive are technically called dividends, not interest. However, these dividends are treated as interest for all practical purposes. There are also stockholder owned S&Ls where the depositors receive interest on their deposits instead of dividends.

c. *Savings banks* are a special type of savings institution, similar to S&Ls and found primarily in New England. They offer MMDAs and NOW accounts and pay interest on deposits at a rate comparable to S&Ls. Most savings banks are mutuals (owned by their depositors); the interest they pay is called dividends. As with mutual S&Ls, dividends are paid out at a fixed rate and any surplus profits are retained in the savings bank to provide greater protection for depositors.

d. *Credit unions* are a special type of mutual association that provides financial services to specific groups of people with a common tie, such as their occupation, religion or fraternal order. They are owned, and in some cases operated, by their members. After qualifying for membership, a person joins the credit union by making a minimum deposit, often $5–25, which must be left on deposit in order to remain a member and borrow from the association. Credit unions pay dividends on deposits. These dividends are treated as interest like the dividend payments of other mutual associations. Frequently, however, the depositor does not know the dividend rate prior to distribution, because many credit unions pay out all or most of their profits. Members not only receive a favorable return on their deposits, they may also be able to borrow at rates lower than those offered by banks and other financial institutions.

e. *Stockbrokerage firms* may offer a variety of services in addition to buying and selling securities on behalf of their customers. Most provide money market mutual funds and wrap accounts; some offer credit card services as well.

f. *Mutual funds*, or investment companies, often provide in their offerings one or more money market funds. Typically, these money market funds yield a higher rate of return than banking institutions offer and also allow check-writing privileges.

4-4. The *FDIC* provides deposit insurance on accounts up to $100,000 for commercial banks and thrift institutions. This type of insurance is not available on money market mutual funds, which are offered by investment companies, but it is offered by credit unions, which are insured by the National Credit Union Administration (NCUA). The National Credit Union Share Insurance Fund (NCUSIF) is the federal fund used by the NCUA to insure accounts at credit unions for up to $100,000 per depositor.

4-5. An *individual* could have six or seven checking and savings accounts at the same bank and still be fully protected under federal deposit insurance as long as the total balance in all the accounts does not exceed $100,000. A *married couple* could obtain $500,000 in deposit insurance coverage without going to several banks by setting up individual accounts in the name of each spouse ($200,000

total coverage), a joint account in both names ($100,000 total coverage), and separate trust or IRA accounts in the name of each spouse (an additional $200,000 coverage).

Deposits maintained in different categories of legal ownership are separately insured. So, you can have more than $100,000 insurance coverage in a single institution. The most common categories of ownership are single (or individual) ownership, joint ownership, and testamentary accounts. Separate insurance is also available for funds held for retirement purposes, e.g., Individual Retirement Accounts, Keoghs, and pension or profit-sharing plans. Find out more at www.fdic.gov.

4-6. A *checking account* is a demand deposit whereby withdrawal of funds from this account must be permitted as long as there are sufficient funds in the account. Funds may be accessed by writing checks against the account, by using a debit card or by personally going to the institution. Checking accounts typically pay no or very low interest and are used for paying bills and making purchases.

A *savings account* is a time deposit. Funds are expected to remain on deposit for a longer period of time than demand deposits and are used for accumulating money for future expenditures or for meeting unexpected financial needs. Usually, checks are not written against savings accounts, and the interest offered is higher than that offered on checking accounts.

4-7. a. *Demand deposit* refers to an account held at a financial institution from which funds can be withdrawn (in check or cash) upon demand by the account holder. As long as sufficient funds are in the account, the bank must immediately pay the amount indicated when presented with a valid check or when accessed with a debit card or when the account holder appears in person. This means that money in checking accounts is liquid and can be easily used to pay bills and make purchases.

b. *Time deposits* are expected to remain untapped for a longer period of time than demand deposits. While financial institutions generally retain the right to require a savings account holder to wait a certain number of days before receiving payment on a withdrawal, most are willing to pay withdrawals immediately. Typically, a savings account pays interest at a fixed rate, and money is held in this type of account in order to accumulate funds for known future expenditures or to meet unexpected financial needs.

c. *Interest-paying checking accounts* are distinguished from regular checking accounts which are not required to pay interest. As a result of the changes in the laws governing financial institutions in the late 1970s and early 1980s, depositors now have the opportunity to choose among a wide variety of accounts to meet their checking and cash balance needs. Each of these accounts has its own specific characteristics. Interest-paying checking accounts include money market mutual funds (MMMFs) which are offered through investment (mutual fund) companies and are not FDIC insured, money market deposit accounts (MMDAs), and NOW accounts. MMDAs and NOW accounts are available at virtually every deposit-

taking financial institution in the U.S. and are federally insured (provided the institution offers FDIC or NCUA insurance, and virtually all do).

4-8. a. *NOW accounts* (or negotiable order of withdrawal accounts) have been popular since the removal, beginning in 1986, of all interest rate restrictions. The account itself pays interest and offers unlimited checkwriting privileges so that investors can view the account as both a savings account and a convenience checking account. While no legal minimum account balance exists, many institutions impose at least a $500 minimum. Many banks also charge fees on the use of these accounts, such that in some cases the fees may negate the amount of interest earned.

b. *Money market deposit accounts (MMDAs)* are vehicles offered by banks, S&Ls, and other depository institutions to compete with money market mutual funds. Unlike MMMFs, MMDAs are federally insured. Depositors have access to their funds through check-writing privileges or through automated teller machines. However, most require minimum balances, and there is usually a limit on the total number of transfers permitted during a month, with additional transfers subject to a penalty charge. This limits the flexibility of the accounts, but most people look upon them as savings accounts rather than as convenience accounts, so this is normally not a serious obstacle.

c. *Money market mutual funds (MMMFs)* are offered by investment companies and pool the funds of many small investors to purchase high-yielding, short-term marketable securities offered by the U. S. Treasury, major corporations, large commercial banks, and various government organizations. The main advantage of these types of accounts to the small investor is that you can indirectly own these types of marketable securities by making fairly small minimum deposits, say $500 to $1,000; owning such securities directly may require a higher minimum investment. The interest rate earned on a MMMF depends on the returns earned on its investments, which fluctuate with overall credit conditions. Investors typically have instant access to their funds through check-writing privileges, although the checks often must be written for at least a stipulated minimum amount. In the banking system, checks written on MMMFs are treated just like those written on any other demand deposit account, and although they are considered very safe, these funds are not federally insured.

4-9. *Asset management accounts (AMAs)* are comprehensive deposit accounts that combine checking, investing, and borrowing activities. They are offered primarily by brokerage houses and mutual funds. Their distinguishing feature is that they automatically "sweep" excess balances into relatively high-yielding short-term investments, such as a money market mutual fund. They are not for everyone, since their stipulated minimum balance requirements typically may be $5,000 or higher. While not FDIC insured, these deposits are protected by the Securities Investor Protection Corporation (SIPC) and the firm's private insurance.

4-10. a. *Debit cards* are specially coded plastic cards that permit cash withdrawals at ATM machines or allow a transfer of funds from your checking account to the recipient's account. ATM cards are one form of debit card, and Visa and

MasterCard also issue debit cards. They provide a convenient form of payment and are accepted at many retail and service establishments. But remember to record all debit card purchases in your checkbook ledger to avoid overdrawing your account.

b. An *automated teller machine (ATM)* is a remote computer terminal at which bank customers can make deposits, withdrawals, and other types of basic transactions. The ATM can operate 24 hours a day, seven days a week. Banks and other depository institutions locate them in places convenient to shopping, offices, and travel facilities.

c. Another form of EFTS service is the *pre-authorized deposit,* an automatic deposit made directly into your checking account on a regular basis. Some examples are paychecks, social security payments, and pension checks. Similarly, *preauthorized payments* allow a customer to authorize the bank to automatically make monthly payments for mortgages and other loans, utilities, or mutual fund purchases.

d. *Bank-by-phone accounts* allow customers to make many types of banking transactions using their telephones. They can either talk to a customer service representative or use a touch-tone phone to verify balances, find out whether a check has cleared, transfer funds, and, at some banks, pay bills.

e. *Online banking and bill payment services* enable one to handle nearly all account transactions from a personal computer at any time of the day or night and on any day of the week. Basically, with an online banking setup the customer instructs the bank to pay various bills by electronically transferring funds to designated payees. One can also call up a current "statement" on the computer screen at any time to check on the status of transactions, including checks written the traditional way. However, these systems do not permit one to make deposits or cash withdrawals through the home computer. This can only be accomplished by going to the bank or an ATM. The cost of electronic home banking systems is small—usually $4 to $10 per month—once the person has the computer.

4-11. *The Federal Electronic Fund Transfer Act* outlines the rights and responsibilities of EFTS users. While it does not allow you to stop payment in the case of defective or problem purchases, it does require that banks investigate billing errors upon notification in writing within 60 days from the date the error appears on the billing statement or ATM or similar terminal receipt. The bank must respond within ten days of such notification. Failure to notify the bank within 60 days ends the bank's obligation to investigate the problem. You must also notify the bank promptly if your EFTS card is lost, stolen, or you suspect unauthorized use. The amount you could lose depends on the speed with which you notify the bank; it is limited to $50 if you notify the bank within two days, up to $500 if you notify the bank after two days but within 60 days, and up to all the money in your account if you fail to inform the bank within 60 days. Some states and institutions offer greater protection than this for their customers.

Another provision of the law prohibits banks from *requiring* you to use EFTS for loan payments, although they can offer the incentive of a lower rate. You must also have the right to choose the bank where you will receive salary or government benefit payments via EFTS. In addition to federal and state consumer legislation, you can protect yourself by safeguarding your personal identification number (PIN).

4-12. When opening a checking account, you'll want to consider convenience (location of branches and ATMs, hours), services offered, and fees and charges for both deposit accounts and other services. These must be reviewed in conjunction with your personal needs.
Individual accounts may be easier for some couples to maintain, as each person is responsible for his or her own account. Joint accounts may result in lower service charges and also have rights of survivorship if one account holder dies (if specified when the account is opened). Each couple should determine which account arrangement works best given their money styles and level of account balances. For example, if one partner regularly forgets to record checks written on a joint account, the other partner is likely to become annoyed and may bounce checks unexpectedly.

4-13. It *is* possible to bounce a check due to insufficient funds when the checkbook ledger shows a balance available to cover it if certain deposits added to the checkbook ledger have not yet been credited to the account by the bank. This situation could also arise when certain service fees are deducted from the account by the bank, but the account holder has not yet been notified and therefore has not yet deducted them from his or her checkbook ledger.

When a check bounces, the bank stamps the overdrawn check with the words "insufficient balance (or funds)" and returns it to the party to whom it was written. The account holder is notified of this action, and a penalty fee of $15 to $20 or more is deducted from his or her checking account. In addition, the depositor of a "bad check" may be charged as much as $10 to $15 by its bank, which explains why merchants typically charge customers who give them bad checks $10 to $20 or more and refuse to accept future checks from them.

To prevent bounced checks, you can arrange for overdraft protection through an overdraft line of credit or automatic transfer program. Here the bank will go ahead and pay a check that overdraws the account, but be aware that bank charges and policies vary widely on the cost and terms of such protection. The bank may even extend such protection without prior arrangement, but in such a case it will notify the account holder of the overdraft and charge a penalty for the inconvenience.

4-14. *Payment on a check is stopped* by notifying the bank. Normally, the account holder fills out a form with the check number and date, amount, and the name of the payee. Some banks accept stop-payment orders over the telephone and may ask for a written follow-up. Telephone-initiated stop payments generally remain in effect for 14 days and written ones for six months.

Several reasons to issue a stop payment order include:

- A lost or stolen check or checkbook.
- A good or service paid for by check is found to be faulty.
- A check is issued as part of a contract that is not carried out.

4-15. Your monthly *bank statement* contains an itemized listing of all transactions (checks written, deposits made, electronic funds transfer transactions such as ATM withdrawals and deposits and automatic payments) within your checking account. It also includes notice of any service charges levied or interest earned in the account. Many banks also include canceled checks and deposit slips with the bank statement. The monthly bank statement can be used to verify the accuracy of the account records and to reconcile differences between the statement balance and the balance shown in the checkbook ledger. The monthly statement is also an important source of information needed for tax purposes.

The basic steps in the account reconciliation process are:

1. Upon receipt of the bank statement, arrange all canceled checks in descending numerical order based on their sequence numbers or issuance dates.

2. Compare each check amount, from the check itself or the statement, with the corresponding entry in the checkbook ledger to make sure that no recording errors exist. Place a checkmark in the ledger alongside each entry compared. Also check off any other withdrawals, such as from ATMs or automatic payments, and make sure to add any checks written or deposits made which are shown on the bank statement but you forgot to record in your checkbook.

3. List all checks and other deductions (ATM withdrawals, automatic payments) still outstanding (deducted in the checkbook but not returned with the statement.)

4. Repeat the process for deposits. All automatic deposits and deposits made at ATMs should be included. Determine the total amount of deposits made but not shown on the bank statement (deposits in transit).

5. Subtract the total amount of checks outstanding (from step 3) from the bank statement balance, and add the amount of outstanding deposits (from step 4) to this balance. The resulting amount is the adjusted bank balance.

6. Deduct the amount of any service charges levied by the bank and add any interest earned to the checkbook ledger balance. The resulting amount is the new checkbook balance. This amount should equal the adjusted bank balance (from step 5). If not, check all of the addition and subtraction in the checkbook ledger, because there probably is a math error.

4-16. a. A *cashier's check* is drawn on the bank, rather than a personal or corporate account, so that the bank is actually paying the recipient. There is a service fee in addition to the face amount.

b. *Traveler's checks* provide a safe, convenient way to carry money while traveling because they are insured against loss. They are purchased from financial institutions
in certain denominations for the face value plus a fee.

c. A *certified check* is a personal check guaranteed by the bank as to availability of funds. The bank charges an additional fee for this guarantee.

4-17. The amount of liquid reserves you have on hand will depend on your personal circumstances (for example, if you have a salary continuance plan at work) but should range from three to six months of after-tax income. From 10 to 25% of your investment portfolio should be in liquid assets. This provides additional funding for unexpected needs, planned near-term expenditures, and investment opportunities. The actual amount will fluctuate based on interest rate levels.

4-18. The *nominal rate of interest* is the stated rate of interest, so in this instance the S&L's nominal interest rate is 4.5%. The *effective rate of interest* is the interest rate *actually earned* over the period of time that the funds are on deposit. It is found by dividing the dollar amount of interest earned over the course of one year by the amount of money on deposit.

We can determine the effective rate when the S&L has a stated rate of 4.5% by calculating how much interest is actually paid during the year. The easiest way is with a financial calculator because the S&L compounds daily in this example. We will arbitrarily choose to calculate the interest on a $1000 account. (The percentage rate will be the same no matter what dollar amount we choose to begin with.) Set the calculator on End Mode and 1 Payment/Year.

1000 +/-	PV
4.5 ÷ 365	I
1 x 365	N
FV	$1046.03

During the year, this account earned $46.03 in interest, so we take the interest earned and divide it by the beginning principal to determine the effective interest rate.

$$\frac{\$46.03}{\$1000} = 4.6\% \text{ effective rate of return}$$

4-19. The amount of interest earned depends on several factors, including frequency of compounding, how the bank calculates the balances on which interest is paid, and the interest rate itself. Look for daily or continuous compounding and a balance calculation using the "day-of-deposit-to-day-of-withdrawal" method. This is the most accurate balance determination and gives depositors the highest interest earnings for a given period. It is also considered the fairest procedure since depositors earn interest on all funds on deposit during the period. This method is

sometimes called daily interest, but it should not be confused with the daily compounding of interest, which is an entirely different concept.

4-20. a. *Certificates of deposit (CDs)* are savings instruments that require funds to remain on deposit for a specified period of time and can range from seven days to a year or more. Although it is possible to withdraw funds prior to maturity, an interest penalty usually makes withdrawal somewhat costly. While the bank or other depository institution can impose any penalty it wants, most result in a severely reduced rate of interest—typically a rate no greater than that paid on its most basic regular savings account. CDs are attractive for the high competitive yields they offer, the ease with which they can be purchased, and the protection offered by federal deposit insurance. In addition to purchasing CDs directly from the issuer, "brokered CDs" can be purchased from stockbrokers.

b. *U.S. Treasury bills (T-bills)* are obligations of the U.S. Treasury issued as part of the on-going process of funding the national debt. T-bills are sold on a discount basis now in minimum denominations as low as $1,000 and are issued with 3-month (13-week), 6-month (26-week), and one-year maturities. They carry the full faith and credit of the U.S. government and pay an attractive and safe yield that is free from state and local income taxes. They are almost as liquid as cash, because they can be sold at any time in a very active secondary market without any interest penalty. If they should be sold before maturity, however, one can lose money if interest rates have risen. In addition, broker's fees have to be paid in order to sell T-bills prior to maturity.

c. *Series EE bonds* are the well-known savings bonds that have been around for decades. They are often purchased through payroll deduction plans or at banks or other depository institutions. Though issued by the U.S. Treasury, they are very different from U.S. Treasury bills. The fixed interest rate is set every six months in May and November, and change with prevailing Treasury security market yields. They increase in value every month, and the fixed interest rate is compounded semiannually. The interest is exempt from state and local taxes and, for federal tax purposes, it does not have to be reported until the bonds are cashed. In addition, when the bond proceeds are used to pay educational expenses, such as college, the tax on bond earnings may be completely avoided if the taxpayer’s income falls below a certain level at the time of redemption (other restrictions apply).

Financial Planning Exercises

1. Individual student answers will vary.

2. If your ATM card was stolen and $650 was withdrawn from your checking account, you would be liable for:
   a. $50 if you notified the bank the next day;
   b. $500 if you notified the bank six days later; and
   c. $650 (or all the money in your account, whichever is greater) if you waited 65 days to notify the bank.

   Some states provide even greater protection for debit card users, as do various banking institutions.

3. Student answers will vary but should discuss the following aspects of bank and account choice:

   - Individual or joint accounts and why selected
   - Convenience factors that are important (e.g., what hours, locations are required)
   - Desired services, where available, and fees charged for them
   - Type of account charge (monthly fees or minimum balance) and why selected

4.

a.	Per-month cost	=	$5 + 19($.25)	=	$ 9.75
	Annual cost	=	12 x $9.75	=	($117.00)
b.	Interest earned/month	=	.025/12 x $815	=	$1.70
	Add: total annual interest (for months where balance exceeds $750)	=	8 x $1.70	=	$13.60
	Less: monthly fee for months when balance is below $750	=	4 x $8	=	($32.00)
	Net cost of account				($18.40)

5. Problem 5—Worksheet 4.1

CHECKING ACCOUNT RECONCILIATION

For the Month of November , 20 07

Accountholder Name(s) Javier Rodriguez

Type of Account NOWAccount - Third State Bank

1. Ending balance shown on bank statement — $ 622.44

Add up checks and withdrawals still outstanding:

Check Number or Date	Amount	Check Number or Date	Amount
658	$ 55.22		$
668	99.00		
670	6.10		
671	50.25		
673	32.45		
680	486.70		
682	75.00		
683	98.50		
ATM 11-24	150.00		
ATM 11-27	225.00		
		TOTAL	$ **1,278.22**

2. Deduct total checks/withdrawals still outstanding from bank balance — – $ **1,278.22**

Add up deposits still outstanding:

Date	Amount	Date	Amount
11/21/06	525.60		
11/30/06	400.00		
		TOTAL	$ **925.60**

3. *Add* total deposits still outstanding to bank balance — + $ **925.60**

[A] Adjusted Bank Balance (1 − 2 + 3) — $ **269.82**

4. Ending balance shown in checkbook — $ 286.54

5. Deduct any bank service charges for the period $8 + $12 — – $ 20.00

6. Add interest earned for the period — + $ 3.28

[B] New Checkbook Balance (4 − 5 + 6) — $ **269.82**

Note: Your account is reconciled when line A equals line B.

6. Use the formula $FV = PV \times (1 + i)^n$ as the tables in the appendix do not have 4%.

$$FV = 5000 \times (1+.04)^5$$
$$= 5000 \times 1.2167$$
$$= \underline{\$6,083.26}$$

Using the financial calculator, set on END MODE and 1 P/YR:

5000 +/-	PV
4	I/YR
5	N
FV	$6,083.26

Since you initially deposit $5,000 and end up with $6,083.26 in five years, the amount of interest earned is the difference, or $1,083.26.

Calculate the future value of a series of yearly $5000 payments compounding at 4% per year using the financial calculator, set on END MODE and 1 P/YR:

5000 +/-	PMT
4	I/YR
5	N
FV	$27,081.61

7. a. Since Bill and Betty have annual after-tax income of $42,000, their monthly income is $3,500 (i.e., $42,000/12). Based on holding three to six month's after-tax income as liquid reserves, Bill and Betty should hold between $10,500 and $21,000 (i.e., 3 x $3,500 and 6 x $3,500).

   b. The *general* rule is that 10% to 25% of one's investment portfolio should be held in savings and short-term investment vehicles. For the Jacobs, this would amount to between $9,000 and $22,500 (i.e., .10 x $90,000 and .25 x $90,000).

   c. In total, their short-term liquid asset position should be the sum of their liquid reserves (calculated in (a) above) and their short-term investments (calculated in (b) above). This amount totals between $19,500 (i.e., $10,500 + $9,000) and $43,500 (i.e., $21,000 + $22,500). However, the longer their investment time frame the less short-term investments are needed in their investment portfolio, particularly with adequate liquid reserves as described in part a.

Solutions to Critical Thinking Cases

4.1 Amy Chan's Savings and Banking Plans

1. Annual net cost of the different checking account plans:

Regular checking, per-item plan—no charge with $750 balance on either regular checking account plan, so charges only apply in 3 months.

Monthly cost	= $3 service fee + (18 checks @ $.35)	=	$ 9.30
Annual cost	= $9.30 x 3	=	($27.90)

Regular checking, flat fee plan:

Annual cost	= $7 per month x 3 months	=	($21.00)

Interest checking—monthly charge of $7 if balance is below $1,500; 3% interest, compounded daily (a stated rate of 3% compounded daily is effectively ~3.05%).

Annual interest earned	= $795 avg. balance x .0305	=	$24.25
Less annual cost	= $7 per month x 12 months	=	(84.00)
Net annual cost		=	($59.75)

Based on Amy's current banking habits, the flat fee plan is the least expensive.

If Amy maintains the $1,500 minimum balance in an interest checking account, she will earn $45.75 ($1,500 x .0305 = $45.75). She would also save $21 in annual costs as calculated above, so she would be $66.75 better off each year. However, she would have to come up with another $705 in addition to the $795 she currently averages in her account. This money would probably have to be pulled from her money market deposit account, which is probably earning about the same amount as the interest checking account. So Amy would really be about the same on the interest earned off the additional $705. However, she would be able to avoid the $21 annual costs as well as earn $24.25 on the $795 (see above), leaving her $45.25 better off per year.

3. Amy should start a regular savings plan using direct deposit so that she makes monthly deposits and builds up a reserve account to about 3 months of her pay, or $6,750. Reviewing her budget—or making one if she doesn't have one—will reveal ways to find greater savings. Once her reserve account is funded, she should invest any excess in higher yielding securities. She should also periodically compare the rates of CDs vs. her checking account and money market deposit account to figure out her best choices. However, CDs do not offer her the flexibility that the other types of accounts do.

4.2 Reconciling the Pattersons' Checking Account

1. The bank reconciliation using Worksheet 4.1 appears on the following page.

2. The Pattersons need to make two adjustments in their checkbook ledger.
   - Add in the $9.25 deposit made on September 25. Apparently they failed to write in this deposit amount at the time the deposit was made.
   - Subtract the $3.00 bank service charge from their checkbook ledger balance to accurately reflect this charge made against their account by the bank.

   With these two adjustments, the Pattersons' checkbook ledger balance will be:

Current balance	$476.74
+ September 25 deposit	9.25
– Bank service charge	3.00
Adjusted balance	$482.99

   This adjusted balance now agrees with the values shown on lines A and B of the checking account reconciliation worksheet.

   Since the Pattersons just opened this account, balancing it was fairly simple—there were no checks from prior periods outstanding, and the beginning balance of the account was zero. The checking account reconciliation form streamlines this process.

3. With a NOW account, the Pattersons could have reduced their effective bank charges by the amount of interest earned during the period, which would have been noted on the monthly NOW account statement and entered on line 6 of the

checking account reconciliation form. The effect of the interest earnings would have been an increase in both bank and checkbook balances.

Case 4.2, Question 1—Worksheet 4.1

CHECKING ACCOUNT RECONCILIATION

For the Month of October , 20 07

Accountholder Name(s) Mike and Jennifer Patterson

Type of Account Checking Account - American Bank

1. Ending balance shown on bank statement $ 95.39

Add up checks and withdrawals still outstanding:

Check Number or Date	Amount	Check Number or Date	Amount
102	$ 28.40		$
104	16.75		
106	17.25		
		TOTAL	$ **62.40**

2. Deduct total checks/withdrawals still outstanding from bank balance – $ **62.40**

Add up deposits still outstanding:

Date	Amount	Date	Amount
10/5/06	450.00		
		TOTAL	$ **450.00**

3. *Add* total deposits still outstanding to bank balance + $ **450.00**

A Adjusted Bank Balance (1 – 2 + 3) $ **482.99**

4. Ending balance shown in checkbook 476.74 + 9/25 deposit $9.25 $ 485.99

5. Deduct any bank service charges for the period – $ 3.00

6. Add interest earned for the period + $ 0.00

B New Checkbook Balance (4 – 5 + 6) $ **482.99**

Note: Your account is reconciled when line A equals line B.

Chapter 5

Making Automobile And Housing Decisions

Chapter Outline

Learning Goals

I. Buying an Automobile
- A. Choosing the Car
- B. Affordability
  1. Operating Costs
  2. New, Used, or "Nearly New"?
  3. Gas, Diesel, or Hybrid?
  4. Size, Body Style, and Features
  5. Reliability and Warranties
  6. Other Considerations
- C. The Purchase Transaction
  1. Negotiating Price
  2. Closing the Deal
  3. Trade in Your Loan

Concept Check

II. Leasing Your Car
- A. The Leasing Process
- B. The Lease versus Purchase Analysis
- C. When the Lease Ends

Concept Check

III. Meeting Housing Needs: Buy or Rent?
- A. What Type of Housing Fits Your Needs?
- B. The Rental Option
  1. The Rental Contract/Lease Agreement
  2. The Rent-or-Buy Decision

Concept Check

IV. How Much Housing Can You Afford?
- A. Benefits of Owning a Home
- B. The Cost of Home Ownership
  1. The Down Payment
  2. Points and Closing Costs
  3. Mortgage Payments
     a. Affordability Ratios

4. Property Taxes and Insurance
5. Maintenance and Operating Expenses

C. Performing a Home Affordability Analysis

Concept Check

V. The Home Buying Process

A. Shop the Market First
B. Using an Agent
C. Prequalifying and Applying for a Mortgage
D. The Real Estate Sales Contract
E. Closing the Deal
 1. Title Check
 2. Closing Statement

Concept Check

VI. Financing the Transaction

A. Sources of Mortgage Loans
B. Online Mortgage Resources
C. Types of Mortgage Loans
 1. Fixed-Rate Mortgages
 2. Adjustable-Rate Mortgages (ARMs)
  a. Features of ARMs
  b. Beware of Negative Amortization
  c. Choosing an Index
  d. Monitoring Your Mortgage Payments
 3. Fixed-Rate or Adjustable-Rate?
 4. Other Mortgage Payment Options
 5. Conventional, Insured, and Guaranteed Loans
D. Refinancing Your Mortgage

Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance

How's Your Local Housing Market?

Critical Thinking Cases

5.1 The McNeils' New Car Decision: Lease versus Purchase
5.2 Evaluating a Mortgage Loan for the Schmidts
5.3 Julie's Rent-or-Buy Decision

Money Online

Major Topics

Buying a car is probably the first major purchase most people make. And because people tend to purchase another car every two to five years, it is quite possible that during the course of a lifetime, they will spend more money on cars than on homes. Both car ownership and home ownership are important financial goals for most American families, with the home usually representing the largest single purchase a person or family will

make at one time. Housing is a necessity for everyone, and ownership can provide peace and security to a family. The best home is one that fits the needs of the family and is affordable (falls within their budget). Whether buying a car, a home or other major purchase, care should be taken to first research the purchase thoroughly, select the item that best suits one's needs, buy the item after negotiating the best price and arranging favorable financing, and then maintaining and repairing the item as needed. The major topics covered in this chapter include:

1. Purchase considerations and procedures involved in buying an automobile.
2. Evaluating the lease versus purchase decision for automobiles.
3. Description of the alternative forms of housing ranging from single-family home ownership to rental apartments and houses.
4. Procedures for renting a home, including contractual considerations and procedures for making the rent-or-buy decision.
5. Motives for home ownership, including its role as a tax shelter and potential hedge against inflation.
6. The costs of owning a home, including the initial purchase price, closing costs, financing costs, and maintenance.
7. The role of real estate agents in the home search, negotiation, and purchase process.
8. Mortgage loans and other documents and procedures, including disclosure statements, title checks, and closing statements involved in closing a home purchase transaction.
9. Financing the home purchase under the best and most appropriate terms.
10. Deciding when to refinance your mortgage.

Key Concepts

Purchasing big ticket items, such as an automobile or a home, requires much care and planning. Numerous nonfinancial and financial considerations are involved are in the decision whether to buy or lease appropriate and affordable transportation and housing, consistent with your personal financial goals. Additionally, home ownership can represent an appreciating asset that may also provide tax benefits while meeting a family's needs for shelter and security. The following phrases represent the key concepts stressed in this chapter.

1. Automobile purchase or lease transactions
2. Alternative forms of housing
3. Home ownership motives
4. The costs of owning a home
5. Mortgage costs
6. Rental housing procedures and justification
7. Shopping for and negotiating a home purchase
8. Sources and types of mortgage loans
9. Adjustable-rate mortgages
10. Types of loan programs
11. Mortgage refinancing
12. Closing the home purchase deal

Answers to Concept Check Questions

5-1. a. *Affordability* is the starting point for a car purchase. Once you know how much you can afford to buy, operate, and maintain, you can look for models suitable for your needs and budget.

b. *Operating costs* include loan payments, insurance, license fees, repairs, gas, oil, tires, and other maintenance. Some cars are more expensive to operate than others. It is important to consider operating expenses as well as the cost of the car when evaluating affordability.

c. It is important to consider the differences between the costs and performance of differently fueled vehicles and decide which type you want before shopping for a specific new or used car. Generally, diesels are a bit noisier, have less acceleration and more power, and have longer engine lives than traditional gas-powered cars. Hybrids are very economical and less polluting than gas- and diesel-powered vehicles. They do have some disadvantages: high cost of battery replacement, more sluggish acceleration, generally higher repair costs, and the typically higher initial purchase price.

d. Of these three choices, the *new car* is the most expensive but typically has the best warranty. *Used cars* cost less, but it can be difficult to accurately assess the mechanical condition of the car. Warranty coverage, if available, covers a shorter time period and may be limited. However, you may be able to afford a better used car than if you bought a new car. The *"nearly-new" car* is a low-mileage used car, such as a car which has come off rental or a dealer "executive" car, that can offer good value. These cars usually have warranties similar to new cars and cost 25 to 40% less than comparable new cars.

e. The choice of *size, body style, and features* affects the purchase price and operating costs. By selecting the desired options before shopping, you can avoid pressure from the salesperson to buy a car loaded with options you don't want.

f. By comparing the *reliability records* of the cars that interest you, using such publications as *Consumer Reports,* you can select the car with the lowest need for repairs and hopefully reduce your maintenance costs. Manufacturers who offer longer *warranty coverage* can also save you money.

5-2. The first step in purchasing a new car is to do *research* on the types of cars available, their features, price, reliability, and other key factors. Educating yourself in these areas will help to determine which car is best suited for your needs and budget. After narrowing the field, you can visit the dealers who sell the cars of interest to you. Test drive them and then select two or three that best meet your needs. Complete the comparison shopping process before making any offers.

Next, *negotiate price*. To do so wisely, find out the *dealer's cost* for the car and the options you want; the sticker price is not very meaningful. Sources of dealer's cost figures include *Consumer Reports* magazine and individual cost reports

ordered from *Consumer Reports* and Nationwide Auto Buying Service. *Edmund's* is now available on-line at www.edmunds.com. Knowing the dealer's cost enables you to negotiate the lowest possible markup. Also take into consideration any rebates that are offered, deducting the amount from the dealer's cost. Doing your homework before starting price negotiations helps to avoid high-pressure sales tactics that may encourage you to take a deal too soon and should also result in a lower price. Until you negotiate a firm price, be sure not to discuss how you plan to finance the purchase or whether you are trading in your old car. These issues can affect price negotiations.

The *closing process* involves signing a sales contract specifying the offering price and other terms of the sale. Once you and the dealer have accepted and signed the contract, it becomes binding. Some dealers require a deposit at this time. The final step is to arrange financing, pay for the car, and accept delivery.

5-3. Advantages to leasing include the ability to afford a better car for the same payment, no or low down payment, and the ability to turn the car in at the end of the lease period. On the other hand, because you only pay for the use of the car during the lease period, you have no ownership. Terminating the lease early may be difficult and costly. Also, finding out the actual cost factors used to calculate the lease payments can be hard, and there will likely be a penalty if you drive the car more miles than the lease allows.

5-4. Student answers as to leasing or purchasing a car will, of course, vary.

5-5. In addition to single-family homes, *other types of housing* available in this country include condominiums, cooperative apartments, manufactured homes, and rental apartments and houses. Single-family homes, condominiums, and cooperatives offer pride of ownership and the opportunity to benefit from price appreciation.

The owner of a *condominium* receives title to an individual unit and a joint ownership of any common areas and facilities, such as lobbies, swimming pools, lakes, and tennis courts. Since buyers own their units, they arrange their own mortgages, pay their own taxes, and pay for maintenance and building services. They are usually assessed, on a monthly basis, an amount deemed sufficient to cover their proportionate share of the cost of maintaining common facilities. The owners also elect a board of directors to supervise their building and grounds.

A *cooperative apartment*, or *co-op,* is an apartment in a building in which each tenant owns a share of the corporation that owns the building. Residents lease their units from the corporation and are assessed monthly fees in proportion to their ownership shares, which are based on the amount of space they occupy. These assessments cover the cost of service, maintenance, taxes, and the mortgage on the entire building. The assessment can change depending on the actual costs of operating the building and the actions of the board of directors, which determine the corporation's policies.

Rental units may be houses or apartments that are owned by someone else and leased for a set time period. The landlord is responsible for the upkeep, and the renter does not build up equity in the property.

5-6. Student answers will vary. There are advantages and disadvantages to both renting and buying. Commonly cited advantages of renting include: (1) a down payment and closing costs are not required, (2) greater mobility because moving in and out of rental units is less complicated and less costly than selling and purchasing homes, (3) some units or complexes have security systems provided, (4) the appeal of community living, and (5) access to certain amenities such as swimming pools and tennis courts may be provided. The disadvantages of renting are primarily financial. Renters neither receive any equity (ownership) interest in the property nor do they receive any tax-deductible benefits from rent payments. In addition, rental units may not be quiet, neighbors may be unfriendly, repairs may not be made promptly, and landlords can be uncooperative.

A homeowner has an advantage over a renter with respect to taxes because the homeowner who itemizes deductions for federal income tax purposes can include mortgage interest and property taxes as itemized deductions. Renters do not receive these deductions; generally, no portion of rent is deductible for federal tax purposes.

5-7. *A written lease agreement* provides better protection than an oral agreement for both the lessor and lessee. It spells out the conditions applicable to both parties and thereby avoids misunderstanding. Lease agreements typically include the monthly payment amount, date due, penalties for late payment, lease term, deposit requirements, distribution of expenses, and restrictions on occupancy.

5-8. People own a home for various reasons, including using it as a *tax shelter* because both the interest paid on the mortgage and property taxes paid are tax deductible for taxpayers who itemize deductions. In addition, a home can be viewed as an *inflation hedge* because its value will likely increase with inflation, which typically causes the prices of real assets to increase. The most important reason for preferring to own rather than rent a home is probably the basic security and peace of mind derived from living in one's own home—pride of ownership, a feeling of permanence, and a sense of stability. The least important motive for owning a home is its ability to act as a hedge against inflation; because inflation cycles are unpredictable as are local real estate values, so too are the inflation-hedging benefits of home ownership.

5-9. The loan-to-value ratio specifies the maximum percentage of the value of a property that the lender is willing to loan. The loan-to-value ratio determines the amount of down payment that will be required. For example, if the loan-to-value ratio is 80%, the down payment must be at least 20% of the purchase price.

5-10. *Mortgage points* are a one-time, up-front fee charged by lenders at the time they grant a mortgage loan. In appearance, they are like interest in that they are a charge for borrowing money. One point is 1% of the loan amount, so if a lender

wanted to charge 2.5 points on an $85,000 mortgage, the buyer would have to pay $2,125 ($85,000 x .025) in points. The points are charged in addition to the down payment and other closing costs and are paid at the time of closing the mortgage loan transaction. Paying points is sometimes referred to as "buying down the interest rate." Lenders are willing to lower the interest rate if borrowers are willing to pay the up-front points necessary to compensate the lender for what he's giving up in the future stream of mortgage payments.

5-11. *Closing costs* are all other expenses besides the down payment that borrowers ordinarily pay at the time a mortgage loan is closed and title to the purchased property is conveyed to them. The buyer typically pays the majority of the closing costs, although the seller may, by custom or contract, pay some of the costs. Closing costs are made up of such items as: (1) loan application fees, (2) loan origination fees, (3) points (if any), (4) title search and insurance, (5) attorneys' fees, (6) appraisal fees, and (7) other miscellaneous fees for things like mortgage taxes, filing fees, inspections, credit reports, and so on.
Closing costs, including points, can total an amount equal to 50% or more of the down payment. When the down payment is only 10%, closing costs can run as high as 70% or more of the down payment.

5-12. The most common guidelines used to determine the amount of monthly mortgage payments one can afford are the affordability ratios that stipulate:

- Monthly mortgage payments should not exceed 25 to 30% of the borrower's monthly gross (before tax) income; and
- The borrower's total monthly installment loan payments (mortgage and other consumer loan payments) should not exceed 33 to 38% of monthly gross income.

5-13. The prospective home buyer should carefully investigate property taxes, insurance, maintenance, and operating costs when shopping for a home because these expenses are unavoidable and significantly impact the overall cost of the home. If a person cannot afford these substantial costs in addition to meeting the monthly mortgage payments, then the home would be unaffordable even if the prospective buyer could make the required down payment and closing costs.

5-14. There are many possible answers to this question, some of which follow:

- Shop carefully and take time to familiarize yourself with the various residential areas you are considering.
- Know why you want a home and what your needs are in terms of lifestyle, physical space, type of neighborhood, features and style of house, etc.
- Know in advance what you can afford, and prequalify for a mortgage.
- Set priorities, but also be prepared to make compromises; it is unlikely that you will be able to get everything you want.
- Negotiate the price, but don't get into a bidding war that could drive the price up.
- Read all documents carefully to make sure you understand them.
- Have the property inspected before finalizing the sale.

5-15. With their knowledge of the real estate market, *real estate agents* can expedite the search for housing by matching the individual with appropriate properties. An agent can also help in negotiations with the seller, assist in obtaining satisfactory financing, and help in preparing a real estate sales contract.

MLS refers to the *Multiple Listing Service*, a compilation of properties for sale by members of the MLS in a particular area. Such shared listings provide greater market access for both buyers and sellers. Real estate agents earn a commission on completed sale transactions. The seller typically pays the commission from the sale proceeds.

5-16. Starting your search for *mortgage financing* early in the home-buying process helps in many ways. By identifying potential lenders and prequalifying for a mortgage, you know before you start to look at houses how much you can afford, all the costs involved, and whether you can, in fact, obtain financing. You'll have time to correct any problems that may prevent you from getting a mortgage. Also, by focusing on homes that fall within your price range, you can streamline your search and eliminate frustration. Having your financing pre-arranged also saves time once you find a house to buy.

5-17. State laws generally specify that in order to be enforceable in court, real estate buy-sell agreements must be in writing and contain certain information, including (1) names of buyer(s) and seller(s), (2) a description of the property sufficient to provide positive identification, (3) specific price and other terms, and (4) usually the signatures of the buyer(s) and seller(s).

An *earnest money deposit* is money the buyer is asked to pledge at the time she or he makes an offer in order to show good faith. This money is later applied to the closing costs. If, after the sales contract is signed, the buyer withdraws from the transaction without a valid reason, he or she stands to forfeit the earnest money deposit.

Contingency clauses make a real estate sales contract conditional upon satisfaction of specified factors, such as obtaining financing or a satisfactory inspection. They protect the buyer.

5-18. The *closing process* begins once a suitable property is found, a written offer for the property is presented and the price is negotiated and accepted, terms are agreed upon, and both buyer and seller have signed the sales contract. Once the buyer makes the required earnest money deposit, certain legal procedures are followed to close the transaction and ensure the rights of both the buyer and the seller in the transaction. These include review of the RESPA statement of closing costs; hiring a title company to verify that the title to the property is free of all liens and encumbrances except those specified in the sales contract, and paying all required fees, taxes, points, etc. In some states this will be handled by lawyers acting for each party or it may be handled by an escrow company that is a third party working for both the buyer and seller to ensure that all the terms of the contract are correct. This process can take anywhere from a few weeks to several months to complete, depending on the nature of the property, the contract terms, and applicable state laws.

5-19. The sources of home mortgages today include commercial banks, thrift institutions, mortgage brokers and online lenders. *Mortgage brokers* take loan applications and then find lenders willing to grant the mortgage loans under the desired terms. Credit unions also make some mortgage loans. So do mortgage bankers, who frequently use their own money to initially fund mortgages that they later resell.

5-20. The *fixed-rate mortgage* is the traditional form of a mortgage and is characterized by the fact that both the rate of interest and the monthly payment are fixed over the full term of the loan. *Adjustable-rate mortgages (ARMs)* provide that the rate of interest, and therefore the monthly payment, is adjusted up and down in line with movements in interest rates. The rate of interest on the mortgage is linked to a specific interest rate index and adjusted at specific intervals (usually once a year) in accordance with changes in the index.

The adjustable-rate mortgage usually has the lowest initial rate of interest. The fixed-rate mortgage has a higher rate of interest because the lender assumes all of the interest rate risk; under ARMs this risk is instead borne by the borrower.

Negative amortization of a mortgage loan results in an increasing principal balance because monthly loan payments are lower than the amount of monthly interest being charged. The difference between the loan payment and interest incurred is then added back to the principal, thereby increasing the size of the loan. This occurs either when the initial mortgage payment is intentionally set below the interest charge or when the ARM has interest rates that adjust monthly but the actual monthly payment can only be adjusted annually.

Fixed-rate mortgages are usually desirable because the payment amount is known in advance. Their major disadvantage can be their higher cost, although if a fixed rate is obtained during a period of low rates, the homeowner will benefit if rates rise considerably in later years. They are best for those who plan to stay in their homes for five or more years.
ARMs generally cost less over the life of the mortgage than fixed-rate loans, although this is hard to predict given the variable nature of the rate. The lower rate makes it possible to afford a larger mortgage. It is important to have an ARM with a cap to protect against rising rates. However, rates can still rise several points in a year, and homeowners should be careful not to overextend themselves and then not be able to make the higher payments on the mortgage when rates rise. Also, as described above, some ARMs can have negative amortization. ARMs are best for those who can live with some uncertainty, are willing to monitor rates so that they can refinance at a fixed rate if necessary, and who plan to stay in their home a short time.

5-21. A *conventional mortgage* is a mortgage offered by a lender who assumes all the risk of loss. To protect themselves on this type of mortgage, lenders usually require either a 20% down payment or stipulate that the borrower must obtain private mortgage insurance.

Insured mortgages, such as those backed by the FHA mortgage insurance program, usually feature lower required down payments, below-market interest rates, few if any points, and relaxed income/debt ratio qualifications. In exchange for a mortgage insurance premium of 2.25% of the loan amount—which is paid by the borrower at closing or included in the mortgage—plus another .5% annual renewal fee, the FHA agrees to reimburse the lender in the event the buyer defaults.

Guaranteed loans, such as VA loans provided by the U.S. Veterans Administration, are insured loans but do not require the lender or the borrower to pay a premium for the guaranteed payment. Veterans are eligible for this type loan only one time, and essentially are able to make the purchase without a down payment. Closing costs and a 2% funding fee are usually required, however, but the rates on VA loans are usually about .5% below the rate of conventional fixed-rate loans.

5-22. It's not enough to look only at the interest rate when evaluating whether to refinance your mortgage. Other important factors would include your reasons for refinancing (reduce monthly payment or reduce total cost?), the terms of the new loan, the length of time you plan to stay in the home, prepayment penalties, and closing costs. Then you must analyze the refinancing by comparing the monthly savings for the new mortgage, using a format like Worksheet 5.4, and finding the point in time at which you would break even after fees.

Financial Planning Exercises

1. Janet should follow the following steps before making a major purchase, such as a car:

   a. *Research the purchase thoroughly.* Car manufacturers and dealers provide information in printed literature obtained from dealers' showrooms or from the manufacturers' or dealers' Web sites. Consumer sources of information include magazines and guides such as *Car and Driver, Kiplinger's,* and *Money.* Internet sources, such as Edmunds.com, provide pricing and model information on new and used vehicles, as well as links to other useful sites. If Janet currently owns a vehicle, she also needs to research its value so she can decide whether to sell it on her own or trade it in.

   b. *Select the car best suited to your needs.* Janet needs a car primarily to commute to work, so she should focus on vehicles which are fairly economical to operate and maintain, which handle well in traffic and that are suited for her driving conditions. She also should select a vehicle which will hold its value fairly well and which will be reliable.

   c. *Arrange favorable financing.* Janet should pull up Web sites such as bankrate.com to find institutions offering the best auto loan rates. She should also research the loan rates and terms available from local lenders as well as the leasing options available from car dealers and manufacturers. Using the various

rates and terms, she should then calculate how much car she can afford, given her $350 per month budget allotment and $2000 savings. She also should complete a lease vs. buy analysis to determine the best option for her. If she feels she should buy a car, then she should approach the most favorable lenders and get preapproval for a loan. If she feels she should lease a car, she should seek the most favorable terms.

d. *Negotiate the best price*. Armed with her knowledge of the market and her needs, Janet should then visit various dealers, test drive the vehicles which interest her, and negotiate prices. If she is considering a used car, whether from a dealer or an individual, she should arrange for a mechanic to inspect the car for problems. If she is considering trading in a car on the purchase, she should first negotiate the best deal on the new vehicle before mentioning that she has a possible trade in.

e. *Understand the terms of the sale.* Before she signs any contracts, Janet should thoroughly understand the terms of the sale. She should compare the written contract with the quoted terms to make sure she is getting exactly what was promised. She should also not allow the seller to hurry her or pressure her in completing the sale. At all times, she needs to remember that she is the one in charge of the sale and there are thousands of other suitable cars available if this deal isn't to her liking.

2. The Automobile Lease vs. Purchase Analysis form for Chris Svenson follows. The total cost of the lease (Item 9) is $15,372, while the total cost of the purchase (Item 18) is $15,808. Therefore, Chris should lease the car because it is the least expensive alternative.

[*Note*: This form is based upon assumed equal terms for the lease and the installment loan.]

AUTOMOBILE LEASE VERSUS PURCHASE ANALYSIS*

Name Chris Svenson Date 4/19/07

Item	Description		Amount
LEASE			
1	Initial payment:		
	a. Down payment (capital cost reduction): $ 0.00		
	b. Security deposit: 600.00	$	600.00
2	Term of lease and loan (years)*		3
3	Term of lease and loan (months) (Item 2 × 12)		36
4	Monthly lease payment	$	425.00
5	Total payments over term of lease (Item 3 × Item 4)	$	15,300.00
6	Interest rate earned on savings (in decimal form)		0.040
7	Opportunity cost of initial payment (Item 1 × Item 2 × Item 6)	$	72.00
8	Payment/refund for market value adjustment at end of lease ($0 for closed-end leases) and/or estimated end-of-term charges	$	0.00
9	**Total cost of leasing (Item 1a + Item 5 + Item 7 + Item 8)**	$	**15,372.00**
PURCHASE			
10	Purchase price	$	18,000.00
11	Down payment	$	2,400.00
12	Sales tax rate (in decimal form)		0.060
13	Sales tax (Item 10 × Item 12)	$	1,080.00
14	Monthly loan payment (Terms: 15,600.00, 36 months, 6 %)	$	474.58
15	Total payments over term of loan (Item 3 × Item 14)	$	17,084.96
16	Opportunity cost of down payment (Item 2 × Item 6 × Item 11)	$	288.00
17	Estimated value of car at end of loan	$	6,500.00
18	**Total cost of purchasing (Item 11 + Item 13 + Item 15 + Item 16 − Item 17)**	$	**14,352.96**

DECISION

If the value of Item 9 is less than the value of Item 18, leasing is preferred; otherwise the *purchase alternative is preferred.*

**Note:* This form is based on assumed equal terms for the lease and the installment loan, which is assumed to be used to finance the purchase.

3. Appraised value of the house = $105,000
   80% of the value = .80 x $105,000 = $84,000

   Required down payment
   at $100,000 selling price = ($100,000 – $84,000) = $16,000

4. If the Bacon family income is $4,000 per month:

   Maximum monthly payment they could afford: $1,200 ($4,000 x .30).
   Maximum total monthly installment loan payments: $1,520 ($4,000 x .38).

   If they are already paying $750 monthly on installment loans, the maximum mortgage payment they could make would be $770 ($1,520 – $750).

5. Using the generalization that with a 10% down payment, one could expect to spend an amount equal to 70% of the down payment for other closing costs, we can estimate that total closing costs would be around $16,150.

Down payment	=	.10 x $95,000	=	$9,500
Other closing costs	=	.70 x $9,500	=	$6,650
Estimate of total closing costs			=	$16,150

   This estimate would more than likely already include some amount of points paid on the home mortgage. Exhibit 5.9 shows an example of a typical breakdown of closing costs and includes an allowance for 3 points paid on a $90,000 mortgage ($100,000 purchase price less 10% down payment).

   To illustrate how points are calculated, one point equals one percent of the loan amount. Three points on a $95,000 home with 10% down would equal $2,565.

   Loan amount = Purchase price – Down payment = $95,000 – $9,500 = $85,500
   Total points = .03 x $85,500 = $2,565

   Total closing costs would include the down payment, any points paid on the mortgage, and other closing costs. Homebuyers should carefully shop for a loan, because even among lenders offering the same rate on the mortgage, it is possible to save several thousand dollars in closing costs.

6. Answers using text Exhibit 5.8 are listed first followed by answers obtained using the financial calculator set on End Mode and 12 payments/year:

   a. For a $80,000/6.5%/30 year loan

      $\frac{\$80,000}{\$10,000} = 8.0$ 8.0 x $63.21 = $505.68 payment

80,000 +/-	PV
6.5	I/YR
30 x 12	N
PMT	$505.65

b. For a $105,000/8%/20 year loan

$105,000 / $10,000	=	10.5	10.5 x $83.65 = $878.33 payment

105,000 +/-	PV
8	I/YR
20 x 12	N
PMT	$878.26

c. For an $95,000/10.5%/15 year loan

$95,000 / $10,000	=	9.5	9.5 x $110.54 = $1,050.13 payment

95,000 +/-	PV
10.5	I/YR
15 x 12	N
PMT	$1050.13

7. Rebecca's rent versus buy analysis is shown on Worksheet 5.2 on the following page and assumes a security deposit equal to one month's rent, a 4% after-tax return on investment and a 3% appreciation factor. Student assumptions may vary. The mortgage payment using Exhibit 5.8 is $525 ($75,000/10,000 = 7.5; 7.5 x 69.93 = $524.48 which rounds to $525). Using the financial calculator, the mortgage payment would be $524.41 (calculator on 12 P/YR and End Mode: 75,000 PV, 7.5 I, 360 N).

   Based on the costs of each option, buying the home is $2,020 less per year than renting ($7,800 – $5,780). (If students assume no appreciation, renting will be slightly cheaper.)

Problem 7—Worksheet 5.2

Note: Assume Rebecca's security deposit is equal to one month's rent of $625. Also assume a 4% rate on her savings and a 3% annual appreciation in home price.

RENT-OR-BUY ANALYSIS			
A. COST OF RENTING			
1. Annual rental costs (12 × monthly rental rate of $ 625)		$ 7,500	
2. Renter's insurance		275	
3. Opportunity cost of security deposit: $ 625 × after-tax savings rate 0.040		25	
Total cost of renting (line A.1 + line A.2 + line A.3)			$ 7,800
B. COST OF BUYING			
1. Annual mortgage payments (Terms: $ 75,000.00 , 360 months, 7.50 %) (12 × monthly mortgage payment of $ 524)	$ 6,293		
2. Property taxes (2.5 % of price of home)	2,125		
3. Homeowner's insurance (0.5 % of price of home)	425		
4. Maintenance (0.7 % of price of home)	595		
5. After-tax cost of interest on down payment and closing costs ($ 14,000 × 4.0 % after-tax rate of return)	560		
6. Total costs (sum of lines B.1 through B.5)		$ 9,998	
Less:			
7. Principal reduction in loan balance (see note below)	$ 668		
8. Tax savings due to interest deductions* (Interest portion of mortgage payments $ 5,625 × tax rate of 25 %)	1,406		
9. Tax savings due to property tax deductions* (line B.2 × tax rate of 25 %)	531		
10. Total deductions (sum of lines B.7 through B.9)		2,606	
11. Annual after-tax cost of home ownership (line B.6 − line B.10)		$ 7,393	
12. Estimated annual appreciation in value of home (3 % of price of home)		2,550	
Total cost of buying (line B.11 − line B.12)			$ 4,843

Note: Find monthly mortgage payments from Exhibit 5.9. An easy way to approximate the portion of the *annual* loan payment that goes to interest (line B.8) is to multiply the interest rate by the size of the loan. To find the principal reduction in the loan balance (line B.7), simply subtract the amount that goes to interest from total annual mortgage payments.

*Tax-shelter items, provided Rebecca itemizes deductions.

8. The Home Affordability Analysis (Worksheet 5.3) for Selena and Rodney Jackson follows. The maximum home they can afford is $120,600.

Problem 8—Worksheet 5.3

HOME AFFORDABILITY ANALYSIS*

Name Selena and Rodney Jackson Date June 16, 2007

Item	Description	Amount
1	Amount of annual income	$ 47,500
2	Monthly income (Item 1 ÷ 12)	$ 3,958
3	Lender's affordability ratio (in decimal form)	0.30
4	Maximum monthly mortgage payment (PITI) (Item 2 × Item 3)	$ 1,188
5	Estimated monthly property tax and homeowner's insurance payment	$ 125
6	Maximum monthly loan payment (Item 4 − Item 5)	$ 1,063
7	Approximate average interest rate on loan	8 %
8	Planned loan maturity (years)	30
9	Mortgage payment per $10,000 (using Item 7 and Item 8 and Table of Monthly Mortgage Payments in Exhibit 5.11)	$ 73.38
10	Maximum loan based on monthly income ($10,000 × Item 6 ÷ Item 9)	$ 145,616.44
11	Funds available for making a down payment and paying closing costs	$ 27,000
12	Funds available for making a down payment (Item 11 × .67)	$ 18,090
13	Maximum purchase price based on available monthly income (Item 10 + Item 12)	$ 163,706
14	Minimum acceptable down payment (in decimal form)	0.15
15	Maximum purchase price based on down payment (Item 12 ÷ Item 14)	$ 120,600
16	Maximum home purchase price (lower of Item 13 and Item 15)	$ 120,600

**Note:* This analysis assumes that ⅓ of the funds available for making the down payment and paying closing costs are used to meet closing costs while the remaining ⅔ are available for a down payment. This assumption means that closing costs will represent an amount equal to 50 percent of the down payment.

9. From text Exhibit 5.9, using a principal-amount factor of 7.5 ($75,000/$10,000):

a. For a 15-year, 7% fixed rate loan

7.5 x $89.88 = $674.10 monthly payment

Using the financial calculator set on End Mode and 12 payments/year:

75,000 +/-	PV
7	I/YR
15 x 12	N
PMT	$674.12

b. For a 30-year adjustable-rate mortgage at 2.5 points above the index rate of 4.5%, the first-year monthly payment would be based on 30 years at 7% (i.e., 2.5% + 4.5%)

7.5 x $66.53 = $498.98 monthly payment

Using the financial calculator set on End Mode and 12 payments/year:

75,000 +/-	PV
7	I/YR
30 x 12	N
PMT	$498.98

10. The Mortgage Refinancing Analysis for Lee Yang using Worksheet 5.4 appears below:

MORTGAGE REFINANCING ANALYSIS

Name: Lee Yang Date: August 18, 2006

Item	Description		Amount
1	Current monthly payment (Terms: 60,000; 9%; 25 yrs.)		$ 504.00
2	New monthly payment (Terms: 56,920; 6.5%; 21 yrs.)		415.00
3	Monthly savings, pretax (Item 1 – Item 2)		89.00
4	Tax on monthly savings [Item 3 x tax rate (15%)]		13.35
5	Monthly savings, after-tax (Item 3 – Item 4)		75.65
6	Costs to refinance:		
	a. Prepayment penalty	$ 0	
	b. Total closing costs (after-tax)	1,500	
	c. Total refinancing costs (Item 6a + Item 6b)		$ 1,500.00
7	Months to break even (Item 6c ÷ Item 5)		19.8 months

Given that Lee plans to remain in the condo for another 48 months and she will break even on the refinancing in about 20 months, she should go ahead and refinance the mortgage under the specified terms.

Solutions to Critical Thinking Cases

5.1 The McNeils' New Car Decision: Lease versus Purchase

1. The McNeils appear to have made a common mistake by focusing on the advertised payment figure for the lease. They should first do market research using consumer and automobile magazines, dealer information, and information off the Internet to decide what type of car best suits their needs in terms of style, price range, options, reliability, and operating costs. Rather than jumping to a conclusion based on the monthly lease payment, they should comparison shop and choose from several possibilities.

2. The McNeils need to consider many factors before visiting the dealer. As mentioned in question 1, they should visit several dealers and find out the cost of the cars they have chosen, without discussing whether they wish to lease or finance the purchase. Then they can accurately calculate the total cost of each option. They should also talk to an independent leasing dealer to determine the cost of leasing any of the models they like. Other important considerations are discussed in question 3 (b).

   The advantages of leasing include no down payment (or a small one) and a lower monthly payment than required to finance the car. This may make it possible to lease a nicer car than you could buy. On the other hand, the lease payments only cover a portion of the car's cost, so you don't own the car at the end of the lease period. Leases are costly to break if your needs change, and extra costs for wear and tear, excess mileage, or an unguaranteed residual may increase the costs at the end of the lease term.

3. a. The McNeils' lease versus purchase analysis is on the following page. Leasing the car results in cost savings of $927.

   b. Other considerations include how long the McNeils plan to keep the car, the mileage allowance, definition of wear and tear, and end-of-lease fees.

   c. The McNeils should lease the car based on the cost analysis. However, if they feel they would like to keep the car longer than 4 years, they might consider buying. If they are uncertain about any of the lease terms, such as keeping the car for the full term, they should buy. They should shop around to find a loan with a lower interest rate, which would make purchasing more attractive and see whether they can earn more than 3% after tax on the down payment.

Case 5.1, Problem 3a—Worksheet 5.1

AUTOMOBILE LEASE VERSUS PURCHASE ANALYSIS*

Name Kevin and Brigit McNeil Date September 8, 2007

Item	Description		Amount
LEASE			
1	Initial payment:		
	a. Down payment (capital cost reduction):	$ 0.00	
	b. Security deposit:	245.00	$ 245.00
2	Term of lease and loan (years)*		4
3	Term of lease and loan (months) (Item 2 × 12)		48
4	Monthly lease payment		$ 245.00
5	Total payments over term of lease (Item 3 × Item 4)		$ 11,760.00
6	Interest rate earned on savings (in decimal form)		0.030
7	Opportunity cost of initial payment (Item 1 × Item 2 × Item 6)		$ 29.40
8	Payment/refund for market value adjustment at end of lease ($0 for closed-end leases) and/or estimated end-of-term charges		$ 350.00
9	**Total cost of leasing (Item 1a + Item 5 + Item 7 + Item 8)**		$ **12,139.40**
PURCHASE			
10	Purchase price		$ 17,000.00
11	Down payment		$ 2,000.00
12	Sales tax rate (in decimal form)		0.060
13	Sales tax (Item 10 × Item 12)		$ 1,020.00
14	Monthly loan payment (Terms: 15,000.00, 48 months, 5 %)		$ 345.44
15	Total payments over term of loan (Item 3 × Item 14)		$ 16,581.09
16	Opportunity cost of down payment (Item 2 × Item 6 × Item 11)		$ 240.00
17	Estimated value of car at end of loan		$ 6,775.00
18	**Total cost of purchasing (Item 11 + Item 13 + Item 15 + Item 16 − Item 17)**		$ **13,066.09**

DECISION

If the value of Item 9 is less than the value of Item 18, leasing is preferred; otherwise the *purchase alternative is preferred.*

**Note:* This form is based on assumed equal terms for the lease and the installment loan, which is assumed to be used to finance the purchase.

5.2 Evaluating a Mortgage Loan for the Schmidts

1. If the Schmidts purchase the $115,000 home:

Down payment	=	$115,000 x .20	=	$23,000
Mortgage	=	$115,000 – 23,000	=	$92,000
Other costs:				
Points	=	.02 x $92,000	=	$ 1,840
Other closing costs	=	.05 x $115,000	=	5,750
Total closing costs				$ 7,590
Plus: Down payment				23,000
Cash to close				$30,590

The Schmidts have saved $24,000—enough for the down payment and $1,000 of the closing costs, but they would be short $5,590 of the total closing cost requirement. In addition, they would be unable to meet many other costs associated with buying and moving into a new home. This financing strategy is clearly unaffordable for the Schmidts.

2. With a $15,000 down payment and $100,000 mortgage, closing costs would be:

Points	=	.03 x $100,000	=	$ 3,000
Other closing costs	=	.05 x $115,000	=	5,750
Total closing costs				$ 8,750
Plus: Down payment				15,000
Cash to close				$ 23,750

The total cash needed to close the transaction is less than the $24,000 the Schmidts have available, making this option feasible for them.

Using text Exhibit 5.11, their monthly mortgage payment at 7%, 30 years is:

$66.53 x $100,000/$10,000 = $665.30

Using the financial calculator (set on End Mode and 12 payments/year):

100,000 +/-	PV
30 x 12	N
7	I/YR
PMT	$665.30

No information has been provided about any other installment debt, so the affordability ratio would consider only their monthly mortgage payment relative to their $3,500 monthly income ($42,000/12).

$$\text{Affordability ratio} = \frac{\$665.30}{\$3,500} = 19\%$$

This is well within the required 28% guideline, so the lender should be willing to make the loan.

3. Loan-to-value ratio = $\frac{\$100,000}{\$115,000}$ = 87%

Total monthly mortgage payment (PITI):

Mortgage payment	$665.30
Insurance ($800/12)	66.67
Taxes ($2,500/12)	208.33
Total payment–PITI	$940.30

The affordability ratio using the total payment is well below the usual total monthly payment affordability guideline of 33 to 38%.

Affordability ratio = $\frac{\$940.30}{\$3,500}$ = 27%

4. It appears that given the Schmidts' available savings and level of income, they can afford this home. They should go ahead with the purchase. However, they should budget carefully to allow for the additional expenses associated with moving and with repairing and maintaining a home.

5.3 Julie's Rent-or-Buy Decision

1. The solution to the rent-or-buy analysis using Worksheet 5.3 follows. Excluding the effect of appreciation in the value of the condo, Julie should buy because her annual ownership cost would be $8,575 (see line B.11), while the annual rental cost would be $11,386.

2. Including the expected rate of appreciation for the condo further lowers its annual cost. With 3.5% appreciation, the annual cost of the condo declines by $4,375 (.035 x $125,000) in the first year. This lowers the annual ownership cost to $4,200 (see final line). Julie should definitely buy the condo, since its annual cost with appreciation is far below that of renting.

3. The qualitative factors Julie should consider include the pride of home ownership and security—benefits that renting does not offer. Purchasing also builds value and savings, while renting does not. On the other hand, home ownership is costly in several non-monetary ways: the owner is totally responsible for its upkeep and repairs. A renter can merely dispatch the landlord to make and pay for work that needs to be done. But, is the landlord good about fixing things? That is another problem. How long does she plan to live there? What is the resale market for condos? What are her future plans and will the condo be suitable for her on down the road?

4. In light of the above analysis, Julie should definitely buy the condo, assuming she qualifies for the loan. The annual after-tax cost of $4,200 is less than half the $11,386 annual cost of renting. The condo offers her appreciation potential, and her mortgage payments will be fixed (except for insurance and taxes). While certain operating costs may be greater in the condo than in the apartment, other benefits of ownership far outweigh this factor.

Case 5.3—Worksheet 5.2

Note: Assume Julie's security deposit is equal to one month's rent of $900.

Note: Find monthly mortgage payments from Exhibit 5.9. An easy way to approximate the portion of the *annual* loan payment that goes to interest (line B.8) is to multiply the interest rate by the size of the loan. To find the principal reduction in the loan balance (line B.7), simply subtract the amount that goes to interest from total annual mortgage payments.

*Tax-shelter items, provided Julie itemizes deductions.

RENT-OR-BUY ANALYSIS			
A. COST OF RENTING			
1. Annual rental costs (12 × monthly rental rate of $ 900)		$ 10,800	
2. Renter's insurance		550	
3. Opportunity cost of security deposit: $ 900 × after-tax savings rate 0.040		36	
Total cost of renting (line A.1 + line A.2 + line A.3)			$ 11,386
B. COST OF BUYING			
1. Annual mortgage payments (Terms: $ 100,000.00 , 180 months, 7.00 %) (12 × monthly mortgage payment of $ 899)	$ 10,786		
2. Property taxes (2.5 % of price of home)	1,200		
3. Homeowner's insurance (0.5 % of price of home)	600		
4. Maintenance (0.5 % of price of home)	625		
5. After-tax cost of interest on down payment and closing costs ($ 29,000 × 4.0 % after-tax rate of return)	1,160		
6. Total costs (sum of lines B.1 through B.5)		$ 14,371	
Less:			
7. Principal reduction in loan balance (see note below)	$ 3,786		
8. Tax savings due to interest deductions* (Interest portion of mortgage payments $ 7,000 × tax rate of 25 %)	1,750		
9. Tax savings due to property tax deductions* (line B.2 × tax rate of 25 %)	300		
10. Total deductions (sum of lines B.7 through B.9)		5,836	
11. Annual after-tax cost of home ownership (line B.6 − line B.10)		$ 8,535	
12. Estimated annual appreciation in value of home (3.5 % of price of home)		4,375	
Total cost of buying (line B.11 − line B.12)			$ 4,160

Chapter 6

Using Credit

Chapter Outline

Learning Goals

I. The Basic Concepts of Credit
- A. Why Use Credit?
- B. Improper Uses of Credit
- C. Establishing Credit
  1. First Steps in Establishing Credit
  2. Build a Strong Credit History
  3. How Much Credit Can You Stand?
  4. The Special Credit Problems of Women

Concept Check

II. Credit Cards and Other Types of Open Account Credit
- A. Bank Credit Cards
- B. Important Features
  1. Line of Credit
  2. Cash Advances
  3. Balance Transfers
  4. Interest Charges
  5. Then There Are These Other Fees
- C. Special Types of Bank Credit Cards
  1. Reward Cards
  2. Affinity Cards
  3. Secured Credit Cards
  4. Student Credit Cards
- D. Retail Charge Cards
- E. Debit Cards
  1. Prepaid Cards
- F. Revolving Credit Lines
  1. Overdraft Protection
  2. Unsecured Personal Lines
  3. Home Equity Credit Lines

Concept Check

III. Obtaining and Managing Open Forms of Credit
- A. Opening an Account
  1. The Credit Application
  2. The Credit Investigation
  3. The Credit Bureau

B. The Credit Decision
C. Computing Finance Charges
D. Managing Your Credit Card
  1. The Statement
  2. Payments
  3. Returned Merchandise
Concept Check

IV. Using Credit Wisely
A. Shop Around for the Best Deal
B. Avoiding Credit Problems
C. Credit Card Fraud
D. Bankruptcy: Paying the Ultimate Price for Credit Abuse
  1. Wage Earner Plan
  2. Straight Bankruptcy
E. Using the Services of a Credit Counselor
Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
How's Your Credit?
Contemporary Case Applications
6.1 The Alvarados Seek Some Credit Card Information
6.2 Michelle Starts Over After Bankruptcy
Money Online

Major Topics

Managing credit is an important part of personal financial planning. Consumer credit can be used in one form or another to purchase just about every type of good or service imaginable. It is a convenient way to make transactions, but when consumer credit is misused it can lead to real problems. It is important for you to understand where consumer credit fits into your financial plans so that it is used wisely. This chapter covers the following major topics:

1. Consumer credit enables the user to pay for relatively expensive purchases, to deal with financial emergencies, and to enjoy the convenience of using credit.
2. Disadvantages to using consumer credit generally arise from abuse of credit—people borrow more than they can handle—and this can eventually lead to bankruptcy.
3. Open account credit is the most popular form of consumer credit. It is provided by banks, stores, and other merchants and includes bank credit cards, retail charge cards, travel and entertainment cards, and personal revolving credit lines, which include overdraft protection and home equity loans.
4. Formal application for open account credit involves a credit investigation; a credit report will probably be obtained from one of the major credit bureaus.

5. Finance charges are typically based on a variation of the average daily balance method.
6. Using open account credit wisely involves choosing the right card or line of credit, avoiding credit problems and fraud, and not abusing credit.

Key Concepts

Open account credit is a very important concept in the understanding of your personal financial plan. Improper use of this type of credit can lead to disaster, but wise use of open account credit can help you implement your overall plan. To understand the application of open account credit, you should understand some of the key terminology, including the following terms:

1. Debt safety ratio
2. Credit history
3. Credit limit
4. Bank credit cards
5. Retail charge cards
6. Cash advance
7. Debit cards
8. Revolving line of credit
9. Overdraft protection
10. Home equity credit lines
11. Credit, character and capacity
12. Credit bureau
13. Credit scoring
14. Finance charges
15. Consumer credit legislation
16. Credit card fraud
17. Personal bankruptcy
18. Credit counseling

Answers to Concept Check Questions

6-1. People typically borrow money to pay for items or services that cost more than the consumer can afford to pay out of current income. By spreading payments over time, expensive items become more affordable, and as a result, consumers can obtain the immediate use of an asset without having to fully pay for it for many years. Other reasons for borrowing include:

- *Financial emergencies*—when unexpected expenses arise;
- *Convenience*—it can be easier to pay with a credit card than by writing a check;
- *Investment purposes*—when investors partially finance the purchase of securities with borrowed funds.

The biggest danger in borrowing is overspending. Credit is so easily available it is not all that difficult to spend beyond your means. This, of course, can lead to serious financial strain (as it becomes harder and harder to repay the growing debt load) and ultimately bankruptcy. Usually, such problems are brought on by

improperly using credit; i.e., by using credit to: (1) meet basic living expenses; (2) make impulse purchases (especially the expensive ones); (3) purchase a lot of nondurable (short-lived) goods and services; and (4) use one form of credit to make payments on other debt.

6-2. As a general guideline, your monthly debt repayment burden should not exceed 20% of your monthly take-home pay.

6-3. To measure how you are doing, the consumer credit industry employs the *debt safety ratio,* this is computed as:

$$\text{Debt Safety Ratio} = \frac{\text{Total Monthly Consumer Credit Payments}}{\text{Monthly Take-Home Pay}}$$

6-4. To establish a good credit rating:

- Use credit only when you an afford it and only when the repayment schedule fits comfortably into the family budget—in short, do not over-extend yourself.
- Fulfill all the terms of the credit.
- Be consistent in making payments on time.
- Consult creditors *immediately* if you cannot meet payments as agreed.
- Be truthful when applying for credit—if you are not, you may have some explaining to do to reconcile what you say with what your credit record has to say about you.
- A woman should always use her own name in filing a credit application, and she should maintain her own credit file, separate from her husband's.

6-5. *Open account credit* is credit extended to a consumer in advance of any transactions. Credit is extended as long as the consumer does not exceed the established credit limit and payments are made in accordance with the terms specified. Financial institutions and retail stores are the main providers of open account credit, which can be in the form of bank credit cards, retail charge cards, 30-day charge accounts, travel and entertainment cards, and revolving lines of credit. Typically, a store or bank agrees to allow the consumer to buy or borrow up to a specified limit on open account.

6-6. A *line of credit* is the maximum amount that the holder of a credit card can owe at any time. The amount of the line is set by the issuer based upon an investigation of the applicant's credit and financial status and upon the applicant's request. Lines of credit offered by issuers of bank cards can reach $25,000 or more, but for the most part, they range from $2,000 to $5,000. A line of credit is a customary part of bank credit cards and many types of retail charge cards (e.g., cards issued by major department stores); however, some charge cards (like gasoline credit cards) do not come with lines of credit, nor do travel and entertainment cards—whatever has been charged on these cards has to be *paid in full* in the next billing cycle.

6-7. Reward cards combine traditional bank or T&E card features with a special incentive, such as frequent flier miles or rebates on cars or other merchandise based on purchases up to a limit. Unless you charge a lot and pay balances in full, however, these cards may not make sense, as they often carry higher interest rates.

6-8. You can use your credit card to obtain a cash advance in exactly the same way you do to purchase any other service or piece of merchandise. You present your card at the teller window of any participating bank (or other financial institution), and along with proper identification, can obtain a cash advance of just about any amount you want, so long as you do not exceed your credit limit—though some banks may have limits as to how much they will advance to non-customers. Alternatively, you can use your card at any participating ATM to obtain cash advances, though the amount of such advances is usually limited to some nominal amount (of, say, $200 or $300). There is usually a fee for a cash advance, regardless of how it is obtained. However, ATMs may change an additional fee for using the service of the machine.

6-9. Most issuers now use a variable rate tied to the prime rate—prime plus a certain amount with stated minimum and maximum rates.

6-10. Generally, interest starts accruing immediately on cash advances and many times at a higher rate than that charged on purchases. If you pay your balance in full every month, most purchases will not be charged interest whereas cash advances will. Additionally, a cash advance usually incurs a fee, so effectively the cost of a cash advance can be significantly higher than that of a purchase.

6-11. Many bank credit card issuers impose fees besides the finance charge. These include:

a. *Annual fees* for the "privilege" of being able to use certain credit cards. These fees usually range between $25 and $40.
b. *Transaction fees* for cash advances. These are normally about $5 per cash advance or three percent of the amount obtained, whichever is higher. *Balance transfers* are a type of cash advance and may also incur fees.
c. *Late-payment fees* and *over-the-limit charges* are also added by some cards.
d. *Inactivity fees* are now being assessed by some cards on customers who do not use their cards within a given period.
e. *Foreign transaction fees* may be assessed when you use your card in a foreign country.

In addition to fees, many cards reserve the right to increase the interest rates they charge you if you are late on your payments or do not pay the minimum amounts. The true or effective cost of borrowing must reflect all costs involved and not just the interest charges. So obviously, all of these fees add to the effective cost of borrowing.

6-12. A *debit card* provides direct access to your checking account and works just like writing a check. When you use the debit card, the amount of the purchase is deducted directly from your checking account. It is similar to a credit card in that

it looks like a credit card and is presented in the store just like a credit card. It differs from a credit card in that it does not provide credit or deferred payment.

6-13. *Revolving lines of credit* are a form of open account credit that are offered by banks and some other financial institutions. The borrower accesses the funds by writing checks rather than using a credit card.

6-14. You receive an advance on an *overdraft line* if you write a check that overdraws your checking account. Then the overdraft protection line will automatically advance the funds necessary to put the account back into the black. While a separate line of credit might be set up at the bank to handle the overdraft protection, it is becoming increasingly common today to simply link the bank's credit card to your checking account (then, if your checking account becomes overdrawn, the bank simply taps your credit card line and transfers the necessary funds to your checking account).

6-15. A *home equity credit line* is a personal line of credit that is secured with a second mortgage on the borrower's home. This means that a family can borrow against the equity in their home. The typical home equity credit line has a minimum of $10,000 in available credit and an advance period of 5 to 20 years during which the homeowner then taps into the credit by writing a check or using a special credit card. At the end of the advance period, borrowing must stop and the credit must be repaid over a period of 10 to 20 years.

6-16. *Credit scoring* is where values will be assigned to such factors as age, annual income, marital status, length of employment, whether the applicant owns or rents a home, etc. These variables lead to an overall "credit score;" if the score equals or exceeds a predetermined minimum, the applicant will be given credit; if not, the credit will be refused (though *borderline* cases may be granted credit on a limited basis). In essence, credit scoring is a highly mechanical process whereby the credit decision itself is based largely on the credit score obtained.

6-17. A *credit bureau* is a type of reporting agency that gathers and sells information about individual borrowers. Lenders who do not know you personally use credit bureaus as a cost-effective way to verify your employment and credit history. There are three sources of credit bureau information: creditors who subscribe to the bureau, other creditors who supply information at your request, and publicly recorded court documents. The information gathered usually includes:

- Your name, social security number, age, number of dependents, and current and previous addresses;
- Your employment history;
- Your credit history, including loans, credit cards, payment records, and account balances;
- Public court records;
- Names of financial institutions that have recently requested your credit information.

By law, if the information in your credit bureau report is incorrect, it must be deleted and lenders receiving the report within the last six months must be notified of the correction. You should notify the credit bureau in writing of the error, including proof to verify your claim; then request a copy of the report to make sure the correction was made. If there is a dispute that cannot easily be settled, you are entitled to add to your file a short statement giving your side of the story. Your explanation must be included with future lender reports.

6-18. Most bank and retail charge card issuers use one of four variations of the *average daily balance (ADB) method*, which applies the interest rate to the average daily balance of the account over the billing period. According to Bankcard Holders of America, a non-profit consumer education organization, the most common method (used by an estimated 95 percent of bank card issuers) is the *average daily balance including new purchases.*

6-19. The *monthly statement* shows all transactions, payments, account balances, finance charges, credit available, and the required minimum payment. Merchandise and cash advance transactions are often separated on these statements, as different interest rates may be used to calculate the interest on them, and the interest usually starts to accrue immediately on cash advances.

6-20. When choosing a credit card, you should compare annual fees, rates of interest, grace periods, how balances are calculated, and additional fees. You should also look at your spending patterns. If you pay off balances each month, look for no annual fees and a long grace period—even if that means choosing a card with a high rate of interest (which does not affect you since you do not carry balances anyway). However, if you normally carry a high credit balance, then look for cards that charge a *low rate of interest* on unpaid balances, even if that means you have to pay an annual fee on the card, and avoid two-cycle balance calculations. For rebate cards, calculate the annual cost with and without the incentive, based on your own spending habits, to see whether the incentive is worth having or not.

6-21. Steps to avoid credit problems include exercising discipline when using credit, limiting the number of credit card accounts you have, and reducing the number of cards you carry. Many problems can be resolved simply by calling the credit card company and speaking with their representative. If you do run into problems paying off credit card balances, first stop using your credit cards until you pay off the balances, paying off the highest interest cards first. It may make sense to transfer balances from higher-interest cards to a lower-interest card or to consolidate the loans and use a home equity line to repay the balances. However, using home equity can be risky—if you don't change bad credit habits, you could lose your home.

6-22. The biggest source of credit card fraud is *stolen account numbers*—usually obtained by dishonest employees or thieves going through an establishment's trash. Some things that you can do to reduce your chances of being a victim of credit card fraud are:

- *Never* give your credit card account number over the phone *to people who call you.*
- When paying for something by check, *never* put your credit card account number on the check, and do not let the store clerk do it either.
- *Never* put your phone number or address on credit/charge slips.
- When using your card to make a purchase, always keep your eye on your card.
- Draw a line through any blank spaces on a credit card slip so the totals cannot be altered.
- Destroy all carbon copies and old credit card slips.
- If your card is lost or stolen, report it to the card issuer immediately.
- Use only secure sites when using your card for Internet purchases.

6-23. A *wage earner plan (Chapter 13)* is a plan for scheduled debt repayment over future years. It may be a viable alternative to straight bankruptcy when a person has a steady source of income and has a reasonable chance to repay his or her debt in three to five years. In this instance, the debtor retains the use of, and keeps title to, all of his or her assets.

Straight bankruptcy (Chapter 7), in contrast, is a legal procedure that results in "wiping the slate clean and starting anew." The debtor is released of the majority, but not all, of his or her indebtedness and also relinquishes possession of or equity interest in the majority, but again not necessarily all, of his or her assets. This procedure is usually viewed as more severe than a wage earner plan.

Financial Planning Exercises

1. Janet is wise to begin establishing a good credit history early. She should start by opening bank accounts (checking and savings) and applying for a few credit cards. She should use these cards sparingly and pay bills promptly. Having a student loan helps establish her credit history, as by making payments on time, she demonstrates her ability to meet her loan obligations.

2. If Brett makes payments of $410 and his take-home pay is $1,685, his debt safety ratio is $410/$1,685 = .24 or 24%, which is slightly above the maximum suggested limit of 20%; as such, Joel should be cautious about incurring any more debt before he pays off his current obligations.

   If his take-home pay were $850 and his payments were $150 per month, his debt safety ratio would be $150/$850 = .18 or 18%, which is within the recommended guidelines. However, 18% is close to the maximum suggested limit of 20%, so Brett would do well to try to reduce his debt load.

3. Students will calculate their own debt safety ratios using the following equation:

$$\text{Debt Safety Ratio} = \frac{\text{Total Monthly Consumer Credit Payments}}{\text{Monthly Take-Home Pay}}$$

Then they should comment on their personal credit situation based on the ratio (low = 10%, manageable = 15%, and maximum = 20%) and describe any corrective actions they must take.

4. Sandra's consumer debt safety ratio is calculated as follows: Use worksheet 6.1.

Type of Loan	Mo. Payment
Auto loan	$ 380
Dept. store charge card	60
Bank credit card	85
Home equity line of credit	120
Total Monthly Payments	**$ 645**

$$\text{Debt Safety Ratio} = \frac{\text{Total Monthly Consumer Credit Payments}}{\text{Monthly Take-Home Pay}}$$

$$= \frac{\$645}{\$3{,}320}$$

$$= 19.4\%$$

If Sandra wants her debt safety ratio to be only 12.5% of her current take-home pay, she must reduce her total monthly payments to $415 ($3,320 x .125).

If Sandra wants her current consumer debt load to equal 12.5% of take-home pay, then she would have to increase her take-home pay to $5,160 ($645 = 0.125 x Take-home pay or Take-home pay = $645 ÷ 0.125)

MONTHLY CONSUMER LOAN PAYMENTS & DEBT SAFETY RATIO

Name Sandra Adams **Dated** May 12, 2007

Type of Loan*	Lender	Current Monthly (or Min.) Payment
• *Auto and Personal loans*	1. Bob's New Cars	$ 380.00
	2.	
	3.	
• *Education loans*	1.	
	2.	
• *Overdraft Protection Line*	1.	
• *Personal line of credit*	Today's Bank	120.00
• *Credit Cards*	1. Today's Bank	85.00
	2. Our Local Store	60.00
	3.	
	4.	
• *Home Equity Line*	1.	
	TOTAL MONTHLY PAYMENTS	$ **645.00**

*__Note:__ List only those loans that require regular monthly payments.

Monthly Take-Home Pay		
	1. Big Corporation	$ 3,320.00
	2.	
	TOTAL MONTHLY TAKE HOME PAY	$ **3,320.00**

Debt Safety Ratio:

$$\frac{\text{Total monthly payments}}{\text{Total monthly take-home pay}} \times 100 = \frac{\$\ 645.00}{\$\ 3{,}320.00} \times 100 = \mathbf{19.4}\ \%$$

• *Changes needed to reach a new debt safety ratio*

1. New (Target) debt safety ratio: 12.5%

2. At current take-home pay of $ 3,320 ,
   total monthly payments must equal:

   Total monthly take-home pay × Target debt safety ratio**

   $ 3,320 × 12.5% = $ **415**

   New Monthly Payments

OR

3. With current monthly payments of $ 645.00 ,
   total take-home pay must equal:

$$\frac{\text{Total monthly payments}}{\text{New (target) debt safety ratio}} \times 100 = \frac{\$\ 645.00}{\$\ 12.5\%} = \$\ \mathbf{5{,}160}$$

New take-home pay

**__Note:__ Enter debt safety ratio as a decimal (e.g., 15%–0.15).

5. Assuming that the latest balance on Mary's overdraft account is $862, and with a minimum monthly payment of 5% of the latest balance, her payment on the overdraft account would be:

$$\$862 \text{ x } 5\% = \$862 \text{ x } .05 = \$43.10$$

or $45, when rounded to the nearest five dollar figure.

6. If Don and Judy have a home appraised at $180,000 and a mortgage balance of only $90,000, they have equity in the home of $90,000 ($180,000 – $90,000). If an S&L will lend money on the home at a loan-to-value ratio of 75%, the S&L would be willing to lend up to $135,000, or .75 x $180,000. Subtracting the first mortgage of $90,000, *the Nesbits could qualify for a home equity loan of $45,000.*

   According to the latest provisions of the tax code, all of the interest paid on their home equity loan would *be fully deductible* (for federal tax purposes). It makes no difference what the house originally cost; the only thing that matters is that the amount of indebtedness on the house not exceed its fair market value (which is virtually impossible given a loan-to-value ratio of 75%). Other than that, a homeowner is allowed to fully deduct the interest charges on home equity loans of up to $100,000; since the Nesbits' home equity line is within this limit (theirs is a $45,000 line), the interest on it is fully deductible.

   Note: under current tax laws, the total amount of itemized deductions as reported on Schedule A may be reduced for taxpayers with adjusted gross incomes greater than a certain level. Also, if taxpayers do not itemize deductions and take the standard deduction instead, the tax deductibility feature of a home equity loan would not make a different in the amount of taxes owed.

7. If Sylvia has a balance of $380 on her retail credit card, the calculation of the monthly interest on her account would be:

$$\$380 \text{ x } (21\% \div 12) = \$380 \text{ x } 0.0175 = \underline{\underline{\$6.65}}$$

   This calculation assumes that the balance was computed by the average daily balance method.

8. If Sanjiv plans to pay his balance in full each month, the interest rate on his credit card would not matter. Virtually all cards do not charge a fee if the cardholder's balance is paid in full each billing cycle, provided no late fees or over-the-limit fees apply. Therefore, he would go with the card which does not have an annual fee.

   However, if he knows he will carry a significant balance from one billing cycle to the next, he may well be better off with the card that charges an annual fee and a lower interest rate. The higher his balance, the more attractive such a card would become. However, several words of caution are in order here. If a credit card uses

the two-cycle average daily balance including new purchases method of computing the balance on which to apply the interest rate, the cardholder's effective rate of return is likely to be *much* higher than the stated rate, depending on the timing of when charges and payoffs are made. Knowing the balance method in addition to the rate charged is crucial to making a good financial decision.

9. Donna has a fairly large balance of $12,500 on her credit cards. If her current cards charge her 12% per year, she would be paying $1500/year or $125/month ($12,500 x .12/12) in interest on this amount. Therefore, if she feels she would not be able to pay off this balance fairly rapidly, she might indeed wish to transfer her balance to a 0% interest rate card for 9 months. If such a card charges a 2% transfer fee, she would pay $250 to transfer her $12,500 balance. She would have paid that amount in interest in 2 months anyway by leaving her balance with her old cards. Most cards have a maximum amount charged to transfer a balance, such as $65 or $75. However, since Donna has multiple cards, she might be charged that maximum several times. Donna should call the customer service number on the new credit card offer, explain her situation, and ask them to calculate what her fees would be to transfer the balance. She should also inquire what the regular rate will be on the new card, because she will have to pay that on her unpaid balance once the special offer time period is over. She should also be aware that if she pays late on such an offer, many times the rate will automatically go up to the card's regular rate and even higher if she has several late pays.

10. The calculation of Alan's interest is as follows:

	Number of Days (1)	**Balance (2)**	**(1) x (2) = (3)**
Previous balance	4	$386	$ 1,544
Purchases and payments:			
June 5–12 balance ($386 + $137)	8	523	4,184
June 13–20 balance ($78 + $523)	8	601	4,808
June 21 balance ($98 + $601)	1	699	699
June 22–26 balance ($699 – $35)	5	664	3,320
June 27–30 balance ($75 + $664)	4	739	2,956
			$17,511

Average daily balance $= \frac{\$17{,}511}{30} = \$583.70$

Finance charge = $583.70 x (0.15 ÷ 12) = $583.70 x .0125 = $7.30

11. *Credit cards* provide a line of credit and can be used worldwide as well as on the Internet to make purchases or pay for services. Credit cards also allow the holder to obtain cash advances, either from a financial institution or at an ATM machine. Other features offered by credit cards may include a buyer protection plan on merchandise purchased with the card, travel accident insurance, auto rental insurance coverage or

other added attractions, such as a rebates or frequent flyer miles. Even though most credit cards carry a fairly high interest rate, cardholders who pay their balance in full each month usually pay no interest or finance charges. So in essence, such card users are the beneficiaries of a short, free loan each month. The main drawback to credit cards is the tendency of some cardholders to overspend, go into debt and incur high interest charges.

Debit cards do not provide credit, but rather are like writing a check. Purchases on debit cards come directly from one's checking account and therefore incur no finance charges. People who have difficulty managing credit many times prefer a debit card because they are not as tempted to overspend. However, some merchants charge a fee to debit card users, and some issuers charge transaction fees. Debit cardholders can have overdraft problems when they fail to record transactions in their checkbooks

Mark would be a convenience user of either type card. He is a disciplined spender and probably would not be tempted to overspend. He likely will not need credit for emergency purposes, either, as he has a sizeable emergency fund of $7,500 built up.

Mark might want to consider a credit card with a rebate or frequent flyer miles. With his disciplined approach to spending, he could charge purchases, pay them in full each month, and rack up points or miles. Also, when a credit card is stolen, the most the cardholder can be out is $50. When a debit card is stolen, the cardholder can possibly lose a lot more, plus the money has been removed from his or her account and the burden falls to the cardholder to get the money restored to his or her account. In the meantime, before the money is restored the debit cardholder is denied use of his or her funds. On the other hand, if fraudulent charges appear on one's charge card statement, the credit cardholder contests the charges and doesn't pay the bill.

12. Jean should immediately notify the credit card issuer of any charges on her statement which are not hers. The customer service representative of the issuing card can give her more information concerning the purchases so that she can determine if she indeed made them and forgot or if they are fraudulent. Her liability would be limited to $50 on any charges she did not make.

13. The 5 Cs of credit are character, capacity, collateral, capital, and condition. Refer to the "Financial Road Sign" on p. 178.
    a. Rhett certainly seems to be a person of great *character*. He was active in clubs and community service while in college, serving frequently in a leadership role.
    b. His *capacity* to service a loan would depend on his other sources of income. We are not told if he has another job lined up or not. If he has other income, that would greatly increase his capacity to repay the loan, particularly since he has no other debts to service. However, if he does not have other income, the $10,000 expected cash flow from his investment is certainly not enough for him to live off of plus pay on his loan.
    c. Rhett might consider offering his car as *collateral* for this loan, since he owns it free and clear. Backing a loan with collateral would likely allow him to obtain a much lower interest rate on the loan, since the bank would have an asset to seize in the event he did not repay his loan as promised. The lower the interest rate, the less it

would cost Rhett to service his loan, which in turn would also increase his *capacity* to repay the loan.

d. Rhett has a fair amount of *capital* for a young person who has just completed college. He owns his car, which is valued at $8,000, plus he has $4,000 in savings. This should be a positive for him.

e. However, the current *condition* of the economy will probably work against Rhett. Even though an economic recovery is predicted soon, it may not be soon enough for Rhett's business to generate the cash flow he anticipates. A high percentage of new businesses fail in the first year, and a slow economy usually increases the likelihood of failure.

Solutions to Critical Thinking Cases

6.1 The Alvarados Seek Some Credit Card Information

1. Alberto and Sabina should expect to provide information with respect to family, housing, employment and income, assets and liabilities, existing charge accounts and credit references. They should provide this information as honestly, accurately, and thoroughly as possible, because it will be verified in the process of the credit investigation.

2. The bank will analyze and verify the accuracy of the data in the credit application. It will likely get a credit report from a credit bureau in order to check on past payment habits. Further investigation by the bank may involve contacting references listed on the credit application. Generally, only in the case where a credit report cannot be obtained or when the credit report is marginal will the bank check credit references.

3. The bank may use subjective techniques to evaluate and assess the applicant's credit worthiness, or they may use some type of *credit scoring scheme.* In the credit scoring approach, the bank assigns values to certain factors and then calculates a credit score. This score can then be compared to predetermined values in order to decide whether or not to extend the requested credit. Regardless of what techniques are used, the bank will ultimately make a decision to accept, reject, or issue some type of restricted credit. Applicants are notified of the decision, and those who are granted credit are sent a personalized credit card along with materials describing the credit terms and procedures to be used.

4. The Alvarados should understand that a credit card is a powerful tool that can provide them with many of the things they want. At the same time, if it is not used properly, they can get into a lot of financial trouble. They should make sure that the goods and services they charge on their cards fit into their needs as expressed in their financial plans. If they use the credit card for everyday needs, then they should pay off the entire balance each month. This means that they are living within their budget and are just using the credit card for convenience. If they make a substantial purchase with the card, they should know beforehand how the purchase fits into their financial plans and how the payments are to be met. Any use of the card as a way of buying permanent goods or expensive services must

not damage their long-term financial goals. Additionally, proper use of a credit card can build a strong credit record. The lenders will report the Alvarados' payment history and outstanding balances to the credit bureau. Any problems will show up quickly, but good use of the credit will also be reported, thus building their credit history. Sound use includes one-time payments, staying within credit limits, and making their payments on time.

6.2 Michelle Starts Over After Bankruptcy

1. Obviously, the first thing Michelle has to do is *pay back the $24,000 in bankruptcy debt*— and the sooner that can be done, the better! She has to show that she now has the discipline to pay off the debt that she owes. She also has to *be careful about taking on any new debt*—though that probably will not be much of a problem, since she is likely to find new debt very hard to come by. Finally, *if she has any monthly bills (like phone bills, etc.), she should make sure she always pays them on time*.

2. She might look into the possibility of obtaining a charge card from one or two major department stores in her area. While Michelle has to be careful about taking on new debt, she might be able to get approval for a charge card with a low credit limit—say, $250–$300. Then she has to make sure that she *uses it judiciously* and that she *promptly pays the account balance in full each month.*

3. For at least a year or so, probably the only way she will be able to obtain a bank credit card is to sign up for a *secured credit card.* Michelle can do that by using part of her savings to purchase a CD, which will then act as collateral for the credit card. Again, she will have to take care to use the card sparingly and make payments on time, preferably in full, every month.

4. For the first year or two, Michelle should monitor her credit report every six months, then after that, every year or so for the next five to seven years. If she finds any discrepancies in the report, she should contact the credit bureau immediately (in writing). If she is making progress in her fight to get out of debt, that should be reflected in her credit report; if it is not, she should let the credit bureau know.

5. Michelle needs to know that it is possible to start over again. In addition, she should take the time to reflect on the past and determine what went wrong— knowing that, she can take steps to make sure it does not happen again. She should not overspend, not take on more debt than she can afford, and not let the debt build up. She should make sure that the *repayment* of the debt fits into her monthly budget and that she *stays current* on all her bills and credit lines.

Chapter 7

Using Consumer Loans

Chapter Outline

Learning Goals

I. Basic Features of Consumer Loans
- A. Using Consumer Loans
- B. Different Types of Loans
  1. Student Loans
     a. Obtaining a Student Loan
  2. Single Payment or Installment Payments
  3. Fixed or Variable Rate Loans
- C. Where Can You Get Consumer Loans?
  1. Commercial Banks
  2. Consumer Finance Companies
  3. Credit Unions
  4. Savings and Loan Associations
  5. Sales Finance Companies
  6. Life Insurance Companies
  7. Friends and Relatives

Concept Check

II. Managing Your Credit
- A. Shopping for Loans
  1. Finance Charges
  2. Loan Maturity
  3. Total Cost of the Transaction
  4. Collateral
  5. Other Credit Considerations
- B. Keeping Track of your Credit

Concept Check

III. Single Payment Loans
- A. Important Loan Features
  1. Loan Collateral
  2. Loan Maturity
  3. Loan Repayment
- B. Finance Charges and the Annual Percentage Rate
  1. Simple Interest Method
  2. Discount Method

Concept Check

IV. Installment Loans
- A. A Real Consumer Credit Workhorse!

B. Finance Charges, Monthly Payments, and APR
1. Using Simple Interest
2. Add-on Method
3. Prepayment Penalties
4. Credit Life Insurance
C. Buy on Time or Pay Cash?
Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
Making the Payments!
Contemporary Case Applications
7.1 Financing Annette's Education
7.2 Rob Gets His 4-Runner
Money Online

Major Topics

Although saving is an important way to reach a financial goal, borrowing by using a consumer loan may also help you attain your personal financial goals. Consumer loans are an important part of achieving financial goals, particularly when the amount borrowed and the debt repayment requirements are well within the budget. There are a variety of consumer loans available for a variety of purposes. The major topics covered in this chapter include:

1. One of the most legitimate reasons for going into debt is to pay for a college education. There are several federally sponsored, subsidized student loan programs available: Stafford Loans, Perkins Loans, and Parent Loans (PLUS).
2. Installment loans are frequently preferred to single payment loans because of the ease of repayment over time.
3. Consumer loans can be obtained from commercial banks, consumer finance companies, credit unions, savings and loan associations, sales finance companies, life insurance companies, and friends or relatives.
4. When shopping for a loan, the borrower should be aware of finance charges and other terms of the loan, as well as the total cost of the debt.
5. Single payment loans usually mature in one year or less, and interest can be calculated using the simple method or the discount method.
6. Installment loans can have maturities of up to seven to ten years, and interest can be calculated using the simple method or the add-on method.
7. Consumer loans may have various provisions, including collateral requirements, variable or fixed interest rates, recourse clauses, and other clauses that protect the position of the lender.
8. Comparisons among various loans should include calculation of the annual interest rate charged on the loan.

Key Concepts

This chapter introduces a number of key phrases and concepts associated with consumer loans. It continues to stress the relationship of consumer actions, such as borrowing to fulfill a personal financial goal, and the requirements of good financial planning so that the burden of borrowing fits into the budget. The following phrases represent the key concepts stressed in this chapter.

1. Student loans
2. Single payment and installment loans
3. Fixed or variable rate loans
4. Consumer finance and sales finance companies
5. Cash value of life insurance policies
6. Loan provisions to protect the lender
7. Finance charges and total cost of the loan
8. Annual percentage rate calculation
9. Simple interest method and discount method for single payment loans
10. Simple interest method and add-on method for installment loans
11. Rule of 78s

Answers to Concept Check Questions

7-1. The five major reasons to use consumer loans are:

a. *To buy a new car.* Auto loans account for nearly 35% of all consumer loans. As a rule, 80 to 90% of the cost of a new vehicle will be financed with credit; the buyer must come up with the rest through a down payment. The auto is the collateral for the loan, and it can be repossessed in the event that the buyer fails to make payments. These loans generally mature in 36 to 60 months.

b. *To purchase other costly durable goods.* These loans are used to purchase such things as furniture, appliances, recreational vehicles, even mobile homes. The item purchased serves as collateral, and some down payment is almost always required. The loans can mature in as short a time as 9 to 12 months for less costly items all the way to 7 to 10 years or longer for purchases such as a mobile home.

c. *To pay for an education.* Many students, or their parents, have taken out loans to pay for high-cost college education. These loans often carry low interest rates, and loan repayment often does not start until the student is out of school.

d. *As a personal loan.* This type of credit is used to make expenditures for nondurables, such as an expensive vacation, or to cover temporary cash shortfalls. Many personal loans are made on an unsecured basis.

e. *As a consolidation loan.* These loans are used to straighten out an unhealthy credit situation. For various reasons, consumers sometimes use their available credit to such an extent that they are no longer able to service the debt promptly and in a timely manner. When this happens, they can often consolidate the loans to systematically bring the credit under control. In effect, they borrow money from one source to pay off the other forms of borrowing. The usual effect of such a move is to reduce the total payment, but payments may have to be made for a longer time period.

7-2. The federal government makes available several different types of subsidized educational loan programs:

- Stafford Loans
- Perkins Loans
- Parent Loans (PLUS)

The Stafford and Perkins loans form the foundation of the government's student loan programs, and the SLS and PLUS loans are *supplemental* programs for students who either need the funds but do not qualify for Stafford/Perkins loans, or who do qualify for Stafford/Perkins loans but need additional funds. Generally speaking, the loans carry very low, government-subsidized interest rates, and with Stafford and Perkins loans, repayment does not begin until the student is out of school. As long as the student is making satisfactory progress academically and can show a need financially, the loans are fairly easy to obtain and do not involve a lot of "red tape." There are limits on the amount that can be borrowed each year, though there is no limit on the *number* of loans you can take out.

7-3. In contrast to regular consumer loans, these subsidized student loan programs are very lenient; they may not even involve credit checks, and they are less costly and have more accommodating loan repayment provisions. Repayment with some loans does not even begin until after graduation, and then the student can take as long as 10–20 years to pay off the loans. Also, interest on student loans is tax deductible.

This question deals with the students' views of these loans; this could provide some lively discussion of what they think of these loans, what they see as the positive and negative aspects of the programs, etc.

7-4. a. The interest rate on *fixed-rate loans* remains the same over the life of the loan. With *variable rate loans,* the interest rate changes every 6 to 12 months in line with market conditions.

b. *Single payment loans* are made for a specified period of time at the end of which full payment is due. They are available primarily from commercial

banks, consumer finance companies, life insurance companies, sales finance companies, pawnshops, and friends and relatives. *Installment loans* are made generally for six months or more and are repaid in a series of fixed scheduled payments. They are primarily available from commercial banks, consumer finance companies, credit unions, savings and loan associations, and sales finance companies.

7-5. a. *Consumer finance companies*—A consumer finance company, often called a small loan company, provides secured and unsecured or signature loans to qualified individuals. They acquire their funds from stockholders or borrow funds from various sources. They loan these funds to borrowers at generally high annual interest rates. The amount they loan and the rate charged are normally dependent on state laws. Loans are usually for a short period of time to high-risk borrowers.

b. *Sales finance companies*—A sales finance company provides installment financing for a retailer's customers who may purchase such items as automobiles, furniture, or appliances. The retailer originally lends its money to the customer to promote the sale and initially holds the loan contract. The retailer may not want to tie up its money for very long with installment loans, so the retailer then sells the customers' contracts to a finance company. The customer will then be notified to make his or her payment directly to the finance company. Interest rates will usually be higher than those offered by banking institutions and will vary depending on the maturity date of the loan and the amount of the purchase.

Captive finance companies—Captive finance companies, such as General Motors Acceptance Corporation (GMAC) and General Electric Credit Corporation (GECC), are the largest sales finance companies and are owned by large corporations. These institutions usually purchase the installment loan contracts made by their product dealers.

7-6. a. *Credit unions* offer loans to people and their immediate families who belong to the credit union and who are members of a particular working environment or organization. No nonmembers are allowed to save, loan, or participate in the activities of the lending organization. Interest rates are low relative to other institutions. The loans may be secured or unsecured. An added feature is that loan payments may be deducted from payroll checks. This type of borrowing is one of the most favorable for non-housing consumer loans.

b. *Savings and loan associations* deal primarily in home mortgages, but they also make consumer loans to qualified borrowers. S&Ls are regulated with regard to how much they can put into consumer loans; as a rule, their loans tend to go for consumer durables or for home improvements. The interest rates charged typically depend on a number of factors and are usually slightly above commercial bank rates.

7-7. Basically, before taking out a consumer loan you should ask yourself: 1) Does making this acquisition fit into your financial plans? and 2) Does the required debt service on the loan fit into your monthly cash budget? If the expenditure in question will seriously jeopardize your financial plans and/or the repayment of the loan is likely to place an undue strain on your cash flow, you should reconsider the purchase.

7-8. When shopping for a consumer loan, you should pay particular attention to the following loan features:

- *Finance charges (APR)*—how much are you going to have to pay?
- *Loan maturity*—does the term of the loan (and, therefore, the size of the payment) fit your needs and your budget?
- *Collateral*—is there going to be any, and if so, what?
- *Other considerations*—what is the total cost of the transaction, including all finance charges, when are the payments due, how is interest figured (simple vs. add-on), and what kind of an interest refund will you receive if you prepay your loan?

To determine the total cost of the transaction, multiply the monthly loan payments by the number of payments to be made. Then add the down payment and any other fees and charges to determine the total.

7-9. A *lien* gives the lender the power to liquidate loan collateral to satisfy its claim in the event of default. It is part of a *secured loan.*

7-10. A *loan rollover* is requested when the borrower is unable to repay the loan when it matures. It involves taking out another loan to repay the original loan in full.

7-11. Under the *simple interest method,* interest is charged on the actual loan balance outstanding. The *discount method* first computes interest and then subtracts it from the principal. The borrower gets the difference, not the full amount of the loan. While the *amount* of interest paid is the same, the *APR* is higher with the discount method, because you receive less in loan proceeds for the same amount of interest. The simple interest method is better for the borrower.

7-12. An installment loan can be used for many types of purchases and can range from a few hundred dollars to thousands of dollars. These loans are usually calculated at a fixed interest rate, and set payments are made at given intervals, such as monthly or yearly. These loans typically have maturities of 6 months to 15 years. Most are secured, either by the item purchased, a financial asset, or your home.

7-13. A *home-equity loan* lets a homeowner use his or her home as collateral to borrow a given amount of money for a set period of time at either a fixed or variable rate of interest. Except for the collateral (home-equity loans take a

second mortgage on the borrower's home), there is really no difference between a home-equity loan and a regular installment loan. They both involve a fixed amount of money that is paid back in monthly installments over time.

Advantages of a home-equity loan: They can be used to obtain *large* sums of money; they have long repayment periods (of 10–15 years), which keeps payments low; they generally carry lower interest rates than other forms of consumer loans; and (their biggest advantage) the interest on the loans is still tax-deductible for those who itemize their deductions (some limits apply).

Disadvantages: The availability of these loans may encourage people to take out big loans that can far outlive the assets acquired with the loans; there are costs involved in setting up these loans; and, of course, you stand to lose your home if you cannot repay the loan.

7-14. Purchasing *credit life and disability insurance* may be a condition of receiving an installment loan. This assures the lender that in the event of death or disability of the borrower, the loan will still be repaid. *Credit life insurance* provides for repayment of the entire outstanding loan balance at the death of the borrower. *Credit disability insurance* assures the lender the scheduled installment payments will continue in the event the borrower becomes disabled and unable to meet the scheduled installment payments. The seller's or lender's ability to dictate the terms of these insurance requirements is restricted by law in many states. From the borrower's perspective, such insurance is *not* a very good deal—it is very costly and really does little more than provide lenders with a very lucrative source of income. Purchasing term life insurance instead is usually more cost effective.

7-15. The *simple interest method on installment loans* refers to the fact that interest is charged only on the actual installment loan balance outstanding each period and not on the entire original balance. Each time a payment is made, the principal is reduced somewhat, and the interest for the next period is calculated on the remaining installment loan balance. You are better off, as a borrower, with simple interest versus add-on interest.

7-16. If the consumer has adequate liquid reserves and if those reserves are held in an interest-earning account, then if it costs more to borrow the money than can be earned in interest in the savings account, one should not borrow but draw down from savings. In contrast, borrowing becomes the better course of action if the borrowing cost is less than the rate earned on savings, or if the borrower does not have any liquid reserves to draw on.

Financial Planning Exercises

1. The Big A Autos deal total cost:

$2,500.00 down + (48 x $329.17) = $2,500 + $15,800.16 = $18,300.16

The Cars-Are-Us deal total cost:

$3,000.00 down + (60 x $268.45) = $3,000 + $16,107.00 = $19,107.00

Based on total cost, the Big A Autos loan is better. The rate offered by Cars-Are-Us is lower, but the longer time period makes the total cost paid higher with Cars-Are-Us, and they require a higher down payment.

2. As shown on Worksheet 7.1, Neal's debt safety ratio for his consumer debt is 30.2%, considerably higher than the suggested maximum of 20%. He has overextended himself, particularly since he also has his mortgage payments, and chances are, he will have difficulty continuing to meet these payments and the single payment loan when it comes due.

Worksheet 7.1

AN INVENTORY OF CONSUMER DEBT

Name Neal Samuels Date December 2006

Type of Consumer Debt	Creditor	Current Monthly Payment*	Latest Balance Due
Auto loans	1.	$ 375.00	$ 8,600.00
	2.		
	3.		
Education loans	1.		
	2.		
Personal installment loans	1.	85.00	750.00
	2.		
Home improvement loan		125.00	4,000.00
Other installment loans	1.		
	2.		
Single-payment loans	1.		2,000.00
	2.		
Credit cards (retail charge cards, bank cards, T&E cards, etc.)	1. Visa	40.00	960.00
	2. Shell	70.00	
	3.		
	4.		
	5.		
	6.		
	7.		
Overdraft protection line		60.00	1,200.00
Personal line of credit			
Home equity credit line			
Loan on life insurance			
Margin loan from broker			
Other loans	1.		
	2.		
	3.		
	Totals	$ 755.00	$ 17,510.00

$$\text{Debt safety ratio} = \frac{\text{Total monthly payments}}{\text{Monthly take-home pay}} \times 100 = \frac{\$\ 755.00}{\$\ 2{,}500.00} \times 100 = 30.2\ \%$$

*Leave the space blank if there is *no* monthly payment required on a loan (e.g., as with a single-payment or education loan).

3. On a single payment loan, the finance charge using the simple interest method or F_S = Principal x Rate x Time. So Robert will owe the original principal plus interest at the end of the time period or \$8,000 + (\$8,000 x 0.08 x 5) = \$8,000 + \$3,200 = \$11,200.

   If Robert must pay the interest annually on this loan, then he would owe \$640 each year (\$8,000 x .08 x 1). At the end of year 5 he would owe the interest for that year plus the principal, or \$8,000 + \$640 = \$8,640.

4. Use the financial calculator set on End Mode and 12 payments/year to solve for the payment:

   3000 +/- PV
   24 N
   14 I
   PMT \$144.04

   As explained in problem 3 above, when you use the financial calculator to solve for payment, you are using the simple interest on the installment method. Your calculator may also have an Amortization feature to help you with determining how much of each payment goes toward principal and how much goes toward interest. An Excel spreadsheet was used to create the following table. The monthly interest rate is found by dividing the yearly rate of 14% by 12 or 0.14/12 = 0.0117.

Month	Outstanding Loan Balance (1)	Monthly Payment (2)	Interest Charges [(1) x .0117] (3)	Principal [(2) - (3)] (4)	Balance Remaining After Payment
1	$3,000.00	$144.04	$35.00	$109.04	$2,890.96
2	$2,890.96	$144.04	$33.73	$110.31	$2,780.65
3	$2,780.65	$144.04	$32.44	$111.60	$2,669.05
4	$2,669.05	$144.04	$31.14	$112.90	$2,556.15
5	$2,556.15	$144.04	$29.82	$114.22	$2,441.94
6	$2,441.94	$144.04	$28.49	$115.55	$2,326.39
7	$2,326.39	$144.04	$27.14	$116.90	$2,209.49
8	$2,209.49	$144.04	$25.78	$118.26	$2,091.23
9	$2,091.23	$144.04	$24.40	$119.64	$1,971.59
10	$1,971.59	$144.04	$23.00	$121.04	$1,850.55
11	$1,850.55	$144.04	$21.59	$122.45	$1,728.10
12	$1,728.10	$144.04	$20.16	$123.88	$1,604.22
13	$1,604.22	$144.04	$18.72	$125.32	$1,478.90
14	$1,478.90	$144.04	$17.25	$126.78	$1,352.12
15	$1,352.12	$144.04	$15.77	$128.26	$1,223.85
16	$1,223.85	$144.04	$14.28	$129.76	$1,094.09
17	$1,094.09	$144.04	$12.76	$131.27	$962.82
18	$962.82	$144.04	$11.23	$132.81	$830.01
19	$830.01	$144.04	$9.68	$134.36	$695.66
20	$695.66	$144.04	$8.12	$135.92	$559.73
21	$559.73	$144.04	$6.53	$137.51	$422.23
22	$422.23	$144.04	$4.93	$139.11	$283.11

23	$283.11	$144.04	$3.30	$140.74	$142.38
24	$142.38	$144.04	$1.66	$142.38	$0.00

Adding the interest charges for the first 12 months of the loan, you can see that $332.69 in interest will be paid during the first year of this loan.

5. [We will assume that the loan amount requested is $1000 and compute the interest rate using both methods.]

Using the *simple interest method,* the finance charges on a 7.5 %, 18-month single-payment loan would be:

Finance charge = Principal x 7.5% x 1.5 years
= $1,000 x 0.075 x 1.5
= $112.50

Using the *discount method,* the finance charge is the same dollar amount as that obtained with the simple interest method. However, the finance charges are subtracted first from the amount requested, and then the borrower receives what's left, or the proceeds. Using the same setup as in the example above:

Amount requested – interest = loan proceeds received
$1,000 – $112.50 = $887.50

The real difference between these two loans is shown when you compute the APR:

$$\frac{\text{Average annual finance charge}}{\text{Average loan balance outstanding}}$$

APR for the simple interest method is calculated by dividing the finance charge by the life of the loan and then dividing this annual charge by the loan balance ($1,000 in our example).

$$\text{APR} = \frac{(\$112.50/1.5)}{\$1000} = \frac{\$75}{\$1,000} = 7.5\%$$

The APR for the discount method is found in a similar manner:

$$\text{APR} = \frac{(\$112.50/1.5)}{\$1,000 - \$112.50} = \frac{\$75}{\$887.50} = 8.5\%$$

6. First State Bank will lend Sally the $4,000 for 12 months through a single-payment loan at 13 1/2% *discount.* The APR on this loan is calculated as follows:

$$\text{APR} = \frac{\$4,000 \times .135 \times 1}{\$4,000 - \$540} = \frac{\$540}{\$3,460} = 15.6\%$$

Home Savings and Loan will make the $4,000 single-payment, 12-month loan at 15% *simple interest.* The APR on this loan is:

$$APR = \frac{\$4{,}000 \times .15 \times 1}{\$4{,}000} = \frac{\$600}{\$4{,}000} = 15\%$$

Sally should borrow the money from Home Savings and Loan because they will charge her an annual percentage rate (APR) of 15%, while First State Bank will charge her an APR of 15.6%.

7. If the installment loan contract calls for a monthly payment of $166.10 for 36 months:

Total payback	=	$166.10 x 36	=	$5,979.60
Interest	=	$5,979.60 – $5,000	=	$ 979.60

To use Exhibit 7.6 to solve for the APR, divide the loan amount of $5,000 by $1,000 to get 5. [This table is calculated for monthly payments on $1,000.] If the monthly payment of $166.10 was obtained by multiplying the amount on the table by 5, divide $166.10 by 5 to find that the amount on the table must be $33.22. Then look under the 36-month column to find that this amount corresponds to 12%.

To use the financial calculator to find the APR, set your calculator on End Mode and 12 payments/year:

5000 +/-	PV
166.10	PMT
36	N
I/YR	12%

8. a. From Exhibit 7.6, at 9 1/2% for 60 months, Chris's monthly payment will be:

$420.20 ($21.01 x 20)

Using the financial calculator, set on End Mode and 12 payments/year:

20000 +/-	PV
9.5	I/YR
60	N
PMT	$420.04

b. The Monthly Payment Analysis Table is on the following page. The interest rate per month is found by dividing the yearly rate by 12 (0.095/12 = 0.00792).

[Note: this table was calculated on a spreadsheet, which utilizes more decimal places. If you multiply the numbers shown, your answers will reflect rounding. This table can also be constructed using the amortization feature on a financial calculator.]

c. Over the full life of the loan, Chris will pay $5,202.40 in interest, calculated as: ($420.04 x 60 payments) – $20,000.

c. On simple interest installment loans where there are no other fees or charges other than interest, the stated rate *is* the APR, or 9.5% in this example. To verify that this is so, calculate the APR by taking the interest paid in year 1 and dividing it by the average outstanding loan balance:

$$\frac{\$1{,}759.58}{(\$20{,}000 + \$17{,}004.53) \div 2} = 9.5\%$$

Note that the APR as calculated above will result in the same answer, no matter which year of the loan is used in the calculation. That is because every payment is calculated as the simple interest on the outstanding loan balance for the given time period. Therefore, when you calculate the APR for any one year, it must be the same.

Month	Outstanding Loan Balance (1)	Monthly Payment (2)	Interest Charges [(1) x .00792] (3)	Principal [(2) – (3)] (4)
1	$20,000.00	$420.04	$158.33	$261.71
2	$19,738.29	$420.04	$156.26	$263.78
3	$19,474.51	$420.04	$154.17	$265.87
4	$19,208.65	$420.04	$152.07	$267.97
5	$18,940.68	$420.04	$149.95	$270.09
6	$18,670.58	$420.04	$147.81	$272.23
7	$18,398.35	$420.04	$145.65	$274.39
8	$18,123.97	$420.04	$143.48	$276.56
9	$17,847.41	$420.04	$141.29	$278.75
10	$17,568.66	$420.04	$139.09	$280.95
11	$17,287.70	$420.04	$136.86	$283.18
12	$17,004.53	$420.04	$134.62	$285.42
Total Interest Paid in First Year:			$1,759.58	

9. To solve for the APR, divide the purchase price of $2,000 by $1,000 to get 2. Then divide the payments given by 2 and look up that amount in the columns under the given time periods. Clearly, Dealer A is offering the better deal.

Dealer A: Divide the quoted monthly payment of $119.20 by 2 to get $59.60. Look under the 18 month column to find that the APR is 9%.

Dealer B: Divide the quoted monthly payment of $69.34 by 2 to get $34.67. Look under the 36 month column to find that the APR is 15%.

You can also use the financial calculator to find the APR as shown below. Set your calculator on End Mode and 12 payments/year. You must put in either the PV or PMT as a negative in order to solve the problem.

Dealer A		**Dealer B**	
2000 +/-	PV	2000 +/-	PV
119.2	PMT	69.34	PMT
18	N	36	N
I	9%	I	15%

10. a. Joan Clark plans to borrow $5,000 to be paid back in 36 monthly payments. At an annual add-on interest rate of 11 1/2%, the total finance (interest) charges are:

Finance Charge using Add-On Method = Principal x Rate x Time

F = $5,000 x 0.115 x 3 = $1,725

b. The monthly payment on the loan is:

$$\frac{\$5{,}000 + \$1{,}725}{36} = \$186.81$$

c. Use the financial calculator to find the annual percentage rate (APR) of interest on this loan. Set your calculator on End Mode and 12 payments/year.

5000 +/-	PV
36	N
186.81	PMT
I/YR	20.4%

Note that the reason the financial calculator can be used to solve for the APR is because the time value of money formulas programmed into the calculator are based on the simple interest method. For installment loans, simple interest is calculated on the outstanding loan balance for each time period. [The table shown in problem 9b above is an example of how the financial calculator calculates payments.] Since the definition of APR is based on simple interest as well, when you solve for I% on the financial calculator, you have also calculated the APR, assuming that the interest is the only finance charge involved.

11. a. Using Worksheet 7.2 on whether to borrow or pay cash, we see that line 12 is positive. Therefore, Grace will lose less in interest if she draws down her savings than she will pay in finance charges if she borrows the funds. Therefore, *she should pay cash* for the home entertainment center by drawing down her savings.

b. Because line 12 is negative, Grace is better off borrowing the money rather than paying cash. Even with the higher interest rate and large difference in the savings and borrowing rates, the tax deductibility makes it less expensive to borrow the money.

Problem 11a—Worksheet 7.2

BUY ON TIME OR PAY CASH		
Name Grace Hesketh	Date 1/17/2006	
Cost of Borrowing		
1. Terms of the loan a. Amount of the loan b. Length of the loan (in years) c. Monthly payment	$ 4,500.00 3 $ 143.10	
2. Total loan payments made (monthly loan payment × length of loan in months) $ 143.10 per month × 36 months		$ **5,151.60**
3. Less: Principal amount of the loan		$ 4,500.00
4. Total interest paid over life of loan (line 2 − 3)		$ **651.60**
5. Tax considerations: • Is this a home equity loan (where interest expenses can be deducted from taxes)? . . . . • Do you itemize deductions on your federal tax returns?. • If you answered yes to BOTH questions, then proceed to line 6; if you answered no to *either one* or *both* of the questions, then proceed to *line 8* and use *line 4* as the after-tax interest cost of the loan.	☐ yes ☑ no ☑ yes ☐ no	
6. What federal tax bracket are you in? (use either 10, 15, 25, 28, 33, or 35%) 28%	___%	
7. Taxes saved due to interest deductions (not deductable) (line 4 × tax rate, from line 6: $_____ × _____%)		$ **0.00**
8. Total after-tax interest cost on the loan (line 4 − line 7)		$ **651.60**
Cost of Paying Cash		
9. Annual interest earned on savings (annual rate of interest earned on savings × amount of loan: 5.5 % × 4,500.00)		$ **248.00**
10. Annual after-tax interest earnings (line 9 × [1 − tax rate] – e.g., 1 − 28% = 72%: $ 248.00 × 72 %)		$ **179.00**
11. Total after-tax interest earnings over life of loan (line 10 × line 1b: $ 179.00 × 3 years)		$ **537.00**
Net Cost of Borrowing		
12. Difference in cost of borrowing vs. cost of paying cash (line 8 minus line 11)		$ **114.60**
BASIC DECISION RULE: *Pay cash* if line 12 is positive; *borrow the money* if line 12 is negative.		
Note: For simplicity, compounding is ignored in calculating *both* the cost of interest and interest earnings.		

Problem 11b—Worksheet 7.2

BUY ON TIME OR PAY CASH		
Name Grace Hesketh Date 1/17/2006		
Cost of Borrowing		
1. Terms of the loan a. Amount of the loan b. Length of the loan (in years) c. Monthly payment	 $ 4,500.00 4 $ 113.09	
2. Total loan payments made (monthly loan payment × length of loan in months) $ 113.09 per month × 48 months		$ **5,428.32**
3. Less: Principal amount of the loan		$ 4,500.00
4. Total interest paid over life of loan (line 2 – 3)		$ **928.32**
5. Tax considerations: • Is this a home equity loan (where interest expenses can be deducted from taxes)? . . . . • Do you itemize deductions on your federal tax returns? . • If you answered yes to BOTH questions, then proceed to line 6; if you answered no to *either one* or *both* of the questions, then proceed to *line 8* and use *line 4* as the after-tax interest cost of the loan.	 ☑ yes ☐ no ☑ yes ☐ no	
6. What federal tax bracket are you in? (use either 10, 15, 25, 28, 33, or 35%) 28%	%	
7. Taxes saved due to interest deductions (not deductable) (line 4 × tax rate, from line 6: $ 928.32 × 28% %)		$ **259.93**
8. Total after-tax interest cost on the loan (line 4 – line 7)		$ **668.39**
Cost of Paying Cash		
9. Annual interest earned on savings (annual rate of interest earned on savings × amount of loan: 5.5 % × 4,500.00)		$ **248.00**
10. Annual after-tax interest earnings (line 9 × [1 – tax rate] – e.g., 1 – 28% = 72%: $ 248.00 × 72 %)		$ **179.00**
11. Total after-tax interest earnings over life of loan (line 10 × line 1b: $ 179.00 × 4 years)		$ **716.00**
Net Cost of Borrowing		
12. Difference in cost of borrowing vs. cost of paying cash (line 8 minus line 11)		$ **(47.61)**
BASIC DECISION RULE: *Pay cash* if line 12 is positive; *borrow the money* if line 12 is negative.		
Note: For simplicity, compounding is ignored in calculating *both* the cost of interest and interest earnings.		

12. a. The furniture store will lend Alex the $6,400 for 48 months at 8.5% add-on. Monthly payments using this method are calculated as follows:

Finance charges = P x r x t
= $6,400 x 0.085 x 4 = $2,176

$$\text{Payment} = \frac{\$6{,}400 + \$2{,}176}{48} = \frac{\$8{,}576}{48} = \$178.67$$

The credit union will lend Alex the $6,400 for 24 months at 12% simple interest. Monthly payments using this method are calculated with the financial calculator as follows. Set your calculator on End Mode and 12 payments/year.

6400 +/-	PV
24	N
12	I/YR
PMT	$301.27

b. The APR for the loan from the furniture store can be calculated with the financial calculator, because the time value of money equations programmed into the financial calculator use the simple interest method, which yields the APR. Set your calculator on End Mode and 12 payments/year.

6400 +/-	PV
48	N
178.67	PMT
I/YR	15.17%

The APR for the loan from the credit union *is* the stated rate of 12%, because APR is calculated using the simple interest method. To prove this point, we can create a Monthly Payment Analysis Table for the first year's payments to derive the numbers necessary to calculate the APR.

Month	Outstanding Loan Balance (1)	Monthly Payment (2)	Interest Charges [(1) x .00792] (3)	Principal [(2) – (3)] (4)
1	$6,400.00	$301.27	$64.00	$237.27
2	$6,162.73	$301.27	$61.63	$239.64
3	$5,923.09	$301.27	$59.23	$242.04
4	$5,681.05	$301.27	$56.81	$244.46
5	$5,436.59	$301.27	$54.37	$246.90
6	$5,189.68	$301.27	$51.90	$249.37
7	$4,940.31	$301.27	$49.40	$251.87
8	$4,688.44	$301.27	$46.88	$254.39
9	$4,434.06	$301.27	$44.34	$256.93
10	$4,177.13	$301.27	$41.77	$259.50
11	$3,917.63	$301.27	$39.18	$262.09
12	$3,655.54	$301.27	$36.56	$264.71
Total Interest Paid in First Year:			$606.06	

To calculate the APR, take the interest paid in year 1 and divide by the average outstanding loan balance:

$$\frac{\$606.06}{(\$6{,}400 + \$3{,}655.54) \div 2} = 12\%$$

c. A loan over the same time period with a lower APR will save the consumer more in interest charges. In the loan examples given in this problem, the furniture store offered the lower stated rate (8.5% vs. 12%) and lower monthly payments ($178.67 vs. $301.27). However the APR on the furniture store's offer was higher (15.17% vs. 12%) as was the total cost of the interest over the life of the loan ($2,176 vs. $830.48). But it stands to reason that because the credit union's loan was over a shorter time period, the interest charges would be less. It is difficult to evaluate loans over different time periods.

To make an even comparison, let's look at both loans over the same time period. Using 48 months on both, solve for the payment using the credit union's rate:

6400 +/-	PV
48	N
12	I/YR
PMT	$168.54

Now in comparing the furniture store's 8.5% add-on loan with the credit union's 12% simple over the same time period, we see that the furniture store's payments are higher ($178.67 vs. $168.54) and the total cost of the interest over the life of the loan is also greater ($2,176 vs. $1,689.92). Therefore, the loan which offers the lower APR will also feature the lower interest charges.

However, sometimes consumers may be forced to go with the loan which offers the lowest monthly payments, whether it's the most cost effective or not, because of budget constraints. Then consumers need to ask themselves if they really need to make the purchase now or if they would be better off waiting.

[Note: To find the total cost of interest over the life of a loan, multiply the monthly payments by the number of months on the loan and then subtract the principal amount.]

Solutions to Critical Thinking Cases

7.1 Financing Annette's Education

1. With the *California State Bank* discount interest loan:

   a. Annette would receive initial proceeds of $25,200 calculated as follows:

Principal Amount		$30,000
Less: Interest for two years	($30,000 x .08 x 2 years)	4,800
Initial Loan Proceeds		$25,200

   b. At maturity, Annette would be required to repay the $30,000 principal.

2. a. The finance charges on the *California State Bank* loan would be $4,800 as shown above in the interest calculation.

   b. The APR on the California State Bank loan can be calculated using the equation:

$$\text{APR} = \frac{\text{Average Annual Finance Charge}}{\text{Average Loan Balance Outstanding}}$$

   The average annual finance charge is $2,400 ($4,800/2). The average loan balance is the initial loan proceeds, $25,200. Substituting into the equation, the APR is:

$$\text{APR} = \frac{\$2{,}400}{\$25{,}200} = \underline{\underline{9.5\%}}$$

3. a. The finance charge on the simple interest loan from the *National Bank of San Diego* is $25,000 x .10 x 2 years = $5,000.

   b. The APR on this loan is found by substituting the appropriate values into the APR equation:

$$\text{APR} = \frac{\$5{,}000/2}{\$25{,}000} = \underline{\underline{10\%}}$$

   This result is not surprising, since the APR and the stated rate of interest on a simple interest loan are always equal.

   The loan payment due at the end of two years is $30,000 ($25,000 principal + $5,000 interest).

4. The discount loan from California State Bank (line a in the table below) is preferred since it has a lower APR and she will spend a little less in finance charges while receiving a bit more in proceeds.

The following table illustrates the features of each loan:

Method	Stated Rate	Finance Charge	Amount Received	Amount Repaid	APR
a. Discount loan	8%	$4,800	$25,200	$30,000	9.5%
b. Simple interest loan	10%	$5,000	$25,000	$30,000	10%

5. Since Annette plans to spend the $25,000 over the following two years, she should either (1) try to arrange a line of credit in which she can draw the money as needed, with the interest being charged only as the funds are disbursed, or (2) immediately invest the funds in a highly liquid savings instrument, such as a savings account or money market mutual fund. Each of these alternatives should allow Annette to reduce the total finance charges, either (1) by only paying interest on needed funds or (2) by earning a return on the unneeded portion of the loan until the funds are needed. These two approaches should help Annette avoid paying interest on currently unneeded funds while assuring her that her $25,000 college education expense will be met.

7.2 Rob Gets His 4-Runner

1. The *First National Bank of Charlotte* will lend Rob the $6,500 for 36 months at 12% simple interest. Monthly payments using this method are calculated with the financial calculator as follows. Set your calculator on End Mode and 12 payments/year.

6500 +/-	PV
36	N
12	I/YR
PMT	$215.89

2. a. The total finance charges on this installment loan can be found by subtracting the loan principal from the total payments of $7,772.04 (36 months x $215.89/month):

Total finance charges = ($7,772.04 – $6,500) = $1,272.04

b. Since interest on this simple interest installment loan is charged only on the outstanding loan balance, the APR equals the stated interest rate of 12%.

3. The first step in determining the monthly payment required on the add-on interest loan from the Charlotte Teacher's Credit Union is to calculate the total finance charges.

Finance Charges = P x r x t
Finance Charges = $6,500 x .065 x 3 = $1,267.50

The monthly payment can then be found by adding the principal to the finance charges and dividing by the number of monthly payments:

$$\text{Monthly payments} = \frac{\$6{,}500 + \$1{,}267.50}{36 \text{ months}} = \frac{\$7{,}767.50}{36} = \underline{\$215.76}$$

4. a. The finance charges on the Charlotte Teachers' Credit Union loan are $1,267.50 per question 3 above.

   b. To find the APR, use the financial calculator. Set on End Mode and 12 payments/year:

6500+/-	PV
36	N
215.76	PMT
I/YR	11.96%

5. The following table summarizes the key characteristics of the two loans. Comparing the monthly payment, total finance charges, and APR on the two loans, it's clear that while the two loans are about equal, the one from the credit union (line b) has a *slight edge* over the one from the bank (line a), which has a *slightly* higher monthly payment, total finance charge, and APR. Such being the case, Rob should then compare the institutions on other features that are important to him, such as convenience, helpfulness, or possibly one might lower the interest rate if he allows the institution to take automatic payments from his account.

Method	Stated Rate	Finance Charge	Monthly Pmt.	Amount Recv.	Amount Repaid	APR
a. Simple interest loan	12%	$1,272.04	$215.89	$6,500	$7,772.04	12%
b. Add-on loan	6.5%	$1,267.50	$215.76	$6,500	$7,767.36	11.96%

Chapter 8

Insuring Your Life

Chapter Outline

Learning Goals

I. Basic Insurance Concepts

- A. The Concept of Risk
  1. Risk Avoidance
  2. Loss Prevention and Control
  3. Risk Assumption
  4. Insurance
- B. Underwriting Basics
- *Concept Check*

II. Why Buy Life Insurance?

- A. Benefits of Life Insurance
- B. Do You Need Life Insurance?
- *Concept Check*

III. How Much Life Insurance is Right for You?

- A. Step 1: Assess Your Family's Total Economic Needs
- B. Step 2: Determine What Financial Resources Will Be Available After Death
- C. Step 3: Subtract Resources from Needs to Calculate How Much Life Insurance You Require
- D. Needs Analysis in Action: The Benson Family
  1. Estimating Family Economic Needs (Step 1)
  2. Financial Resources Needed after Death (Step 2)
  3. Additional Life Insurance Needed (Step 3)
- E. Life Insurance Underwriting Considerations
- *Concept Check*

IV. What Kind of Policy is Right for You?

- A. Term Insurance
  1. Types of Term Insurance
     - a. Straight Term
     - b. Decreasing Term
  2. Advantages and Disadvantages of Term Insurance
  3. Who Should Buy Term Insurance?

- B. Whole Life Insurance
  - 1. Types of Whole Life Policies
    - a. Continuous Premium
    - b. Limited Payment
    - c. Single Premium
  - 2. Advantages and Disadvantages of Whole Life
  - 3. Who Should Buy Whole Life Insurance?
- C. Universal Life Insurance
  - 1. Advantages and Disadvantages of Universal Life
  - 2. Who Should Buy Universal Life Insurance?
- D. Other Types of Life Insurance
  - 1. Variable Life Insurance
  - 2. Group Life Insurance
  - 3. Other Special-Purpose Life Policies
- *Concept Check*

V. Buying Life Insurance

- A. Compare Costs and Features
- B. Select an Insurance Company
- C. Choose an Agent
- *Concept Check*

VI. Key Features of Life Insurance Policies

- A. Life Insurance Contract Features
  - 1. Beneficiary Clause
  - 2. Settlement Options
  - 3. Policy Loans
  - 4. Premium Payments
  - 5. Grace Period
  - 6. Nonforfeiture Options
  - 7. Policy Reinstatement
  - 8. Change of Policy
- B. Other Policy Features
- *Concept Check*

Summary

Financial Planning Exercises

Applying Personal Finance

Insure Your Life!

Critical Thinking Cases

- 8.1 Lee Hsiah's Insurance Decision: Whole Life, Variable Life, or Term Life?
- 8.2 The Kings Want to Know When Enough Is Enough

Money Online

Major Topics

A key ingredient of every successful personal financial plan is adequate life insurance coverage. The overriding purpose of life insurance is to protect the family from financial loss in the event of the untimely death of an income earner. Additionally, some types of life insurance also possess attractive investment characteristics which can further enhance a financial plan if they are chosen correctly. In essence, life insurance is an umbrella for a personal financial plan. The major topics covered in this chapter include:

1. Adequate life insurance acts as protection for the financial goals you have already achieved, and it can also help to attain unfulfilled financial goals.
2. Insurance is based on the idea of recognizing and sharing risk, which includes ways of decreasing risk through loss prevention and control and risk avoidance.
3. The amount of life insurance coverage needed can be determined by assessing your family's needs, subtracting from that amount the resources that will be available after death, and funding the difference.
4. There are three basic types of life insurance policies, which differ from each other by the amount of insurance coverage versus savings element per dollar of premium: term, whole life, and universal.
5. Policy provisions in life insurance policies are very flexible and provide many options to the policyholder and policy beneficiaries.
6. The best coverage for your purposes means that you consider buying the proper amount and right type of insurance as well as the lowest cost for your needs.

Key Concepts

The key concepts associated with life insurance represent the language of the industry and are used to signify the importance that life insurance represents to the financial security of the insured and his or her beneficiaries. The following phrases represent the key concepts stressed in this chapter.

1. Insurance planning
2. Concept of risk
3. Risk avoidance, risk assumption, and loss prevention and control
4. Underwriting
5. The multiple earnings approach and the needs approach
6. Term insurance: straight and decreasing; renewability and convertibility
7. Whole life insurance: continuous premium, limited payment, and single premium
8. Cash value
9. Universal life
10. Variable life insurance, joint life and survivorship insurance, credit life insurance, group life insurance, and other types of life insurance
11. Contract features of policies
12. Beneficiary clause
13. Settlement options
14. Policy loans
15. Premium payments and grace periods
16. Nonforfeiture options

17. Policy Reinstatement
18. Change of Policy
19. Living Benefits
20. Insurance company ratings
21. Choosing a company and choosing an agent

Answers to Concept Check Questions

8-1. Basically, insurance is needed to protect you from losing assets you have already acquired and to shield you from an interruption in your expected earnings. Insurance lends a degree of certainty to your financial plans. Life insurance is meant to replace income that you would have earned had premature death not occurred. Enough life insurance means that family financial plans can be achieved, even though family income might be interrupted.

8-2. a. *Risk avoidance* involves avoiding the act that creates the risk. It is an attractive way to deal with risk when the estimated cost of avoidance is less than the estimated cost of exposure, although it is not always possible to avoid some risks.

b. *Loss prevention* is an activity (such as obeying the traffic laws) that reduces the probability that a loss will occur.

c. *Loss control* is an activity (such as wearing safety belts in a car) that lessens the severity of an injury or loss once an accident occurs.

d. *Risk assumption* involves bearing or accepting risk. It can be an effective way to handle many types of potentially small exposures to loss for which the protection of insurance would be too expensive.

e. With an *insurance policy*, the policyholder is transferring the risk of loss to the insurance company. You pay an insurance premium in return for a promise from the insurance company that they will reimburse you if you suffer a loss covered by the insurance policy.

These concepts are interrelated in that they are all ways of handling the risk of economic loss. Using each method effectively and in connection with one another will help you protect yourself in the most cost effective manner.

8-3. *Underwriting* is the process by which insurance companies evaluate applications to decide which exposures to loss they can insure and the appropriate rates to charge. Underwriting helps the company guard against adverse selection and establish rates commensurate with the chance of loss. Factors a life insurance underwriter considers include age, sex, occupation, health history and prior problems, driving record and credit rating.

8-4. In addition to financial protection for one's family, the benefits of purchasing life insurance include the following:

Protection from Creditors—The purchase of life insurance can be structured in such a way that when death benefits are paid, the cash proceeds do not become part of the estate and, therefore, are protected from creditors. Even if creditors are successful in securing judgments against persons while still alive who have substantial accumulations of life insurance cash values, they most often cannot levy any claim on those cash values.

Tax Benefits— Upon the death of the insured, the proceeds of a life insurance policy pass to the beneficiaries free of any state or federal income tax but may have certain death taxes levied, depending on who owned the policy at the time of death. In policies which build cash value, the cash accumulation grows tax free unless it is withdrawn from the policy. If cash values are withdrawn from a policy, income taxes are payable on the amount by which the cash value exceeds the total premiums paid.

Vehicle for Savings—Life insurance can be an attractive medium for savings for some people, particularly those seeking safety of principal. Because life insurance companies have a fairly low failure rate, whole and universal life insurance policies are considered very low risk savings media. As investment vehicles, these policies tend to stack up fairly well when their returns are compared to savings accounts, money fund yields, and returns on T-bills—especially when you factor in the tax shelter provided by the life insurance products.

8-5. Reasons people need life insurance are: to provide for those who depend on the insured's income, to eliminate debts, to pay for final expenses, and/or to leave someone a gift. Unless a single college student has one or more of these needs, he or she does not need life insurance. Those college students with student loans, auto loans, or other types of debt would want life insurance to eliminate those debts.

Important events such as marriage, birth of children, divorce, etc., call for careful consideration as to life insurance needs. Of particular importance is the birth of a child, which instantly creates a long-term need for a large amount of life insurance.

8-6. The two basic methods for determining a person's life insurance requirements are the multiple earnings approach and the needs approach. The *multiple earnings approach* is a simple technique in which the amount of insurance to purchase is found by multiplying gross annual earnings by some arbitrarily selected number. Most frequently multiples of three, five, or in some cases, ten, are used.

The *needs approach* considers the financial resources available in addition to life insurance and the specific financial obligations that a person may have. It involves three steps:

(1) Estimating total economic resources needed;
(2) Determining all financial resources that would be available at death; and

(3) Subtracting the amount of resources available from the amount needed to determine the amount of life insurance required to provide for an individual's financial program.

8-7. The most common economic needs that must be satisfied after the death of a family breadwinner are: funds to pay off debts in order to leave his or her family relatively debt-free; income to sustain the family until the children are self-sufficient; income to sustain in full or part the surviving spouse; and income to fund any special financial requirements, such as college education for children and/or surviving spouse. Using the needs approach, each of these financial needs should be estimated and viewed in light of available resources to determine life insurance requirements.

8-8. Factors a life insurance underwriter considers include age, sex, occupation, health history and prior problems, driving record and credit rating. The company is trying to determine the likelihood of their having to pay a claim if they issue you a policy.

8-9. Under the provisions of *term life insurance,* the insurance company agrees to pay a stipulated sum if the insured dies during the policy period. Common periods of coverage are five years with premiums payable annually or semiannually. Term insurance offers the most economical way to purchase life insurance on a temporary basis for protection against financial loss resulting from death, especially in the early years of family formation. Common types of term life insurance include:

Straight Term—the most frequently purchased, it is a term policy written for a given number of years. The face value of the policy remains constant while the cost of the insurance increases along with one's risk of mortality. With *annual renewable term policies*, the annual premiums increase each year reflecting one's increased likelihood of dying each year. With *level-premium term policies*, the premiums remain constant for a specified period of years. The cost of insurance still increases each year, but with level-premium policies, the costs for the given period are averaged so that for the first few years of the policy, the insured is overpaying for the cost of insurance, and for the last few years, he or she is underpaying.

Decreasing Term—a term policy that maintains a level premium throughout all periods of coverage, while the face amount decreases. As the insured gets older, the cost of insurance goes up reflecting the greater chance of death occurring. If the premium remains constant but the cost is increasing, then the amount of coverage has to decrease. This type policy is often used to provide for mortgage or other debt repayment in the event of death. The face amount decreases along with the amount of outstanding debt.

In addition, term insurance is often written with *renewability* and *convertibility* provisions. The first provision basically allows the insured to *renew* his or her policy for another term without providing proof of insurability; in contrast, the

second provision allows the insured to *convert* his or her policy to whole life without providing proof of insurability.

8-10. The primary *advantage* of term life insurance is that it offers an economical way to purchase a large amount of protection against financial loss resulting from death, especially during the childbearing years. The guaranteed renewable and convertible options allow the insured to continue coverage throughout his or her life. The most commonly cited *disadvantage* of term insurance is that the rates increase as the insured ages. People frequently discontinue coverage for this reason.

8-11. *Whole life insurance* is designed to offer financial protection for the entire (whole) life of an individual, and the premiums are calculated assuming lifetime protection for the insured. (Term life insurance premiums are calculated based on the probability of death during the given time of the term only.) In addition to death protection, whole life insurance has a savings element called *cash value.* The life insurance company sets aside assets to be used to pay the claims expected to result from the policies they issue. If policyholders decide to cancel their contracts prior to the death of the insured, that portion of the assets set aside to provide payment for the death claim which did not take place is available to them for use in their retirement years, for example. Whole life policies, therefore, either pay accumulated cash values to the policyholder if canceled or pay their face value to the beneficiaries at the death of the insured.

8-12. The three major types of whole life policies, based on premium frequency, are:

1) *Continuous premium* whole life policies, which require a level premium payment each year until the insured dies.
2) *Limited payment* whole life policies, which offer coverage for the entire life of the insured but schedule the payments to end after a limited period. The period may be a stated number of years, such as 20-year life, or until a specified age, such as paid-up at age 45.
3) *Single premium* whole life policies, which are purchased on a "cash basis." One premium payment upon inception of the contract buys life insurance coverage for the insured for the remainder of his or her life.

One *advantage* of whole life is that the premium payments contribute toward building an estate, regardless of whether the insured lives or dies. It also permits individuals who need insurance for an entire lifetime to budget their premium payments over a relatively long period, thus eliminating the problems of unaffordability and uninsurability often encountered in later years with term insurance. *Disadvantages* most often cited are that more death protection for the same amount of money can be purchased with term insurance and higher yields can be obtained on other investments.

8-13. *Universal life insurance* is a blended product that combines the features of an investment that earns current money market interest rates with a term life insurance policy. It offers policyholders a product that blends the favorable features of a whole life policy with the higher yields that money market and bond funds pay.

Universal life insurance is a type of whole life insurance because the policy provides both death protection and a savings element. However, unlike whole life, universal life separates the insurance protection portion from the savings portion and offers the insured greater flexibility in paying premiums and in changing the level of the benefit. You can increase or decrease both your premium payments and death benefits as long as there is currently enough to pay the cost for the death protection element.

Variable life is like universal life in that a death benefit provision is combined with a savings/investment plan. The big difference is that the consumer can select and periodically change the type of investment vehicle—money market funds, bond funds, and even stock funds—used with his or her variable life policy. Another difference between variable life and whole or universal life is that the amount of death benefits provided will vary with the profits (or losses) generated in the investment account.

As its name implies, *variable universal life insurance* is a variation of variable life that includes flexible premiums, like universal life policies, and a choice of investment vehicles, like variable life insurance. The administrative costs are typically higher, which may undermine some of the higher investment returns, and there are few guarantees concerning the rate of investment return or the level of benefit.

8-14. *Group life insurance* is an arrangement under which one master policy is issued, and each eligible member of the group receives a certificate of insurance. It is nearly always term insurance, and the premium is based on the characteristics of the group as a whole rather than those related to any specific individual. Group insurance is commonly offered as a fringe benefit to employees. Because of its temporary nature and relatively low face amount (often equal to one year's salary or less), it should fulfill only low-priority insurance needs. However, the employee may be allowed to purchase additional insurance for himself as well as his dependents. This is a very attractive feature when employees intend to stay with the same employer for an extended period. For individuals and their dependents who may be virtually "uninsurable" because of health problems, etc., this may be about the only way they can obtain insurance.

8-15. a. *Credit life insurance* assures the borrower's beneficiaries that, upon death of the borrower, the stated debt will be repaid. Most often this type of insurance is a term policy with a face value that decreases at the same rate as the balance on the loan and is one of the most expensive ways to buy life insurance. Contrary to popular belief, a lender cannot legally reject a loan if the potential borrower chooses not to buy credit life insurance from them.

b. *Mortgage life insurance* is a form of credit life designed to pay off the mortgage balance upon the death of the borrower. This need can usually be met less expensively by shopping the open market for a suitable decreasing term policy. The high cost of mortgage life insurance is attributable to the fact that the

lender selling such insurance receives a commission, and, therefore, is not sensitive to cost factors.

c. *Industrial* or *home service life insurance* is whole life or endowment insurance issued in policies with small face values and is sold by agents who call on policyholders weekly or monthly to collect the premiums. The small size of its policies coupled with the high collection costs makes this insurance more expensive per dollar of coverage than whole life or endowment policies. It is rarely sold and accounts for less than 1% of the total amount of life insurance in force in the U.S.

8-16. The first and most important step involved in shopping for and buying life insurance is developing an *estimate of your future financial needs* and then *selecting the types of policies that will best satisfy those needs.* Life insurance must be evaluated in conjunction with other financial goals. A person should also become familiar with the various provisions that life insurance contracts typically include.

Next, a person should select companies and agents to contact based on their reputations (financial and otherwise), cost of their policies, and agents' experience, training, and personality. Once these decisions have been made, the individual(s) should discuss their needs with their agent and capitalize on his or her expertise. They should learn the details of the various policy alternatives and select the most cost-effective policy that best serves their coverage needs.

8-17. *A.M. Best, Moody's Investors Service,* and *Standard & Poor's* all rate insurance companies according to their underlying financial strength. These firms look at the financial solvency of insurance companies and assess the ability of the insurer to pay future claims to their policyholders. They look at the insurance company's investment portfolio (especially its holding of high risk real estate and junk bonds), its debt structure and the adequacy of its capital to absorb financial shocks, and even its pricing practices and management strategies. From such in-depth analysis, the rating agencies then assign letter ratings that designate the financial integrity of the insurance company—the higher the rating, the more financially secure the company.

Obviously, it is important to know how an insurance company is rated (financially) because you are depending on them to stand behind a very sizable financial obligation (a life insurance policy that could easily run into six figures) at some unknown time in the future. Because of this, you would probably want to stick with insurance companies that receive *one of the top two or three grades* from the rating agencies (A++ to A from Best; Aaa to Aa2 from Moody's; and AAA to AA from S&P); equally important, look for companies that receive one of these top grades *from all three of the major rating agencies.*

8-18. Important factors to consider in choosing an insurance agent include his or her level of competence, knowledge of the insurance industry and the various insurance products, willingness to listen to you and his or her attentiveness in determining the most appropriate insurance products to meet your needs. You also

want an agent who is known to be dependable and capable of working with other professionals in carrying out your insurance planning needs.

8-19. A *beneficiary* is the person or persons who receive the death benefits of the policy if the insured person dies. A *contingent beneficiary* is a person or persons to whom benefits of the policy would go in the event that the insured outlives the primary beneficiary or that they both died at the same time. It is essential to name a beneficiary. Otherwise, the policy proceeds would be payable to the estate of the deceased and might be subject to prolonged legal and other procedures associated with estate settlement.

8-20. There are five basic settlement options available for payment of life insurance proceeds upon the death of the insured.

Lump sum—The entire death benefit is paid to the beneficiary in a single amount.

Interest Only—The policy proceeds are left on deposit with the insurance company for a given period of time. In exchange, the insurer guarantees to make interest payments to the beneficiary during the time it holds the funds. The beneficiary may or may not be permitted to withdraw the proceeds, depending on the agreement.

Fixed-period payments—The face amount of the policy, along with earned interest, is systematically liquidated over a selected period of time. The amount of the periodic payment is determined by the face amount of the policy and length of time over which the funds are to be distributed.

Fixed-amount payments—The beneficiary chooses the amount of periodic benefit desired rather than the number of years over which income is to be received. The period over which the payments are received will, therefore, be determined by the amount of policy proceeds and the size of the periodic benefit specified by the beneficiary.

Life Income—The insurer guarantees a certain payment amount to the beneficiary for the remainder of his or her life. The amount is dependent upon the face value of the policy, interest rate assumptions, and the life expectancy of the beneficiary.

8-21. With policies which build cash value, policyholders have a right to receive the cash value if they cancel their policies prior to death (i.e., they do not have to forfeit their cash value). *Nonforfeiture options* give policyholders choices concerning how they wish to receive these benefits in the event that they do cancel their policies. One option, of course, may be to receive cash. With the *paid-up insurance* option, the policy's cash value is applied to a new, single-premium policy with a lower face value. Under the *extended term* option, the cash value is used to buy a term life policy of the same face value; the coverage period is based on the amount of term protection that can be purchased for the given amount of cash value for a person of the insured's age.

8-22. a. A *multiple indemnity clause* doubles or triples the face amount of a policy if the insured dies as a result of an accident. This benefit is usually offered to the policyholder at a small additional cost.

b. A *disability clause* may contain either a waiver of premium benefit or a waiver of premium coupled with disability income. A *waiver of premium benefit* excuses the payment of premiums on the life insurance policy if the insured becomes totally and permanently disabled prior to age 60 (or sometimes age 65). Under the *disability income portion,* the insured is entitled to a monthly income equal to five or ten dollars per $1,000 of policy face value. Some policies will continue these payments over the life of the insured; others will terminate them at age 65.

c. A *suicide clause* voids the contract if an insured commits suicide within two years (sometimes one) after its inception. In such cases, the company returns the premiums that have been paid. If the insured takes his or her life after this initial period has elapsed, the policy proceeds are paid without question.

The most common *exclusions* are aviation (piloting a private plane or flying on a military plane) and war. Hazardous occupations or hobbies, such as skydiving, may also be specifically excluded.

8-23. With a *participating life insurance policy,* the policyholder is entitled to receive policy dividends that reflect the difference between the premiums that are charged and the amount of premium necessary to fund the actual mortality experience of the company. A company estimates its base premium schedule and then adds an adequate margin of safety. The premiums charged the policyholder are based on these somewhat overcautious estimates. When the company experience is more favorable than that estimated, policyholders receive policy dividends. The policyholder may accept the dividend as a cash payment, leave it with the company to earn interest, use it to buy additional paid-up coverage, or apply it toward the next premium payment.

Financial Planning Exercises

1. Worksheet 8.1 for Janna Meyers follows. Because Janna needs a considerable amount of coverage while her mother is still alive, she should buy a term policy with level premiums for at least 15 years, or even better, 20 years. The premiums on annual renewable term will become increasingly more expensive for Janna, so she would want to lock in a lower level premium at least during her Mother's life expectancy. She would want to decrease her coverage to an amount that would cover her debts and final expenses if her mother dies prior to maturity.

   Janna should immediately see if can get a long-term care policy for her Mother. Her Mother is likely to need nursing home care regardless of whether Janna is alive or not, and the cost of providing that care will take up almost all of Janna's income. Unfortunately, such policies become more expensive the older the person, and with her Mother's health problems, she may not even be able to get a

policy now. If Janna can get a policy for her Mother now, she would probably be better off working a second job to pay the high premiums than be near destitute when her Mother's health deteriorates.

Problem 1—Worksheet 8.1

Insured's Name *Janna Meyers* Date March 12, 2007

				Totals
A. Family Income Needs				
1. Debt Liquidation:				
a. House mortgage	$70,000			
b. Other loans $5,000 auto + $500 cr. cards	$ 5,500			
c. Total debt (a + b)				$ 75,500
2. Final expenses	on her own 2-3 yrs	nursing home - 10 yrs.		5,000
3. Annual income needs:	Period 1	Period 2	Period 3	
a. Monthly living expenses	2,000	5,000		
b. Less: Social security survivor's benefits	850	850		
c. Less: Surviving spouse's income	—	—		
d. Less: Other pension benefits and income	—	—		
e. Net monthly income needed (a − b − c − d)	1,150	4,150		
f. Net yearly income needed (12 × e)	13,800	49,800		
g. Number of years in period	3	10		
h. Funding needed each period (f × g)	41,400	498,000		
i. Total living needs (add line h for each period)				$539,400
4. Spouse reeducation fund				$ —
5. Children's opportunity fund				$ —
6. Other needs Contingency Fund				$ 25,000
7. TOTAL INCOME NEEDS (add right column)				$644,900
B. Financial Resources Available				
1. Savings and investments 24,500 (401K) + 7,500 (MMKt)	$ 32,000			
2. Group life insurance	$			
3. Other life insurance	$			
4. Other resources Equity in condo	$ 30,000			
TOTAL RESOURCES AVAILABLE (1 + 2 + 3 + 4)				$ 62,000
C. Additional Life Insurance Needed (A − B) (Note: no additional insurance is needed if number is negative.)				$582,900

2. Students' answers will vary. Undergraduates will probably not need insurance unless they have dependents. Older students should justify their answers.

3. Worksheet 8.1 for Jim Henderson follows. Given his current circumstances, he should consider purchasing additional life insurance. With child support and alimony, he is paying $22,800 per year to support his family. Because his ex-wife doesn't make very much in her job, if he were to die prematurely, his children would suffer. The younger child is only 7, so it will be at least 15 years until that child is through college. The illustration shown assumes that Jim will continue his current level of support until the younger child reaches age 22. The cost of college is bound to rise during that time period, but Jim makes enough money that if he is alive, he will be able to contribute more for their college expenses. If he were to die prematurely, his children would receive his savings and retirement assets, which hopefully will be increasing regularly through time. [Jim would need to name a trustee to administer the assets for the benefit of his children while they are still minors.]

Problem 3—Worksheet 8.1

Insured's Name Jim Henderson Date Feb. 19, 2007

	Period 1	Period 2	Period 3	Totals
A. Family Income Needs				
1. Debt Liquidation:				
a. House mortgage	$			
b. Other loans	$			
c. Total debt (a + b)				$
2. Final expenses (assumed)				$5,000
3. Annual income needs:	**Period 1**	**Period 2**	**Period 3**	
a. Monthly living expenses 1500 + 400	1,900			
b. Less: Social security survivor's benefits				
c. Less: Surviving spouse's income				
d. Less: Other pension benefits and income				
e. Net monthly income needed (a − b − c − d)	1,900			
f. Net yearly income needed (12 × e)	22,800			
g. Number of years in period	15			
h. Funding needed each period (f × g)	342,000			
i. Total living needs (add line h for each period)				$342,000
4. Spouse reeducation fund				$
5. Children's opportunity fund				$
6. Other needs				$
7. TOTAL INCOME NEEDS (add right column)				$347,000
B. Financial Resources Available				
1. Savings and investments	$ 100,000			
2. Group life insurance	$ 75,000			
3. Other life insurance	$			
4. Other resources	$			
TOTAL RESOURCES AVAILABLE (1 + 2 + 3 + 4)				$ 175,000
C. Additional Life Insurance Needed (A − B) (Note: no additional insurance is needed if number is negative.)				$ 172,000

Jim is already in his 40s, so the cost of term insurance is not as affordable as it would be for someone younger. He also needs to think ahead for his retirement needs, and his current $100,000 will not be enough. He might consider a variable life insurance policy in which he can build some cash value that he could use for his own needs if he so chooses. He would be able to direct how the cash value is invested and would hopefully get a better return than on whole life insurance. In fact, he could get two policies—one a decreasing term policy with level premiums for the next 15 years and the other a variable policy for growth and for his own needs later. The decreasing term policy would be cheaper than a straight term policy, and it would be appropriate because his life insurance coverage needs should decrease as his other investments grow through time. Jim might want to find a good financial planner to help him at this juncture point in his life to plan not only for his children's needs but also for his own retirement needs.

4. The premium calculations demonstrate that, in general, rates for men are higher than for women of the same age, that premiums increase with age, and that term insurance is far less expensive than whole life. However, remember that whole life insurance builds up cash value, so that if the insured canceled the policy, he or she would receive the cash value back (subject to any taxes and possibly a penalty if withdrawn before age 59 1/2). With term life insurance, there is no cash value build up and the premiums are simply gone. We cannot adequately compare the true costs of these policies without having the schedule for the whole life policies' cash value build up over the specified time periods.

[**Note:** Exhibit 8.2, Annual Renewable Term (ART) Life Premiums, is condensed and only shows years 1 and 5; in reality, the premium will increase each year. One approach to estimate the five- or ten-year cost is to develop an annual average based on the first and last years of the coverage period in question, the method used here. The instructor may prefer to skip ART and have students compare only level premium term and whole life.]

Premium Comparisons for 5-Year Period, Age 25, $100,000 coverage:

ART premium calculations: $\frac{\text{Year 1 + Year 5}}{2}$ = average annual premium

Male: $\frac{\$130 + \$169}{5} = \$149.50$ Female: $\frac{\$119 + \$147}{2} = \$133$

Multiply annual premiums by 5 to get total premiums paid over a 5-year period.

	Annual Renewable Term:		Level-Premium Term:		Whole Life:	
Premiums:	Annual	5-Yr. Total	Annual	5-Yr. Total	Annual	5-Yr. Total
Male	$149.50	$748	$102	$510	$988	$4,940
Female	$133	$665	$102	$510	$941	$4,705

Premium Comparisons for 10-Year Period, Age 40, $100,000 coverage:

ART premium calculations: $$\frac{\text{Year 1} + \text{Year 10}}{2} = \text{average annual premium}$$

Male: $$\frac{\$148 + \$426}{5} = \$287$$ Female: $$\frac{\$139 + \$368}{2} = \$253.50$$

Multiply annual premiums by 10 to get total premiums paid over a 10-year period.

	Annual Renewable Term:		Level-Premium Term:		Whole Life:	
Premiums:	Annual	10-Yr. Total	Annual	10-Yr. Total	Annual	10-Yr. Total
Male	$287	$2,870	$96	$960	$1,833	$18,330
Female	$253.50	$2,535	$89	$890	$1,788	$17,880

5. A comparison of the differences in costs for Monica over a 20-year period is shown below. The representative tables given in the text as Exhibits 8.2 and 8.3 were used to estimate the cost of annual renewable term and level premium term rates—actual costs will vary. The annual premium of $1,670 for $250,000 of whole life insurance coverage was given in the problem.

Premium Comparisons for 20-Year Period, Age 25, $250,000 coverage:

ART premium calculations: $$\frac{\text{Year 1} + \text{Year 20}}{2} = \text{average annual premium}$$

Female: $$\frac{\$119 + \$259}{2} = \$189 \text{ per } \$100{,}000 \times 2.5 = \$472.50 \text{ for } \$250{,}000 \text{ coverage}$$

Multiply annual premiums given for $100,000 coverage by 2.5 to get annual premiums for $250,000. Then multiply annual premiums for $250,000 coverage by 20 to get total premiums paid over a 20-year period.

	Annual Renewable Term:		Level-Premium Term:		Whole Life:	
Premiums:	Annual	20-Yr. Total	Annual	20-Yr. Total	Annual	20-Yr. Total
Female	$472.50	$9,450	$237.50	$4,750	$1,670	$33,400

Term life would be more affordable for a young family because it costs much less than whole life insurance. However, the whole life policy would build up cash value over time and would serve as a means of forced savings against which the family could borrow against if needed. Without knowing the specifics of the policy, it is difficult to estimate how much cash value would build up over the next 20 years. And bear in mind that because the policy assumes an earnings rate of 8% per year, there is no guarantee that the policy will in fact earn 8%.

Before Monica buys any policy, the family must evaluate its insurance needs to determine if $250,000 is the right amount and how much they have to spend for premiums. They also should determine if more insurance is needed on Manuel. Then they can choose the type of policy. They may be better off with term insurance and investing the difference in premiums; this would also provide greater financial flexibility for a young family.

Some things to consider in making their decision:

a. Most young families simply don't have the extra money to sink into whole life policies.
b. The whole life policy may not earn 8%—they typically guarantee a very low rate while assuming a higher rate in savings illustrations.
c. Monica's investments could yield greater than the assumed rate if the family bought term and invested the difference in premium amounts.
d. What about getting the 20-year level term and placing the difference in premiums in a Roth IRA? This would provide a tax-sheltered growth environment and greater flexibility as the principal (not the earnings) can be tapped anytime without penalty. She would also be providing for her retirement as well.
e. True, loans can be taken out against the cash value of whole life policies, but there are consequences in doing so. If the money is not repaid, income taxes must be paid on the loan amount plus possible penalties. If the insured dies with an outstanding loan, this amount is subtracted from the amount the beneficiaries receive.

6. The returns on variable life insurance policies are not guaranteed, so this policy may not provide the anticipated level of savings. Also, this form of life insurance typically has high expenses and annual fees that reduce overall returns, so he should shop carefully. If your coworker wishes to borrow against the cash value in the policy to pay for his child's college education, there are consequences to doing so. As mentioned in the problem above, if the loan is not repaid, income taxes must be paid on the loan amount plus possible penalties. If the insured dies with an outstanding loan, this amount is subtracted from the amount the beneficiaries receive.

   As for buying additional term insurance through a group plan, the insured needs to compare the group premiums with those from other insurance companies to find the most cost effective coverage. Make sure this coworker knows that term insurance does not build cash value, so taking out a loan against the policy is not an option. Also, what would happen to her coverage if she were to change employers? Point out that the older you get, the more expensive term insurance becomes. If she feels she will need insurance later on in life, she might want to find a good whole life or variable life policy now that builds cash value.

Solutions to Critical Thinking Cases

8.1 Lee Hsiah's Insurance Decision: Whole Life, Variable Life, or Term Life?

1. a. *Whole life insurance* provides protection over the whole life of the insured. In addition to death protection, whole life insurance has a savings element called *cash value,* which results from the manner in which premiums are paid.

   b. *Variable life insurance* allows the policyholder to decide how the money in the cash value component should be invested. Therefore, it offers the highest and most attractive level of investment return, but it also involves the most *risk,* because unlike whole or universal life, no minimum return is guaranteed. It also tends to have higher expenses and fees.
   c. *Term insurance* is a type of life insurance under which the company agrees to pay a stipulated amount if the insured dies within the policy period. It offers the most economical way to purchase life insurance on a temporary basis. This form of life insurance only offers protection against financial loss resulting from death. It has no savings function.

2. The major advantages of *whole life* are: (1) building an estate as the cash value accumulates or as the face value is paid upon death; (2) the premium is constant over a lifetime, so if you need lifetime insurance the premiums are known; (3) it provides a regular forced savings feature that many people like; (4) the cash value can be borrowed against; and (5) the accumulated earnings are given favorable tax treatment. The most frequently cited disadvantages of whole life are that: (1) more death protection can be purchased with term insurance; (2) higher yields may be obtained from other investment vehicles; and (3) there may be consequences to borrowing against the cash value.

   The major advantages of *variable life* include: (1) the ability to spread your money over a variety of different investment accounts in one convenient, tax-favored package; (2) the ability to move funds from one account to another as market conditions dictate; and (3) the tax benefits, which include earnings free of current taxation, no tax consequences to switching between funds, and a tax-free death benefit. The major disadvantages are: (1) you can lose money on the investment portion, which could reduce (or possibly even wipe out all together) the built-up cash value and (2) the amount of insurance protection is not well defined because it depends, in large part, on the amount of profits or losses generated from your investments—in other words, you may end up with a lot less insurance coverage than you want.

   The major advantage of *term insurance* is that it offers an economical way to purchase a large amount of life insurance protection over a given, short period of time. The major disadvantage is that the cost of continued term coverage will increase through time due to the increased chance of death as one gets older. Therefore, people frequently discontinue needed coverage because of increasing cost.

3. *Whole life is superior to variable life* because it emphasizes the insurance element of the policy and guarantees a minimum earnings level. *Whole life is superior to term* in that the premium is constant over a long period of time so that both the level of insurance and the amount of the premium are known. *Variable life is superior* to whole life because of the better investment earnings opportunities and is superior to term because of this savings element. *Term is superior* to both whole life and variable life because of its emphasis on the insurance element. The highest face value per dollar of premium is available with term.

4. Lee Hsiah should probably buy some form of *term insurance.* As a single parent with young children, she needs to get the most coverage possible per dollar expended. She also needs to supplement the insurance provided by her employer with other insurance that is not dependent on her job security. The $150,000, 25-year limited payment whole life policy might not be feasible due to its high premium cost per dollar. These high rates are due to the large savings component that results because the policy will be fully paid up after only 25 years. If whole life were chosen, continuous premium whole life would more affordable. Variable life insurance would not be appropriate at this time, as she needs to have a known amount of coverage in order to provide for her three children.

   Since Ms. Hsiah's goal is to obtain as much coverage per dollar as possible, rather than building sizable savings, she should purchase term insurance. If she wants to continue the term coverage beyond its initial maturity, she may want to consider some type of renewability provision. A good choice might be to lock in the rate of a 20-year level term policy, and by that time hopefully the last child will be through college. A convertibility option may also be desirable so that as her needs change from pure insurance coverage to saving for retirement, she can shift from term insurance to some type of whole life insurance. Regardless of the options she selects, *term insurance will probably best fulfill her insurance needs at this point in her life.*

8.2 The Kings Want to Know When Enough is Enough

1. Using the earnings multiple calculation, the Kings' insurance needs are:

   Dave: $54,000 x 8.7 = $469,800

   Karen: $64,000 x 7.4 = $473,600

2. Worksheet 8.1 for both Dave and Karen are found on the following pages. Note that the first worksheet is for *Dave King;* this was prepared to show the needs that will exist if Dave dies and Karen is the surviving spouse. The second worksheet is for *Karen King,* and here it is assumed Dave is the surviving spouse. The worksheets show that Dave needs another $434,000 in life insurance, while Karen should have another $522,000. Dave's life insurance needs are less because Karen makes more money, and as the surviving spouse, she can provide a larger share of the family's income needs.

3. The amount of insurance needed is different depending on the methods used in questions 1 and 2. The earnings multiple approach from question 1 is a *general,* average estimate of a family's needs; the worksheets in question 2 address the Kings' *specific* situation. The needs approach gives a *far more accurate* picture of life insurance needs and also considers existing life insurance and other assets.

   Using the Needs Approach in number 2 above, we found that Dave needs another $434,000 in life insurance and Karen needs another $522,000. However, the $100,000 amount they now have is a declining-term policy, which means every year the pay off amount decreases. This policy may not be very cost effective, and they may be better off replacing it, particularly since their insurance needs will increase each year because this policy will pay less and less. Therefore, they would probably do well to get an additional $600,000 of insurance for both of them, and after it is in place cancel the declining-term policy. [This problem is continued after the worksheets.]

Case 8.2, Problem 2—Worksheet 8.1

LIFE INSURANCE NEEDS ANALYSIS METHOD

Insured's Name Dave King Date 1/12/2007

		Period 1	Period 2	Period 3	
Step 1: Estimate the total economic resources needed					
1. Annual living expenses and other needs:					
a.	Monthly living expenses	$ 7,800	$	$	
b.	Net yearly income needed (a × 12)	$ 93,600	$ 0	$ 0	
c.	Number of years in time period	15			
d.	Total living need per time period (b × c)	$ **1,404,000**	$ **0**	$ **0**	
TOTAL LIVING EXPENSES (add line d for each period):					$ **1,404,000**
2. Special needs					
a.	Spouse education fund				$
b.	Children's college fund				$ 120,000
c.	Other needs				$
3. Final expenses (funeral, estate costs, etc.)					$ 10,000
4. Debt liquidation					
a.	House mortgage	$ 210,000	$	$	
b.	Other loans	25,000			
c.	Total debt (4 a + 4 b)				$ **235,000**
5. Other financial needs					$ 0
TOTAL INCOME NEEDS (add right column)					$ **1,769,000**
Step 2: Financial resources available after death					
1. Income					
a.	Annual Social Security survivor benefits	$ 21,600	$	$	
b.	Surviving spouse's annual income	$ 50,400	$	$	
c.	Other annual pensions and Soc. Sec. benefits	$	$	$	
d.	Annual income	$ **72,000**	$ 0	$ **0**	
e.	Number of years in time period	15			
f.	Total period income (d × e)	$ **1,080,000**	$ 0	$ **0**	
g. TOTAL INCOME					$ **1,080,000**
2.	Savings and investments				$ 75,000
3.	Other life insurance				$ 180,000
4.	Other resources				$ 0
TOTAL RESOURCES AVAILABLE (1g + 2 + 3 + 4)					$ **1,335,000**
Step 3: Subtract available resources (Step 2) from the amount needed (Step 1)					
Step 1: Total income needs					$ **1,769,000**
Step 2: Available resources					$ **1,335,000**
ADDITIONAL LIFE INSURANCE NEEDED					$ **434,000**

Case 8.2, Problem 2—Worksheet 8.1

LIFE INSURANCE NEEDS ANALYSIS METHOD					
Insured's Name Karen King			Date 1/12/2007		
Step 1: Estimate the total economic resources needed					
1. Annual living expenses and other needs:					
		Period 1	Period 2	Period 3	
a.	Monthly living expenses	$ 7,800	$	$	
b.	Net yearly income needed (a × 12)	$ 93,600	$ 0	$ 0	
c.	Number of years in time period	15			
d.	Total living need per time period (b × c)	$ **1,404,000**	$ **0**	$ **0**	
TOTAL LIVING EXPENSES (add line d for each period):					$ **1,404,000**
2. Special needs					
a.	Spouse education fund				$
b.	Children's college fund				$ 120,000
c.	Other needs				$
3. Final expenses (funeral, estate costs, etc.)					$ 10,000
4. Debt liquidation					
a.	House mortgage	$ 210,000	$	$	
b.	Other loans	25,000			
c.	Total debt (4 a + 4 b)				$ **235,000**
5. Other financial needs					$ 0
TOTAL INCOME NEEDS (add right column)					$ **1,769,000**
Step 2: Financial resources available after death					
1. Income					
		Period 1	Period 2	Period 3	
a.	Annual Social Security survivor benefits	$ 21,600	$	$	
b.	Surviving spouse's annual income	$ 43,200	$	$	
c.	Other annual pensions and Soc. Sec. benefits	$	$	$	
d.	Annual income	$ **64,800**	$ **0**	$ **0**	
e.	Number of years in time period	15			
f.	Total period income (d × e)	$ **972,000**	$ **0**	$ **0**	
g. TOTAL INCOME					$ **972,000**
2.	Savings and investments				$ 75,000
3.	Other life insurance				$ 200,000
4.	Other resources				$ 0
TOTAL RESOURCES AVAILABLE (1g + 2 + 3 + 4)					$ **1,247,000**
Step 3: Subtract available resources (Step 2) from the amount needed (Step 1)					
Step 1: Total income needs					$ **1,769,000**
Step 2: Available resources					$ **1,247,000**
ADDITIONAL LIFE INSURANCE NEEDED					$ **522,000**

Annual renewable term is usually not as cost effective as a level term policy. If the Kings are considering a term policy, they would probably be better off with a 20-year level term policy rather than annual renewable term. (A 20-year time frame was chosen because that is about how long it will take for the youngest child to finish college.) If they would like a policy which builds cash value, whole life would probably be better for them than either variable or variable universal life. Because their children are young, they need to have a policy where they know what the pay off amount will be. Such is not the case with either of the variable policies. Universal life might be an attractive option to whole life. However, we will consider the options of 20-year level term and whole life insurance, as we do not have an example table of premiums for universal life insurance.

The following chart compares the premiums on a 20-year level term policy with a whole life policy. The representative tables given in text exhibits 8.3 and 8.6 were used. Actual costs will vary.

Premium Comparisons for 20-Year Period, Age 35, $200,000 coverage:

Multiply annual premiums given for $100,000 coverage by 2 to get annual premiums for $200,000. Then multiply annual premiums for $200,000 coverage by 20 to get total premiums paid over a 20-year period.

	Level-Premium Term:		Whole Life:	
Premiums:	Annual	20-Yr. Total	Annual	20-Yr. Total
Male	$206	$4,120	$2,946	$ 58,920
Female	$190	$3,800	$2,876	$ 57,520
Total for both	$396	$7,920	$5,822	$116,440

The 20-year level term is obviously more affordable, costing only $396 per year vs. $5,822, a difference of over $5,000. Clearly, the Kings have to decide if they can even afford the whole life insurance.

The difference in premiums paid over a 20 year period is even more dramatic, with the whole life costing over $100,000 more than the level term. However, the whole life would have built up a cash value of $46,223 x 2 = $92,446 for a $200,000 policy after 20 years; for 2 people, the total cash value would be $92,446 x 2 = $184,892. So the whole life would provide protection plus an investment. In fact, it would have a greater value in 20 years than the cost of the premiums, whereas the term insurance premiums would just be gone.

If the Kings have the money to pay the premiums on the whole life policy, then they have to decide if they would be better off getting the level term policy and investing the difference. The whole life policy would allow their investment to grow tax free, which is a plus. However, if the Kings ever need to take a loan against their life insurance and don't replace it in a given time period, they will have to pay taxes and possibly a penalty.

One attractive choice would be to invest as much as is allowed of the difference in yearly premiums in Roth IRAs each year. Their money would grow tax free and

offer the family more flexibility in using their money for their children's education if necessary. The remainder of the annual difference would be invested in a taxable account. It is possible that the family's investments after 20 years would be more than what the cash value would be on whole life insurance. And, if they remove cash value from a whole life insurance policy, some amount would be lost to taxes. Plus, the Roth IRAs would provide tax-free income for their retirement.

Chapter 9

Insuring Your Health

Chapter Outline

Learning Goals

I. The Importance of Health Insurance Coverage

Concept Check

II. Health Insurance Plans

- A. Private Health Insurance Plans
  1. Traditional Indemnity (Fee-for-Service) Plans
  2. Managed Care Plans
     - a. Health Maintenance Organizations (HMO)
     - b. Preferred Provider Organization (PPO)
     - c. Other Managed Care Plans
  3. Blue Cross/Blue Shield Plans
- B. Government Health Insurance Plans
  1. Medicare
  2. Medicaid
  3. Workers' Compensation Insurance

Concept Check

III. Health Insurance Decisions

- A. Evaluate Your Healthcare Cost Risk
- B. Determine Available Coverage and Resources
- C. Choose a Health Insurance Plan

Concept Check

IV. Medical Expense Coverage and Policy Provisions

- A. Types of Medical Expense Coverage
  1. Hospitalization
  2. Surgical Expenses
  3. Physician Expenses
  4. Major Medical Insurance
  5. Comprehensive Major Medical Insurance
  6. Dental Services
- B. Policy Provisions of Medical Expense Plans
  1. Terms of Payment
     - a. Deductibles
     - b. Participation (Coinsurance)
     - c. Internal Limits

d. Major Medical Policy: An Example
e. Coordination of Benefits
2. Terms of Coverage
a. Persons and Places Covered
b. Cancellation
c. Preexisting Conditions
d. Pregnancy and Abortion
e. Mental Illness
f. Rehabilitation Coverage
g. Continuation of Group Coverage
C. Cost Containment Provisions for Medical Expense Plans
Concept Check

V. Long-Term Care Insurance
A. Do You Need Long-Term Care Insurance?
B. Long-Term Care Insurance Provisions and Costs
C. How to Buy Long-Term Care Insurance
Concept Check

VI. Disability Income Insurance
A. Estimating Your Disability Insurance Needs
B. Disability Income Insurance Provisions and Costs
1. Definition of Disability
2. Benefit Amount and Duration
3. Probationary Period
4. Waiting Period
5. Renewability
6. Other Provisions
Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
Insure Your Health!
Critical Thinking Cases
9.1 Evaluating Rick's Health Care Coverage
9.2 Benito and Teresa Get a Handle on Their Disability Income Needs
Money Online

Major Topics

A sound personal financial plan includes adequate protection against the potentially devastating financial consequences associated with a serious illness or accident. Provisions must be made to meet doctor and hospital bills as well as to replace income lost during periods of extended illness and recuperation. Health care insurance provides a way to meet such costs. It is a vital component of an effective financial plan, because without adequate health care insurance everything that one has accomplished, as well as the likelihood of goal achievement, could quickly be wiped out. Health care insurance is

therefore an essential component of financial plans. The major topics covered in this chapter include:

1. The effect of rising health care delivery costs on the need for adequate health care insurance and the importance of including health insurance as a fundamental component of a strong personal financial plan.
2. Types and sources of health care coverage available for covering medical and hospitalization expenses, including indemnity and managed care plans, such as health maintenance organizations, individual practice associations, and preferred provider organizations.
3. The providers of health care coverage, ranging from the federal government's Social Security program to group health insurance policies and individual health coverages.
4. Review of the most important health insurance policy provisions as they relate to terms of payment and terms of coverage.
5. Cost containment provisions commonly found in health insurance plans.
6. Long-term care insurance, including policy provisions and costs.
7. The importance of disability insurance to replace lost wages during periods of extended illness.

Key Concepts

Recognizing and meeting the need for adequate health care protection is fundamental to effective personal financial planning. Because health care costs are rising faster than the costs of most other consumer products and services, insuring one's health is both necessary and difficult. It is therefore important to be acquainted with the major concepts of health insurance. The following phrases represent the key concepts stressed in this chapter.

1. The need for health care insurance coverage
2. Indemnity (fee-for-service) plans
3. Managed care plans, including HMOs, IPAs, and PPOs
4. Blue Cross/Blue Shield plans
5. Group health insurance
6. Social Security, Medicare, Medicaid and disability income coverages
7. Workers' compensation insurance
8. Types of coverage: hospital insurance, surgical insurance, and physicians expense insurance
9. Major medical insurance and comprehensive major medical insurance
10. Dental insurance
11. Policy provisions for payment, coverage (including COBRA provisions), and cost containment
12. Long-term care insurance
13. Disability income insurance

Answers to Concept Check Questions

9-1. Health insurance protects your financial future against potential economic loss due to illness or injury. With the high cost of health care today, a serious illness could wipe out a family's savings, and a disability could severely lower their standard of living.

9-2. In general, the costs of health care have been increasing at a rate that exceeds the rise in the consumer price index (CPI). Probably the chief cause of rapidly rising health care costs stems from the increased demand for health care services resulting from the aging U.S. population. In turn, this increased demand has been stimulated by the government's Medicare and Medicaid programs, as well as the rapid growth in the broad base of private health care plans. Also, the acquisition of expensive new health care equipment and facilities by hospitals and clinics has pushed costs upward. A poor distribution of demand for and supply of health care facilities and services resulting in an inefficient allocation of health care resources also contributes to today's high cost of health care.

9-3. The primary health insurance providers are *private insurers*, including Blue Cross/Blue Shield, group insurance plans, and managed care organizations, and *government programs* like Medicare, Medicaid, and workers' compensation.

9-4. *Group health care insurance* consists of health care contracts that are written between a group (usually an employer, union, credit union, college or university, or other organization) and an insurance company. The coverages of each specific plan are subject to negotiation between the group and the insurer. With the exception of disability coverage, most health care coverages are available through group health insurance plans. In most group plans the employer will pay all or part of the premiums.

Unlike group plans, *individual health insurance coverages* provide protection directly to the policyholders and/or their families. While under a group plan the individual is entitled only to the benefits that are available in the master plan, individuals with individual health insurance coverages can tailor the coverage to their needs.

9-5. With *traditional indemnity (fee-for-service) plans,* the insurer is separate from the health care provider. The insurer pays the provider or reimburses the patient. There are no limitations on the doctors and hospitals an insured can choose. These plans generally have an annual deductible, after which the insured is reimbursed for a percentage (usually 80%) of *usual, customary, and reasonable charges.*

Managed care plans combine the insurer and the provider, with the insured paying fixed monthly payments to that organization. Members receive medical services from a designated provider group. Managed care providers stress cost controls and preventive health care. Co-payments are low, and most services are covered by the monthly fee.

9-6. HMOs attempt to reduce the costs of health care to families and individuals through more efficient utilization of resources and by practicing "preventive medicine." *Health maintenance organizations (HMOs)* consist of hospitals, physicians, and other health care personnel who have joined together in a central facility to provide necessary health services to its subscribers. Most HMOs provide physical exams and sponsor pro-health activities in an effort to keep their members healthier. Members are charged a monthly fee based upon the number of persons in the family. The fee entitles them to receive preventive and corrective health care services. Members may also have to pay a $5 to $20 fee each time they use an outpatient service or need a prescribed drug. Members may have little choice of their physician and may not be able to get medical care outside of a given geographic location except in the case of emergencies.

An *individual practice association (IPA)* is often considered to be little more than a variation on a standard HMO because the financial and service arrangements are similar, with only the physical facility being different. As a member of an IPA, one would prepay monthly and be entitled to the health care services offered. However, the services are not provided from a central facility. Instead physicians operate out of their own offices and from community hospitals that provide services to IPA members as well as others.

A *preferred provider organization (PPO)* has characteristics of both an HMO and an insurance plan and can be administered by an insurance company or a provider group. A PPO offers comprehensive health care services to its subscribers within a network of physicians and hospitals who have agreed to accept a negotiated fee schedule. In addition, it provides insurance coverage for medical services not provided by the PPO network.

9-7. *Blue Cross/Blue Shield plans* are not insurance policies, but rather prepaid hospital expense plans. Blue Cross contracts with hospitals, who in exchange for a specified fee or payment, agree to provide specified hospital services to members of groups protected by Blue Cross. Similarly, Blue Shield plans are contracts providing for surgical and medical services. These plans serve as intermediaries between groups who want these services and physicians who contractually agree to provide them. Until 1994, Blue Cross/Blue Shield organizations were nonprofit. Since that time, the 47 independent local member companies operate as for-profit corporations. They compete for business with private insurance companies. Their income is used to lower premiums and/or expand coverage.

9-8. The formal name for what is commonly referred to as Social Security is old-age, survivor's, disability, and health insurance (OASDHI). Health care benefits are provided under two separate programs: Medicare and disability income. *Medicare* is a health care plan designed primarily to help persons over age 65 meet their health care costs. It also covers a number of persons under age 65 who are current recipients of monthly Social Security disability benefits. The two primary components of Medicare are: (1) basic hospital insurance covering the first 150 days of an illness, with deductibles varying according to the number of days of hospitalization, and (2) supplementary medical insurance, a voluntary coverage that reimburses 80% of approved charges after the $100 deductible is met.

Under the *basic hospital insurance coverage* of Medicare (commonly called Part A), inpatient hospital services are included for the first 150 days of an illness after a deductible ($876 in 2004) is applied to the first 60 days, a daily deductible during days 61-90 ($219 in 2004), and an increased daily deductible during days 91-150 ($438 in 2004). No hospitalization coverage is provided beyond day 150. Medicare contributes not only to hospital room and board, but also to all hospital inpatient services, limited stays in extended-care facilities, and some post-hospital services such as therapy, rehabilitation, and home health care.

Supplementary Medical Insurance (SMI) is Medicare's voluntary supplemental plan (commonly called Part B) providing payment for (1) physicians' and surgeons' services provided at home or in a health care facility; (2) home health service (visits by a registered nurse); (3) medical and health services such as X-rays, diagnostics, laboratory tests, rental of necessary durable medical equipment, prosthetic devices, and ambulance trips; and (4) limited psychiatric care. It is financed by charging premiums ($66.60 per month in 2004) to those people who elect to participate in the plan. Anyone age 65 or over is eligible to participate in this program. The program has deductibles, coinsurance, and internal limits. For up-to-date information on changes in the Medicare program, pull up their Web site at www.medicare.gov.

Medicaid is a state-run public assistance program that provides health insurance benefits to those of low economic means. Each state has its own regulations regarding eligibility and services covered. The states primarily fund their own Medicaid programs, although the federal government also contributes to funding.

9-9. *Worker's compensation insurance* statutes have been enacted in every state and by the federal government to provide compensation to workers for job-related illnesses or injuries. In most cases, compensation provides benefits covering medical expenses, rehabilitation, disability income, and scheduled lump-sum amounts for death and certain injuries, such as dismemberment. Employees receive worker's compensation coverage regardless of whether they have other health care insurance or not. Several important benefits are lump-sum payments and second-injury funds.

Lump-sum payments are lump sum amounts normally paid to employees who suffer dismemberment in work-related accidents or to their beneficiaries in the case of death. A schedule of lump-sum payment benefits for various injuries is normally provided the insured.

Second-injury funds are established as part of the worker's compensation statutes in order to relieve employers of the additional worker's compensation premium burden they might incur if an already handicapped worker sustained further injury on the job. These funds protect the employer from developing an adverse claims experience (that would result in increased premiums) merely because they hired an already partially handicapped worker.

9-10. Four methods for controlling the risks associated with healthcare expenses include:

1. Risk avoidance—trying to avoid exposure to a particular risk so that loss will not occur. Not driving a car would be a way to avoid having an auto accident.
2. Loss prevention—taking preventive measure to try to keep a loss from occurring. Not driving over the speed limit and never driving after drinking would be examples of loss prevention.
3. Loss control—taking measures to control the amount of loss in case it actually occurs. Wearing a seat belt when riding in an auto helps keep your head from going through the windshield or you being thrown out of the car should an accident occur.
4. Risk assumption—you pay for the loss yourself. It is not economically feasible to insure against every small loss, so you simply pay out of pocket for the loss or do without. You back into a light post and knock out your taillight. The amount of loss is less than your deductible on your auto insurance, so you pay for the taillight yourself. Not fixing it is not a good option in this instance, as your car would not pass inspection, or you might get a ticket.

9-11. Employees should consider numerous factors in evaluating their *employer-sponsored health insurance plan*. If their employer offers a flexible-benefit plan, the employee must decide which benefits to choose for the amount of money allotted by the employer toward benefits. If the employee needs more coverage, he or she must decide whether to purchase the extra from the employer's plan or from another source. If the employer offers a medical reimbursement account to which the employer contributes, the employee can decide whether to use that money or allow it to build up against some unknown future expenses. If the employee's spouse also receives benefits from his or her employer, then the couple must decide how to best coordinate the coverages of the two plans. If the employee loses his or her job, then he or she must decide whether to continue health insurance coverage through COBRA or not.

9-12. Several sources of health insurance are available to *supplement employer-sponsored health insurance plans*. These include private insurance companies as well as Blue Cross/Blue Shield. Some amount of healthcare coverage is available on homeowner's and automobile insurance policies, but the coverage is limited and applies only in certain circumstances. Several government programs are available, such as Medicare for those 65 or older, Medicaid for those of low economic means, medical care for military or retired military personnel, and public health programs to treat communicable diseases, handicapped children, and mental health disorders.

9-13. The five questions appear on the same page as this concept check question. Student answers will vary depending on their current needs and situations.

9-14. *Hospitalization insurance policies* offer reimbursement plans which generally pay for (1) a portion of the per day hospital room (semi-private) and board charges. This typically includes floor nursing and other routine services. These policies also cover (2) ancillary expenses, such as the use of the operating room,

laboratory tests, X-ray examinations, and medicine received by the patient while hospitalized.

Surgical expense insurance provides coverage for the cost of surgery in or out of the hospital. Payment is based on either *service benefits,* which pay expenses that are considered "reasonable and customary" for that procedure, or on a *schedule of benefits* that prescribes the maximum amount the insurer pays for listed surgical procedures. Usually, surgical expense coverage is quite extensive and will pay for almost any type of surgery that is required to maintain the health of the insured. Surgical expense coverage is typically sold in conjunction with a hospital insurance policy either as an integral part of that policy or as a rider.

9-15. *Major medical coverage* is designed to finance medical costs of a more catastrophic nature and provides benefits for nearly all types of medical expenses resulting from either illnesses or accidents. The amounts that can be collected under this coverage are relatively large. Major medical coverage is typically written with provisions to limit payments, including deductibles, participation or coinsurance, and internal limits. Most policies now cap the insured's out-of-pocket payment through deductibles and coinsurance; after a certain dollar amount is paid by the insured, the company pays 100% of covered costs. Someone who must purchase insurance as an individual on a limited budget needs this protection the most.

A *comprehensive major medical insurance plan* combines the basic hospital, surgical, and physicians expense coverages with major medical protection to form a single policy and is usually the most desirable type of coverage to have. Usually the deductible is low, often $100 to $500. There may be no coinsurance feature. Comprehensive major medical is frequently written as a group policy, although individual policies are available.

9-16. a. *Deductibles,* which require the insured to pay the first so many dollars, are typically relatively large, usually ranging from $500 to $1,000 per illness or accident. Some plans have annual deductibles or else specify the initial amount of the cost of each illness or accident for which the insured is responsible. The insurance policy will reimburse only amounts above the deductible. A greater deductible usually results in less being paid by the health care plan for any particular illness or accident, but it usually results in lower premium payments by the insured as well. The deductible reduces the insurer's administrative costs and the frequency of small claims.

b. *Coinsurance,* or *participation,* provisions stipulate that the company will pay only some portion, normally 80 or 90%, of the amount of the covered loss in excess of the deductible. The insured participates by "coinsuring" or paying the remainder. It is used to discourage feigning illness or unnecessary medical expenses.

c. Sometimes individuals are covered under several health care policies—for example, both spouses work and each are provided with family health coverage. Because health insurance policies are not contracts of indemnity, it may be

possible for insureds to collect multiple payments for the same illness or accident. However, many health care policies will have a *coordination of benefits* provision (also called "nonduplication procedure" or “other insurance”) which reduces multiple benefit payments. The insurance companies involved will coordinate their payments so that the reimbursement amount is not greater than the actual charges incurred. The presence of these clauses should help to lower policy premiums as well as prevent “moral hazard,” the temptation to file a claim or even injure oneself in order to profit.

d. *Pre-existing conditions* are physical or mental problems that exist at the time the health care policy is purchased. Some policies, especially individual policies, exclude coverage of these conditions entirely or for a specified time period. Group insurance policies tend to be less restrictive concerning pre-existing conditions than do individual policies.

9-17. When employees voluntarily or involuntarily (except in the case of gross misconduct) leave their jobs and therefore give up membership in the insurance group, they can lose their health insurance. In 1986, Congress passed the *Consolidated Omnibus Budget Reconciliation Act (COBRA)* to allow employees to elect to continue coverage for themselves and eligible family members through the group for up to 18 months. Exercising the COBRA conversion involves timely payment of premiums by the former employee (up to 102% of the company cost) to the former employer. Retirees and their families are also eligible. Most states provide for conversion of the group coverage to an individual policy without evidence of insurability.

9-18. Typical cost containment provisions include the following:

- *Pre-admission certification:* Insurance company must approve scheduled hospitalization and an estimated length of stay.
- *Continued stay review:* Insurer must approve extensions of hospital stay beyond the number of days set in pre-admission certification.
- *Second surgical opinion:* Many group policies require second opinions on specific nonemergency procedures to confirm the surgical need and, in their absence, may reduce the surgical benefits paid.
- *Waiver of coinsurance:* Provides waiver of co-payment and/or deductible (pays 100%) for certain cost-saving procedures, such as outpatient surgery and use of generic pharmaceuticals.
- *Limitation of Insurer's Responsibility:* Many policies limit the amount of costs the insurer must pay to those considered "reasonable and usual." This provision sometimes limits the type and place of medical care for which the insurer will pay.

Requiring a second surgical opinion reduces the number of unnecessary nonelective and/or elective surgeries, thereby holding down the insurer's costs. Many conditions can now be treated without surgery or with surgery that is not so invasive and requires less hospital and recovery time for the patient. This provision obviously benefits patients as well in that they are not subjected to the

trauma and recovery from unnecessary surgery as well as possibly wages lost due to not being able to work.

9-19. Most regular health care policies do not cover the cost of long-term care. As more of the population lives longer, there is a greater likelihood that many people will at some point in their lives be unable to care for themselves for an extended time period. *Long-term care insurance* covers the cost of medical, personal, and social services provided at home, in a community program such as an adult day-care center, or in a nursing home for those who require long-term care as a result of a catastrophic illness such as Alzheimer's disease, heart disease, and stroke. This care can be very expensive, and it is therefore important to consider adding long-term care coverage when developing financial plans.

9-20. a. *Type of care:* Policies will cover care in either a nursing home or in the home of the insured, or both. Obviously, a better policy will cover both situations.

b. *Eligibility requirements:* These are used to determine whether a person qualifies for payment and use "gatekeeper provisions" that may vary considerably. Some policies pay if a physician orders long-term care; others base their determination on the number of activities of daily living (ADLs) the insured cannot perform.

c. *Services covered:* Policies may differ in the levels of care that they will cover (skilled, intermediate, or custodial care). The broader the coverage, the better, because even custodial care at a nursing home can be very expensive over a long period of time.

Other long-term care policy provisions include:

- *Daily benefits*—sets a daily maximum for reimbursement.
- *Benefit duration*—how long the benefits will be paid; ranges from one year to the insured's lifetime.
- *Waiting period*—period after eligibility begins during which no benefit payments are made; the longer the waiting period, the lower the premium.
- *Renewability*—guaranteed renewability assures continued coverage as long as premiums are paid; an optional renewability provision means that the insurer can terminate coverage and should obviously be avoided.
- *Preexisting conditions*—excludes coverage for conditions that exist when the policy is issued, usually for 6 to 12 months.
- *Inflation protection*—provides for increased coverage to keep up with inflation; an additional premium is charged for this rider.
- *Premium levels*—the age of the individual when the policy is initiated determines the premium; premiums go up dramatically with age.

9-21. Before spending money for long-term care insurance for yourself or an elderly relative, you must consider such factors as whether there are significant assets to protect, your ability to pay the expensive premiums, likelihood that you will become disabled due to advanced age or family history of disease, and availability

of family members to provide care. If you decide to purchase a long-term care policy, you should do so while you are healthy and middle aged because once you have a serious disease or become "older," you either aren't eligible for a policy or the premiums will be exorbitant. Before you buy a policy, it's important to find the right types of coverage for your needs and to understand what the policy covers and when benefits start. Good long-term care policies include several levels of care.

9-22. *Disability income insurance* provides a family with weekly or monthly payments to replace income when the insured person is unable to work as a result of a covered illness, injury, or disease. Some companies also offer disability income protection for an unemployed spouse. Such insurance helps pay for the services that the spouse would normally provide.

Waiting period provisions require that the insured wait a specified length of time after inception of the disability before the payment begins. Its purpose is to omit coverage for frequent small losses that are very expensive to administer. A family can save a substantial amount in premiums by purchasing a policy that has a relatively long waiting period. Insureds can generally trade off increased waiting periods for an increased duration of benefits. This is advisable since the primary need is generally for prolonged long-term disability coverage. However, families must make sure to provide for themselves an adequate cushion account or some means to see them through this period.

9-23. Disability or nondisability of an insured is defined in various ways. The more restrictive and less desirable definition states that individuals are disabled if they no longer have the capacity to undertake employment for which they are reasonably suited based on their education, training, or experience. Under this *any occupation* definition, a person who could pursue a related or different career and still be gainfully employed would not qualify for benefits. Hence, a family's standard of living could decline considerably.

More liberal policies classify insureds as disabled if they simply cannot pursue at least one primary duty of the occupation for which they have been trained, called the *own occupation* definition. This is a much more desirable and usually a more expensive coverage, but the family's standard of living will not suffer nearly as much.

An insured who suffers a *presumptive disability*—dismemberment, total loss of eyesight or hearing—is considered totally disabled, and no employment test applies.

The *benefit duration* determines whether the disability coverage will be for a specific time period or for a lifetime. The choice depends on whether or not the insured has good pension benefits that start at age 65 so that disability coverage would no longer be necessary.

Financial Planning Exercises

1. The Carters have many things to consider in choosing their health insurance. If they select the indemnity plan, they will be able to choose the best doctors and hospitals available for their son's future surgeries. However, this plan will cost them $85 more per month in premiums, or $1,020 per year. Additionally, each family member will have a $500 deductible, potentially another $2,000 out of pocket for them. Then after the deductible is met, the Carters will still have to pay 20% of the covered costs. While that may not sound like much, 20% on a $100,000 operation is $20,000, and it's quite possible that their son's expenses may go even higher. Some indemnity policies require only 3 family members to meet their deductibles (the 4th and subsequent family members would not have to meet their deductibles) before coverage kicks in, and some indemnity plans also have a stop-loss provision which limits the family's total out-of-pocket amount. The Carters should definitely check to see if this plan has these provisions.

   The group HMO would definitely be cheaper for the Carters. Not only are the monthly premiums less, but also there are no deductibles to meet, just $20 copays for doctor visits and prescription drugs. The tradeoff would be their lack of ability to choose the doctors and hospitals to treat their son. They should thoroughly research the quality of the doctors and hospitals available through the HMO as well as the HMO's reputation for servicing its clients. Will the HMO be easily convinced to go out of their network to find a specialist if they do not currently one have that would meet the Carter's needs? If the HMO does have the appropriate specialists, are they of the highest caliber? If the Carter's are not pleased with their findings concerning the HMO, they should go with the indemnity plan if they possibly can. It could literally mean the difference between life and death for their son.

   Concerning other options open to the Carters, John probably makes too much money for their family to qualify for any public assistance programs for their son's surgeries and treatment. However, they should still check to see what is available in their state. Also, they should see if there are any nonprofit organizations that would help with some of the cost of their son's care. Finally, they should research other insurance companies, both for full coverage and for a supplemental policy to help defray some of the costs. It's likely that other insurance will not be as cost effective as their employer's, but they won't know their options unless they check.

2. David Chang's total costs:

Hospital: 5 days @ $900	$4,500
Surgical fees	6,200
Doctor's fees	4,300
Prescriptions	520
Physical therapy	2,100
Total	$17,620

a. Indemnity policy:

Total cost		$17,620
Less: $500 deductible		– 500
Eligible costs		$17,120
His share:	20% x $17,120	$3,424
	plus: deductible	+ 500
	Total	$3,924

(Stop loss provision does not apply, as his out-of-pocket expenses are less than $5,000.)

b. Under the HMO, possibly the only cost would be the eight office visits, but we would have to have more details on his plan. More HMOs are now charging deductibles and hospital copays as well.

8 x $20 = $160

c. Annual cost:

Indemnity plan:

Premiums (12 x $155)	$1,860
Out-of-pocket + deductible	$3,924
	$5,784

HMO:

Premiums ($250 x 12)	$3,000
Office visits	+ 160
	$3,160

In this example, the HMO is the more cost-effective coverage. Other things to be considered are the level of care received, the competence of the available physicians and the quality of the hospital facilities.

3. Worksheet 9.1 – answers will vary.

4. *Pros of long-term care insurance* include: protection of assets should a covered family member need lengthy nursing home care and the security of arranging in advance for coverage for lengthy nursing home care. The *disadvantages* are: 1) the high cost of this coverage; 2) by the time a person needs this coverage, inflation and rising health care costs may have rendered the benefits inadequate; and 3) if the covered person never needs these service, the premiums paid may be lost. Student assessment of their family's needs will differ, but they should consider if there is a history of debilitating disease in their family, if a family member currently has a health problem, who would be available to care for their family members, and if they can afford the premiums.

5. a. Worksheet 9.2 for John Fitzmorris:

DISABILITY BENEFIT NEEDS			
Name(s): John Fitzmorris		Date: 10/13/04	
1.	Estimate current monthly *take-home* pay		$ 3,750
2.	Estimate existing monthly disability benefits:		
	a. Social security benefits	$____	
	b. Other government benefits	____	
	c. Company benefits	____	
	d. Group disability policy benefits	2,250	
3.	Total existing monthly disability benefits (2a + 2b + 2c + 2d)		$ 2,250
4.	**Estimated monthly disability benefits needed ([1] – [3])**		**$ 1,500**

b. John needs to supplement his employer's disability insurance with an individual policy. The minimum he currently needs is $1,500 per month, and he will need $3,750 per month once his employer's plan coverage ends. He should decide how long his own assets would cover immediate needs so that he can choose a policy with a longer waiting period. Own-occupation coverage is more expensive than any-occupation, but the cost would be lessened if he purchases one with a 6-month waiting period which would kick in when his employer's plan is exhausted. If John feels he cannot afford own-occupation coverage, he should evaluate what other occupations he would consider if he were disabled. A noncancellable policy is preferable because the premiums will not go up, but a guaranteed renewable policy would be more affordable. Other factors to assess include the length of the waiting period, the age at which benefits expire, and the availability of residual benefits if he is able to work part-time.

6. Student answers will vary based on individual circumstances. Before purchasing disability coverage, determine how much you need:

- Evaluate existing and available resources, such as employer and government plans. Understand the eligibility requirements, waiting periods, etc.
- Decide the type of plan—own-occupation or any-occupation—you will accept.
- Choose the benefit amount and duration, taking into account probationary and waiting periods, and other features.
- Get quotes from several companies, choosing the lowest-cost option with the desired features provided by a highly-rated carrier.

7. Students should discuss the following factors:

- Quality of network, physicians, hospitals, and services
- Freedom of choice and its importance
- Ability to see out-of-network providers
- Coverages required
- Personal health considerations

- Cost considerations

The type of plan the student selects should be appropriate given the individual's analysis.

Steps that reduce health care costs include:

- Good health practices, such as proper nutrition, exercise, etc.
- Avoidance of unnecessary risks
- Self-insurance for a portion of health care costs (through a higher deductible)

Solutions to Critical Thinking Cases

9.1 Evaluating Rick's Health Care Coverage

1. The $3,000 *deductible* feature means that the insurance will not cover the first $3,000 of eligible expenses for the year (or possibly for each illness or accident in which Rick is involved, depending on the policy terms). The 80% *coinsurance* clause indicates that the insurer will pay only 80% of the amount of covered losses in excess of the deductible. The *internal limit* of $180 per day on hospital room and board indicates that the maximum the insurer will pay for hospital room and board is $180 per day. The internal limit of $1,500 on surgical fees indicates that the insurer will pay no more than $1,500 for such expenses.

   Because Rick's medical expenses exceed $3,000, it appears that his policy will pay 80% of the costs above this amount. However, Rick's hospital room and board charges exceed the $180 per day internal limit, so this constraint will increase the portion of the costs that he must pay. The same is true for the surgical fee, because his policy's internal limit for a maximum surgical fee reimbursement is $1,500.

2. The total expenses of the accident, as well as the division of these expenses between the insurer and Rick, are shown on the table below. Looking at this table, we can see that the total expenses of the accident were $20,900. Of this amount, Rick will recover $12,620 (about 60%) from the insurance company and will have to pay the remaining $8,280—*40%*—out of his own pocket.

Expense Item	**Total**	80% Limit (where appl.)	Internal Limit	Excess Charges
Surgeon	$ 2,500	$ 2,000	$ 1,500	$ 500
Physician	1,000			
Hospital room, board (Charged $250 x 60 days; limit $180 x 60 days)	15,000	12,000	10,800	1,200
Nursing	1,200			
Anesthetics	600			
Wheelchair	100			
Ambulance	150			
Drugs	350			
Subtotal	$ 20,900			1,700
Deductible	– 3,000			
After Deductible	$ 17,900			
Rick's 20% (of above amount)	– 3,580			
Excess Charges	– 1,700			
Insurance Company Pays:	**$ 12,620**			

Rick Pays:	
Deductible	3,000
20% coinsurance	3,580
Excess charges	1,700
Total	**$8,280**

3. Rick would have had additional protection had he purchased a policy with any or all of the following: a smaller, or no, deductible; a larger, or no, coinsurance clause; and higher, or no, internal limits. However, in order to get these less restrictive coverages Rick would have to pay higher premiums, and as he is self-employed, he would have to bear this entire cost himself. In most cases, the additional premiums required to increase these "short-term" coverages are not justified. People are better off devoting more money toward meeting prolonged types of illnesses and disabilities. However, Rick should look at his personal financial situation to find the right level of deductible for him; $3,000 is probably too high, and he could probably shop around for less restrictive internal limits.

   In addition to his major medical coverage, Rick should have some type of disability income insurance—particularly given the risk of his occupation. Such coverage would allow him to receive weekly or monthly income payments to replace the income he will not receive when he is unable to work as a result of a covered illness or accident. Since Rick has already been unable to work for two months and will likely be unable to work for another few months while recuperating at home, some form of disability income insurance is probably needed. In addition to Social Security benefits, which do not begin until a worker has been totally disabled for five months, and worker's compensation, if he is

eligible, some type of long-term disability income coverage is needed. Since the really catastrophic events for which disability insurance is most important require long-term coverage, he would probably be better off purchasing a disability income policy with a longer waiting period and longer duration of benefits. In summary, Rick should evaluate his disability income coverage and fill in any gaps that may exist, particularly in the area of long-term disability income insurance.

4. Rick's major medical insurance coverage seems inadequate. Based on Rick's recent accident, he must pay about 40% of major medical costs. Rick should increase his major medical coverage. However, to get more attractive deductibles, coinsurance, and internal limits, he would have to pay additional premiums. The amount of increased coverage to be purchased should be analyzed from a needs approach and in view of a cost/benefit ratio. Furthermore, the amount of coverage purchased would have to be evaluated in light of Rick's financial situation.

   In the area of disability income insurance Rick's coverage is minimal. He may be eligible for Social Security benefits and may also qualify for certain worker's compensation benefits. However, he should probably purchase additional long-term disability income coverage in order to provide for adequate income replacement in the event of a prolonged or permanent disability—especially in view of his somewhat hazardous occupation of window washing. Better short-term disability coverage with a 60- or 90-day waiting period and a relatively long duration of benefits would also be useful. Such coverage would probably have been beneficial in light of Rick's current injuries (for which he had been hospitalized sixty days and will probably be unable to work for a few additional months). The amount of coverage Rick ultimately buys will, of course, depend upon his available financial resources. However, Rick does need to analyze his health insurance plan(s) and increase his coverage appropriately.

9.2 Benito and Teresa Get a Handle on Their Disability Needs

1. The amount of additional disability income insurance needed by Benito in order to protect his family in the event he becomes completely disabled is calculated in a format similar to Worksheet 9.2 on the following page. These calculations are based upon the following four assumptions (1) Benito and Teresa need 90% of their combined take-home pay in order to meet their bills and provide for a variety of necessity items; (2) if Benito becomes completely disabled, Teresa will continue to work at her part-time job; (3) Benito's average monthly take home pay for the most recent year was $2,300; and (4) Benito's group health insurance policy provides coverage for his entire family.

Estimate of Benito Fernandez' Disability Income Insurance Needs:

Income Requirement	
Benito's current take-home pay	$2,300
Teresa's current take-home pay	700
Total Income	$3,000
(1) Monthly Income Need (90% of Total Take-Home Pay)	$2,700
Existing Disability Sources	
Teresa's take-home pay	$ 700
Company disability benefit (20% x $2300)	460
Social Security payment	700
(2) Monthly Income if Benito is Totally Disabled	$1,860
Benito's Disability Income Insurance Need [(1) – (2)]	$ 840

Based upon these calculations, it appears that Benito needs an additional $840 of monthly disability income insurance coverage in order to provide his family with a subsistence level of income.

2. The question can be answered either "No" or "Yes," depending upon what assumptions are made with respect to Benito's ability to work. Two situations, of course, could exist: (1) Benito can continue to work when Teresa is totally disabled; and (2) both Benito and Teresa are totally disabled. In the first case they would not necessarily need any disability income insurance for Teresa since their monthly income need of $2,700 (calculated in question 1) could almost be met from Benito's $2,300 take-home pay and Teresa's $300 monthly Social Security benefit.

   If both Benito and Teresa become totally disabled, they would need some disability income coverage on Teresa. In the question 1 calculations, Teresa was expected to provide $700 monthly. Clearly some alternate source for these funds must be arranged. Because Social Security disability income benefits will provide $300, they need an additional $400 of disability income, which could be provided by either increasing Benito's monthly disability insurance need by $400 to $1240 or by purchasing $400 of disability income insurance for Teresa. Either would provide adequate disability income insurance coverage should they both become totally disabled, but it might be cheaper to increase his policy benefit rather than get an additional policy on her. The ultimate decision should be based upon a cost analysis of these alternatives, choosing the one with the lower cost.

3. First of all, Benito should make sure that his group health insurance coverage is adequate to cover the medical costs associated with the total disability of both Teresa and him, as well as their young son.
   The family is mostly dependent on Benito's ability to work, so increasing his coverage is very important. However, it may not be cost effective to obtain a policy on Teresa, and as it is unlikely that they both will be disabled at the same time, a better alternative might be to start a regular saving/investing program

instead of paying premiums for Teresa. This would also serve as their cushion to see them through the waiting period before Benito's disability benefits begin, should he ever become disabled.

Chapter 10

Protecting Your Property

Chapter Outline

Learning Goals

I. Basic Principles of Property Insurance

- A. Types of Exposure
  - 1. Exposure to Property Loss
    - a. Property Inventory
    - b. Identifying Perils
  - 2. Liability Exposures
- B. Principle of Indemnity
  - 1. Actual Cash Value Versus Replacement Cost
  - 2. Subrogation
  - 3. Other Insurance
- C. Coinsurance

Concept Check

II. Homeowner's Insurance

- A. Perils Covered
  - 1. Section I Perils
  - 2. Section II Perils
- B. Factors That Affect Home Insurance Costs
- C. Property Covered
- D. Personal Property Floater (PPF)
- E. Renter's Insurance: Don't Move In Without It
- F. Coverage: What, Who, and Where?
  - 1. Types of Losses Covered
    - a. Section I Coverage
    - b. Section II Coverage
  - 2. Persons Covered
  - 3. Locations Covered
- G. Limitations on Payment
  - 1. Replacement Cost
  - 2. Policy Limits
  - 3. Deductibles
- H. Homeowner's Premiums

Concept Check

III. Automobile Insurance

- A. Types of Auto Insurance Coverage
  - 1. Part A: Liability Coverage
    - a. Policy Limits
    - b. Persons Insured
  - 2. Part B: Medical Payments Coverage
    - a. Policy Limits
    - b. Persons Insured
  - 3. Part C: Uninsured Motorists Coverage
    - a. Policy Limits
    - b. Persons Insured
  - 4. Part D: Coverage for Physical Damage to a Vehicle
    - a. Collision Insurance
    - b. Comprehensive Automobile Insurance
- B. No-Fault Automobile Insurance
- C. Automobile Insurance Premiums
  - 1. Factors Affecting Premiums
- D. Driving Down the Cost of Car Insurance
- E. Financial Responsibility Laws

Concept Check

IV. Other Property and Liability Insurance

- A. Supplemental Property Insurance Coverage
- B. Personal Liability Umbrella Policy

Concept Check

V. Buying Insurance and Settling Claims

- A. Property and Liability Insurance Agents
- B. Property and Liability Insurance Companies
- C. Settling Property and Liability Claims
  - 1. First Steps Following an Accident
  - 2. Steps in Claim Settlement
  - 3. Claims Adjustment

Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
Insure Your Property!
Critical Thinking Cases
10.1 The Salvatis' Homeowner's Insurance Decision
10.2 Auto Insurance for Cheryl Weisbach
Money Online

Major Topics

As long as you own valuable assets, you need a way to protect yourself financially should those assets be destroyed or be subject to a lawsuit or financial claim. *Property insurance* is available to protect these assets from damage and therefore to protect your financial

goals from being displaced should property damage occur. Also available is *liability insurance,* which protects you from the consequences of potentially negligent acts that can cause financial ruin. The major topics covered in this chapter include:

1. Property and liability insurance is designed to protect against the loss of real and personal property that occurs because of various perils or your own negligence.
2. Homeowner's insurance includes two types of coverages: one on property and the second for personal liability and medical payments.
3. Losses that are covered by homeowner's insurance are paid out on an actual cash value basis, after considering deductibles and policy limits, with the exception of the house and garage, which are usually treated on a replacement basis.
4. There are many aspects to automobile coverage, including personal liability, property damage to your car and property or that of another, and medical payments.
5. There are many other kinds of property and liability insurance available besides homeowners and automobile insurance.
6. As with the purchase of any asset or service, you must evaluate your loss exposure to determine how much insurance you need. It is important to find a good insurance company and insurance agent to help in evaluating various coverages and in making claims.

Key Concepts

Few people generally understand what they are receiving when they buy insurance. What is even worse, those who do buy insurance often do not know if they are adequately covered. This chapter is designed to introduce the principles of property and liability insurance so that the student understands the types of coverages available and how to determine the necessary amount of insurance. The following phrases represent the key concepts stressed in this chapter.

1. Exposure to losses and liabilities
2. Negligence
3. Perils and insurable exposure
4. Indemnity, coinsurance, and subrogation
5. Homeowner's insurance, including property damage and personal liability coverage
6. Renters insurance
7. Insurance policy limits and deductibles
8. Automobile insurance, including liability and property damage
9. Other types of property and liability insurance, including flood and earthquake insurance, personal liability umbrella insurance, and insurance on other forms of transportation
10. Selecting an insurance agent and insurance company

Answers to Concept Check Questions

10-1. The fundamental concepts related to property and liability insurance concern the types of exposure, the principle of indemnity, and coinsurance. The two basic

types of exposures are the physical loss of property and the liability one might have as the result of alleged negligent actions. The *principle of indemnity* deals with restoring the insured person's economic loss, but in an amount not to exceed his or her economic loss. Most property and liability contracts are based on this principle. *Coinsurance* is a provision commonly found in property insurance contracts that requires policyholders to buy insurance in an amount equal to a specified percentage of the value of their property; failure to do so implies that the *policyholder* will be responsible for part of the loss—or, in effect, becomes the coinsurer.

10-2. The *principal of indemnity* means the insured should be restored in whole or in part for a given economic loss. Restoration usually takes the form of a monetary payment for the loss, but occasionally the insurance company will instead repair or replace the damaged or destroyed property. At the same time, the principle of indemnity prohibits insured persons from being compensated by their insurance company for an amount exceeding the amount of economic loss. Most property and liability insurance contracts are contracts of indemnity.

Concepts related to this principle are implemented in property and liability insurance: (1) actual cash value, (2) subrogation, and (3) other insurance. *Actual cash value* is defined as the replacement cost less depreciation. Some insurers guarantee replacement cost without taking depreciation into account if the proper type and amount of insurance has been purchased. *Subrogation* is the right given to an insurance company (after they pay a claim for a loss) to request reimbursement from the person who caused the loss or that person's insurance company. An *"other insurance"* clause prohibits insured persons from insuring their property with two or more insurance companies and then collecting in full for a loss from all companies. A pro rata scheme is usually established for dealing with such situations.

10-3. The *right of subrogation* allows the insurance company, once it has paid a claim for a client's loss, to request reimbursement from the person who caused the loss or that person's insurance company. A person who is not at fault in an incident of loss but collects from his or her insurer must subrogate to the insurer the right to collect from the at-fault person or insurer. If a victim collected the full amount from both parties, he or she would be better off after the loss than before. This is a violation of the principle of indemnity. Through subrogation, insurers attempt to lower insurance costs by reducing the net amount they must pay out to satisfy claims.

10-4. The *coinsurance feature* requires policyholders to buy insurance in an amount equal to a specified percentage of the replacement value of their property. If the coinsurance requirement is not met, the maximum compensation allowable for total or partial loss may be based on a specified percentage of that loss and not on the policy limits. The policyholder, then, becomes the "coinsurer" and must bear part of the loss.

10-5. The *perils* against which most properties are insured under various homeowners' policies are usually assigned to one of two sections in the policy contract. *Section*

I perils relate to the house, attached structures, and personal property. These include: fire; lightning; windstorm; hail; explosion; riots; damage by vehicle; smoke damage; vandalism; theft; glass breakage; damage by falling objects; weight of ice, snow, and sleet; collapse of building; accidental damage to or from heating or plumbing systems; freezing; and damage by electrical equipment. *Section II perils* relate to personal liabilities of the insured and medical payments to others. While policies offer protection against nearly any source of liability resulting from negligence, they do not insure against potential liability perils such as libel, slander, defamation of character, and contractual or intentional wrongdoing.

10-6. Under *Section I,* the homeowner's policy offers protection for the house, detached structures, and the personal property of the homeowners and their families. In addition, coverage for certain types of losses also apply to the lawn, trees, plants, and shrubs. Structures on the premises used for business purposes (except incidentally) are excluded from coverage, as are animals (pets or otherwise) and motorized vehicles not used in the maintenance of the property. For many expensive and easy to steal items, such as cash, jewelry, furs, cameras, guns, etc., there are specified limits which are quite low. It may be necessary to add a *personal property floater (PPF)* to provide the level of coverage needed.

a. African parrot—not covered (animals are excluded).
b. Motorbike—not covered (you’re expected to have coverage on the bike already).
c. Avon cosmetics for sale—not covered (considered business inventory).
d. Tupperware for home use—covered, but only the amount which exceeds your deductible (it’s your personal property).

10-7. a. A policyholder can suffer three different types of property-related losses when misfortune occurs. The *types of losses* covered by a homeowner's insurance contract usually include a direct loss of property, an indirect loss through the loss of use of damaged property, and any extra expenses that result from direct and indirect losses.

b. *Persons covered* include those named in the policy, as well as members of their family who are residents of the household, and in many cases, guests of the insured.

c. *Locations.* Most homeowner's policies offer coverage worldwide for personal property. The exception is property left at a second home—obviously you’re supposed to have that home insured also.

10-8. *Replacement cost coverage* provides the insured with an amount necessary to repair, rebuild, or replace an asset *at today's prices.* The homeowner's policy is one of the few types of property insurance that provides replacement cost coverage. Under this type of coverage, the insurer will repair or replace damaged items without taking any deduction for depreciation. *Actual cash value* coverage only reimburses on the depreciated value of an insured item. The actual cash value is found by subtracting an appropriate amount of depreciation from the

property's replacement value. Since the *actual cash value is always less than (or equal to) the replacement value,* replacement cost coverage is the preferred type of coverage and usually adds very little additional cost to the annual premium.

10-9. *Deductibles* place constraints on what an insurance company must pay on small losses. They help reduce insurance premiums by doing away with the frequent small loss claims that are proportionately more expensive to administer. The standard deductible in most states is $250 on the physical damage protection found in Section I of the homeowner's policy. However, deductibles of $500 or $1,000 are available on an optional basis. In general, higher deductibles result in lower premiums on a given policy.

Deductibles *do not apply* to either the liability or medical payments coverage since insuring companies want to be notified of all claims, no matter how trivial. If companies did not set this policy, the insurer might be notified too late to properly investigate and prepare an adequate defense for a resulting lawsuit.

10-10. The major coverages available under the *personal auto policy (PAP)* are:

1) *Liability policy provisions* which pay on the insured's behalf sums he or she has become obligated to pay because of accidental damages caused another and to defend the insured against another who is seeking compensation arising out of a covered occurrence.
2) *Medical payments insurance* which provides payment to eligible insureds of an amount no greater than the policy limits for all reasonable and necessary medical expenses incurred within three years after an auto accident.
3) *Uninsured motorist coverage* which compensates the insured for damages caused by an uninsured or underinsured motorist.
4) *Coverage for damage to your vehicle* which includes: *Collision insurance* which pays for collision damage to an insured automobile regardless of fault and *comprehensive insurance* which provides for protection against damage to an insured automobile caused by any peril (with few exceptions) other than collision.

a. *Automobile medical payments insurance* provides payment to a covered person up to the policy limit for medical expenses incurred within 3 years of an auto accident. It also covers injuries sustained as a pedestrian or bicycle rider in a traffic accident. It pays on an excess basis when you are injured as a passenger in someone else’s vehicle. If you have medical expenses greater than the limits of the owner’s coverage, your policy will pay the excess amount up to the medical payments limit.

b. *Uninsured motorists coverage* applies to the named insureds, their family members, and others occupying their covered auto where they are accident victims negligently injured by uninsured or hit-and-run motorists. In many states, this coverage is for bodily injury only and not for property damage.

10-11. a. *Automobile collision insurance* is a first party property damage coverage that pays for collision damage to an insured automobile regardless of fault. The

amount payable is the actual cash value of the loss (i.e., depreciated value) in excess of a stated deductible. The stated deductible may be as low as $50 and as high as $500 to $1,000. A collision occurs when you are driving your car and collide with anything, such as a tree or fence, not just with another auto. Most likely, your insurance coverage also protects you against collision when driving a rented vehicle.

b. *Automobile Comprehensive Insurance* provides protection against loss to an insured automobile caused by any peril (with few exceptions) other than collision. This coverage includes, but is not limited to, damage caused by fire, theft, glass breakage, falling objects, malicious mischief, vandalism, riot, and earthquake. It ordinarily has a $50 to $100 deductible, and the maximum compensation provided is the actual cash value of the automobile. Theft of your property inside your auto is usually not covered by your auto insurance but may well be covered under your homeowner's policy.

10-12. *No-fault auto insurance* is based upon the belief that the liability system should be replaced by a system that reimburses without regard to negligence. Under pure no-fault insurance, the driver, passenger, and injured pedestrians are reimbursed by the insurer of the car for economic losses stemming from bodily injury. The insurer does not have to provide coverage for claims made for losses caused to other motorists. Each insured party is compensated by his or her own company regardless of which party is at fault. The main argument *in favor* of no-fault suggests that the existing liability insurance does a poor job of compensating victims of automobile accidents for their losses. Proponents also suggest that it will reduce the number of lawsuits and will reduce auto insurance costs. Those *against* no-fault suggest that is has already proven to be more expensive than the existing liability system. Also, based upon existing data, it appears that the right to sue for damages has not been materially thwarted by states enacting no-fault legislation.

10-13. A number of factors influence the availability and cost of auto insurance. The factors that are important include:

Rating Territory. Since accidents are more likely to occur in some geographic areas than others, higher rates are applied where the probability of claims is greatest.

Use of automobile. Both the number of miles driven and whether or not the car is used for business purposes affect cost.

Personal Characteristics of Driver. Age, sex, and the marital status of insureds affect the auto insurance premium assessed.

Type of automobile. Automobiles are classified with respect to performance. If an automobile is not classified as standard performance, higher rates are usually charged.

Driving Record. The driving records of the insured and those that live with them play an important part in the determination of premiums. A poor driving record will increase a given driver's premiums or affect the type of insurance plan the driver is offered. Those who have been refused regular coverage may be assigned to an *automobile insurance plan,* a plan for high-risk drivers which features less coverage for a much higher premium.

Discounts. Some auto insurers give discounts to individuals for special reasons, such as demonstrated safe driving, driver's education, etc. Discounts can knock 5 to 50% off annual premiums.

Deductibles. As a rule, the greater the deductible, the less costly the insurance coverage—using a high ($1,000) deductible on your comprehensive and collision insurance can result in premium savings of as much as 45–50%.

10-14. Financial responsibility laws attempt to force motorists to be financially responsible for the damages they become legally obligated to pay as a result of automobile accidents. Two basic types of laws compel motorists to assume financial responsibility. The first variety is one in which all automobile owners in a given state are required to show evidence that they have liability insurance coverage prior to obtaining registration for their motor vehicles.

In the second type of financial responsibility legislation, motorists do not have to show their insurance coverage until after they are involved in an accident. If they then fail to demonstrate compliance with the law, their registration and/or driver's license is suspended. This latter type of law has been criticized on the basis that is allows negligent motorists to have one "free" accident. Even though the motorists who are not financially responsible lose their driving privileges, the losses to their victims may remain uncompensated.

10-15. a. *Earthquake Insurance*—This is a type of homeowner's insurance that provides financial protection from earthquake damage. Although this form of insurance is fairly inexpensive to purchase, policies typically carry a 15% deductible on the replacement cost coverage of the home, meaning homeowners will have to bear significant out-of-pocket costs before they are able to collect on the policy.

b. *Flood Insurance*—This type of coverage provides protection against the financial consequences of flood damage. This insurance is subsidized by the federal government and is sold in cooperation with private insurance agents to homeowners living in flood-prone areas.

c. *Other Forms of Transportation Insurance*—Insurance coverage is available for other forms of transportation in addition to automobiles. *Mobile home insurance* provides homeowners with coverage similar to that for conventional homes. However, due to total losses occurring more frequently on mobile homes than on more permanent structures, rates per $100 of protection are typically higher for mobile homes. *Recreational vehicle insurance* is available for a variety of vehicles, including all-terrain vehicles, antique autos, minibikes, and camping vehicles. While full coverage is generally available, some restrictions may apply

and rates can vary substantially. *Boat insurance* may be provided to some extent through the owner's homeowner's policy. However, a boat and motor endorsement may need to be added to the policy in order to attain sufficient coverage, or the owner may need to purchase a specially designed boat-owner's policy.

10-16. A *personal liability umbrella policy* might be a wise purchase for persons with moderate to high levels of income and net worth who are viable targets for liability claims. An umbrella policy would cover legal judgements in excess of the amount of liability covered by a homeowner's or auto policy. Other persons who might need umbrella insurance would include those who rent out their home or have house sitters or unbonded hired help, such as gardeners and babysitters, and people who have clients visit in their home office. The homeowner would be responsible for any injuries incurred while such individuals are on the premises or in their employ, or for any injuries their workers might cause to other people.

10-17. A *captive agent* represents only one insurance company and is more or less an employee of that company. *Independent agents,* however, typically represent between two and 10 different property insurance companies. You should find an agent who is knowledgeable and willing to take the time to go over your total property and liability exposures and develop a sound and affordable insurance program. In property insurance, agents who meet various experience and educational requirements and pass a series of written examinations qualify for either the Chartered Property and Casualty Underwriter (CPCU) or Certified Insurance Counselor (CIC) designations. These agents are known to have demonstrated above average knowledge and experience in their field. With respect to the *insurance company* itself, it is a good idea to pay particular attention to the company's financial soundness, claims settlement practices, and geographic extent of operations. Friends and acquaintances can often provide insight into its claims settlement policy.

10-18. After an accident, you should record the names, addresses, and phone numbers of all witnesses, drivers, occupants, and injured parties, along with the license numbers of the automobiles involved, the driver’s license numbers of the other drivers, their auto insurance policy number, and the name, address, and phone number of their insurance company. Try to sketch how the accident occurred on paper, and take pictures if you have a camera. Notify law enforcement officers as well as your insurance company representative of the accident. Don't admit liability at the scene of an accident or discuss it with anyone other than the police and your insurer.

The typical insurance *claim settlement process* involves four steps:

1. *Giving notice* to the company that a loss (or potential for loss) has occurred. Timely notice is extremely important.
2. *Investigation of the claim*. To properly investigate a claim, insurance company personnel may have to talk with witnesses or law enforcement officers, gather physical evidence to tell whether the claimed loss is covered by the policy, and check to make sure the date of the loss fell within the policy period.

3. *Providing proof of loss*. This step usually requires the claimant to give a sworn statement, show medical bills, provide an inventory and certified value of lost property, provide an employer's statement of lost wages, and, if possible, provide physical evidence of damage.
4. *Payment by insurer* of either the requested amount, a lesser amount, or nothing on the basis that the company has no legal responsibility under the terms of the policy. In the case of a disputed claim, most policies provide for claim arbitration.

The *claims adjustor* may work for the insurance company, work as an independent adjustor, or work for an adjustment bureau. Primarily, the adjustor is *looking out for the interests of the company.* He or she must diligently question and investigate, and at the same time offer service to minimize settlement delays and financial hardship. In the situation where an individual must file a claim against another's insurance company, a question of fault arises, and the adjustor will only be concerned with the economic interest of the insurer and its policyholders. As the claimant is not a customer of the insurer, the adjustor will generally be unconcerned with keeping the claimant satisfied. In this situation, the claimant may have to seek the service of a public adjustor or attorney to settle the claim. These services will generally be costly but will be well worth it, particularly when the claimant is not being treated fairly by the insurance company's adjustor.

Financial Planning Exercises

1. No, a 90% coinsurance clause on a homeowner's policy would not be better than an 80% clause unless the homeowner could only obtain a policy with a 90% coinsurance clause. A 90% coinsurance clause would require Mr. Browning to buy at least enough insurance to equal 90% of the replacement value of his property. If he had less coverage than that, then Mr. Browning would be required to pay a proportional share of the loss. If he had at least that amount of coverage, then he would be reimbursed for covered losses (after meeting his deductible) dollar for dollar up to the amount of the policy limits. With an 80% coinsurance clause, he could get by with purchasing a little less insurance and still receive full coverage in the event of loss.

2. a. With an 80% coinsurance requirement, the minimum insurance policy the Morgans can have on their home and still be covered is $200,000 ($250,000 x .80). Their policy is for $210,000, so they have adequate coverage.

   b. Total Schedule C coverage is 50% of Schedule A ($210,000), or $105,000. However, internal policy limits apply. See "Policy Limits" on p. 407.

   Television: $600 value/8 year life = $75/year depreciation. Current value = $450.

Item	Value per Schedule C	Payment Limit
TV	$ 600	$ 450
Jewelry	1,850	1,000
Silverware	3,000	2,500
	$5,450	$3,950
Eligible amount		$3,950
Less: Deductible		– 500
Actual payment		$3,450

c. If the Morgans had increased their internal policy limits or purchased personal property floater insurance, they would have received more for their jewelry and silverware. If they had purchased replacement cost coverage, they would have been reimbursed for the replacement cost of their television versus the depreciated value.

3. Assuming the company reimburses *actual cash value,* the most they would pay would be the difference between the $27,000 replacement price and the accumulated depreciation. Since five years of the assets' 15-year useful lives have expired, one third of the replacement value would be lost to depreciation (thus 1/3 of $27,000 = $9,000). By subtracting the $9,000 in depreciation from the $27,000 replacement value, an actual cash value of $18,000 results. This amount, less any deductible, would be paid to Vickie.

4. The Barnows should have renter's insurance to protect their personal belongings against physical damage from water, fire, theft, etc. The cost of renter's policies is reasonable and also provides liability coverage, which is very important. The couple should inventory their possessions and meet with several knowledgeable casualty insurance agents to discuss appropriate property and liability coverage amounts. Then they should purchase the lowest cost policy that meets their needs.

5. a. The damage to Robert’s vehicle will be covered under the collision portion of his auto insurance and is subject to the $500 deductible. The full amount of the damage to the other car will be covered under the property damage liability portion of his policy as the damage is less than his $25,000 limit. Total paid by the insurance company: $3,785 + 1,850 = $5,635.

b. The injuries to the other two people will be covered under the bodily injury liability portion of his auto policy and is subject to the limit of $25,000 per person and $50,000 total. Therefore, he will have to pay the additional $5,000 to each of the two injured persons.

c. This would fall under the collision portion, and since the claim is below the $500 deductible, the insurance company pays nothing.

Solutions to Critical Thinking Cases

10.1 The Salvatis' Homeowner's Insurance Decision

1. All homeowner’s policies include two sections: Section I which covers their property, and Section II which provides liability and medial payments. Section II is the same for all forms; only Section I differs. Section I coverage of the various forms is described below:

   In most parts of the country, there are 5 standard forms of homeowner’s policies:

   HO-2 —Homeowner’s 2 Broad Form
   HO-3 —Homeowner’s 3 Special Form
   HO-4 —Homeowner’s 4 Contents Broad Form (renter’s insurance)
   HO-6 —Homeowner’s 6 Unit-Owner’s Form (condo owner’s insurance)
   HO-8 —Homeowner’s 8 Modified Coverage Form (older homes)
   [*HO-1* was the *basic form* which covered damage by fire, lightening, windstorm, hail, explosion, riots, aircraft, vehicles, smoke, vandalism, theft, and glass breakage. It applied to the house, detached structures, and other personal property and is being phased out nationally.]

   HO-2 is the *broad form.* In addition to the risks covered by HO-1, it covers falling objects—weight of ice, snow, and sleet, collapse of building, accidental damage to or from heating or plumbing systems, freezing, and damage by electrical equipment. This coverage applies to the house, detached structures, and other personal property.

   HO-3 is the *special form.* It covers *all risks* on personal property, except glass breakage, and *all risks,* except those specifically excluded, on buildings. By far, most homeowner’s policies now written are of this type and would be the best choice for the Salvatis. Whereas HO-1 and HO-2 covered specific perils, HO-3 covers by exclusion. That is, it covers everything except certain named perils. This “open-peril” coverage is superior to Forms 1 and 2, and some of the losses excluded under Form 3 can be insured by an endorsement or under a separate policy. Often Form 3 is used with the Homeowner’s Special Personal Property Coverage Endorsement, Form HO-15, which provides open-perils coverage on the contents.

   HO-8 is a modified coverage policy for *older homes.* It is used for houses with market values well below their replacement cost. As the Salvatis’ are purchasing a new home, this is not a suitable choice.

2. The perils against which the house, detached structures, and personal property should be insured should certainly include all of those listed as being covered by the HO-2 form, particularly given the climate of the Chicago area. The great thing about the HO-3 form is that it also includes the out-of-the-ordinary, as yet unthoughtof perils (except for those specifically excluded) which invariably occur.

3. The types of loss protection provided by the HO-2 and HO-3 coverages on the house and detached structures were enumerated in the answer to question 1 of this problem.

   Under both forms (HO-2 and HO-3), the coverage also applies to house contents, unlisted personal property, and personal property off the premises. The amount of coverage is set equal to 50% of the policy value for house contents and unlisted personal property and 10% of the policy value (but not less than $1,000) on personal property off premises. One important fact should be highlighted: The coverage on the house and detached structure is based upon *replacement cost.* Coverage on the house contents, unlisted personal property, and personal property off premises are typically based upon *actual cash value.* Note that recently many insurers began offering, for a slight premium increase, replacement cost coverage on contents.

   These homeowner's policies may also specify internal limits for certain types of properties. For example, a $200 limit applies to money bank notes, bullion, silver, and coins and medals; a $1,000 limit applies to securities, manuscripts, evidences of debt, passports, tickets, and stamps; a $1,000 limit applies for loss by theft of jewelry, watches, furs, and precious and semiprecious stones; and a $2,000 limit applies to the loss of firearms by theft. The standard liability limit (coverage E) is $100,000, and the medical payments portion (coverage F) normally has a limit of $1,000 per person. Other expense coverages often included are claim expenses, such as court costs and attorney fees, first aid expenses such as ambulance costs, and damage to the property of others up to $500 per occurrence.

4. The Salvatis should go with the HO-3 policy and shop for rates with reputable insurance companies. They should definitely get replacement cost coverage and should also consider riders or endorsements for any special items in their home which may have limited coverage under the homeowner’s policy.

   Rodrigo and Anita should be sure to consider *coinsurance* clauses and obtain sufficient coverage to comply with this requirement. Also, they should make sure that adjustments are made periodically so that the amount of their insurance coverage increases as the value of their home increases. If they fail to do this, they may find that they would not have replacement cost coverage.

10.2 Auto Insurance for Cheryl Weisbach

1. a. *Basic Automobile Liability Insurance.* Under this coverage, the insurer agrees: (1) to pay on the insured's behalf all sums for which the insured becomes legally obligated to pay because of accidental damages he or she caused another; and (2) to settle the claim or defend the insured against another who is seeking compensation arising out of a covered occurrence, up to policy limits only.

   b. *Uninsured Motorist Coverage* meets the needs of "innocent" accident victims injured by uninsured or hit-and-run motorists. Under this coverage, an insured is legally entitled to collect an amount equal to the sum that could have been

collected from the negligent motorist's liability insurance, if such coverage had been available.

c. *Automobile Medical Payments Insurance* provides for payment to eligible insureds of an amount no greater than the policy limits for all reasonable and necessary medical expenses incurred within three years after an automobile accident. It even provides for duplicate loss reimbursement even though other sources of recovery, such as accident or health insurance, also make payment.

d. *Automobile Collision Insurance* provides property damage coverage that pays for collision damage to an insured automobile, regardless of fault. This coverage is written without outside limits, and the amount of insurance payable is the *actual cash value* of the loss (depreciated value) in excess of a stated deductible.

e. *Comprehensive Automobile Insurance* provides protection against loss to an insured automobile caused by any peril (with few exceptions) other than collision. This coverage provides broad protection and includes, but is not limited to, damage caused by fire, theft, glass breakage, falling objects, malicious mischief, vandalism, riot, and earthquake.

2. Yes. The various limits available for each type of coverage are listed below:

a. *Basic Automobile Liability Insurance.* Typically, this policy provides for different policy limits, depending on whether the damage is bodily injury or property damage. Limits are placed on both of these types of damages. Common terms are stated as $10,000/$20,000/$10,000. The first two amounts pertain to the maximum amounts for *bodily injury* to others: the first number is the maximum allowable per person, and the second number is the total maximum allowable per accident, no matter how many people are injured. The third number is the per accident amount of *property damage* liability protection.

b. *Uninsured Motorist Coverage.* This coverage typically provides basic limits of $10,000/$20,000. This means that in the event the insured is involved in an accident with an uninsured motorist the maximum liability coverage per person injured in an accident is $10,000, and total liability per accident is $20,000. In many states, this part does not cover your property which has been damaged.

c. *Automobile Medical Payments Insurance* usually provides per person limits of $1,000, $2,000, $3,000, $5,000, or $10,000. Most families are advised to buy the $5,000 or $10,000 limit because, even if they have other adequate heath insurance coverage available, they cannot be certain that their passengers are equally well protected.

d. *Automobile Collision Insurance.* This part covers the damage to your auto when you collide with anything, regardless of fault. There are no outside limits. The amount of insurance payable is the *actual cash value* of the loss in excess of a stated deductible, which is typically $50, $100, or $250.

e. *Comprehensive Automobile Insurance.* This part covers the damage to your auto against most insurable perils, other than collision, regardless of fault. Again, the amount of insurance payable is the actual cash value less any applicable deductible, which is most commonly $50 or $100. Theft of personal property kept or left in the insured automobile is not covered under this policy. Such losses may be covered by the off-premises coverage of the homeowner's policy.

3. a. *Basic Automobile Liability Insurance.* The persons covered under this coverage are the named insured and family residents of his or her household with respect to an owned automobile. Also protected are any other persons who use the automobile with the permission of the named insured owner as long as they stay within the scope of such permission. Coverage is also afforded to persons or organizations on whose behalf the automobile of the named insured owner is being driven. Coverage is also extended to the named insured while operating other nonowned automobiles and to his or her household relatives while they are operating any nonowned private passenger automobile or trailer.

b. *Uninsured Motorists Coverage.* This coverage is applicable and/or offered to the named insured, his or her household relatives, and any other person driving the insured vehicle within the scope of permission. It is effective when those covered are "innocent" accident victims negligently injured by uninsured or hit-and-run motorists.

c. *Automobile Medical Payments Insurance.* Coverage under an automobile medical payments insurance policy applies to a named insured and household relatives while occupying either an owned or an unowned automobile (with permission) or if struck by an automobile or trailer of any type. Auto insurance contracts also sometimes cover any other person occupying an unowned private passenger automobile that is being operated by a named insured or a covered relative.

d. *Automobile Collision Insurance.* This coverage protects against loss to an insured automobile caused by collision. Due to the types of losses covered, the specification of persons covered is usually not necessary. This is a comprehensive property damage coverage, not a human loss coverage.

e. *Comprehensive Automobile Insurance.* This coverage protects against loss to an insured automobile caused by any peril (with few exceptions) other than collision. Due to the types of losses covered, the specification of persons covered is usually not necessary. This is a comprehensive property damage coverage, not a human loss coverage.

4. Ms. Weisbach's policy should, at a minimum, contain provisions for *liability, uninsured motorists,* and *medical payments protection.* In many states, minimum liability coverage (or financial responsibility) is required by law. At least the minimum limits of liability coverage should be purchased. She would also be wise to buy at least the basic $10,000/$20,000 uninsured motorist coverage. This coverage is attractive due to its low cost relative to the amount of protection it provides. Medical payments insurance is also advisable since it is also relatively

low cost and provides protection above and beyond other health and accident insurance. Because Ms. Weisbach is buying a brand new car, she should also have both *collision* and *comprehensive coverage.* Buying these coverages with high deductibles ($250 or more) reduces the cost of the coverage. She will have to select the deductible amount on the basis of her own risk disposition.

If Ms. Weisbach's son is not yet driving, he will be shortly, and that means her auto insurance rates will increase dramatically. She can lessen the blow somewhat by selecting higher deductibles and paying for smaller bumps out of pocket. However, it would be wise to select *higher liability limits*, as unfortunately, new drivers are more likely to have accidents, and to also obtain *umbrella liability insurance*. Umbrella insurance would kick in if the amount of damage in an auto accident were to be greater than the amount of protection offered by the auto and homeowner's policies. She needs to be sure to protect herself and her son against large losses which would be catastrophic for them.

In summary, it is recommended that Ms. Weisbach buy an insurance policy on the new car that provides *all five coverages.* When shopping for this coverage, she should get quotes from several agents and not assume that Jane Cunningham, her agent with Farmers Insurance Company, will provide the lowest cost coverage. She should shop around since other insurers may offer even lower rates on comparable coverage for the two cars. It is important that Ms. Weisbach compare similar coverage and that she purchase the legal minimum of financial responsibility coverage required by Arizona insurance and motor vehicle laws. She should also compare the cost of various deductibles on the collision and comprehensive coverages to decide which deductible best fits her risk-cost preferences. The ultimate goal is to get the desired coverage at the lowest premium cost through a good agent representing a reputable, financially sound insurer that is known to have good claims settlement practices.

Chapter Outline

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- A. How Do I Get Started?
- B. The Role of Investing in Personal Financial Planning
  1. Coming Up With the Capital
  2. An Investment Plan Provides Direction
- C. What Are Your Investment Objectives?
  1. Current Income
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- D. Different Ways to Invest
  1. Common Stock
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Concept Check

II. Securities Markets
- A. Primary or Secondary Markets
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- B. Broker Markets and Dealer Markets
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Concept Check

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- A. Stockbrokers
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Concept Check

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- A. Annual Stockholders' Reports
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- D. Advisory Services
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Concept Check

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VI. Managing Your Investment Holdings

- A. Building a Portfolio of Securities
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Concept Check

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Major Topics

Investing is a key element of personal financial planning because it allows the individual to meet many of his or her long-term financial goals by saving and using the funds in such a way that an additional return is earned. Once the level of savings in nearly riskless assets reaches an amount that is sufficient for emergency and other short-term purposes, funds can be put into various forms of investments. To be a successful investor you must understand the institutions, mechanisms, and procedures involved in making securities transactions. Without this knowledge it would be impossible for you to take advantage of the opportunities offered in the financial markets, which, in turn, can be of real help in achieving your personal financial goals. The major topics covered in this chapter include:

1. Investing is a long-term activity, while speculating is a short-term activity.
2. Investment objectives include current income, saving for major expenditures, retirement funds, and tax shelters.
3. There are many ways to invest, including stocks, bonds, convertibles, preferred stock, mutual funds, real estate, commodities, financial futures, and options.
4. Security markets include the organized exchanges and the over-the-counter market.
5. The services of a brokerage provide access to the organized markets.
6. A computer network of dealers provides access to unlisted securities in the over-the-counter market.
7. Transactions in securities are for cash or credit.
8. There are a variety of sources for investment information, ranging from stockholder reports to brokerage and advisory service reports and the financial press.
9. Daily information about the markets and their performance is available by observing various indexes and averages.
10. The Internet provides individual investors access to discount brokers as well as to investment services, information, and tools in order to better select and monitor their own portfolios.
11. Developing a well-diversified portfolio, based on sound asset allocation principles, is the key to improved returns and/or lower risk.

Key Concepts

A key to this chapter is the use of investing as a tool to achieve one's long-term financial goals. But to understand the application of investing to financial goals, it is necessary to understand the nature of the investments and the securities markets. The following phrases represent the key concepts stressed in this chapter.

1. Investing versus speculating
2. Investment objectives
3. Primary and secondary markets
4. Organized securities exchanges and the over-the-counter market
5. Foreign securities markets
6. Regulation of the market
7. Bull and bear markets
8. Securities transactions through full service, discount, and Internet brokers
9. Orders to buy or sell
10. Margin trading and short selling
11. Sources of investment information
12. Online investment services, information and tools
13. The concept of diversification
14. Portfolio construction
15. Asset allocation and portfolio management

Answers to Concept Check Questions

11-1. *Investing* is the vehicle through which we achieve many of our financial goals. In our *personal financial plan* we set financial goals such as buying a house or paying for our children's education. One way to accumulate funds to achieve these long-term goals is by investing.

11-2. A *capital accumulation plan* is the first step towards an investing plan. It is used to build a pool of funds for various needs, including savings for short-term needs and emergencies. Once this fund is sufficient for these purposes, the balance can be used to implement an *investment plan,* which is a strategy to invest funds to meet certain goals.

11-3 Investment objectives are important because they are so closely tied to overall personal financial planning and the achievement of financial goals. Clearly defining investment goals helps to develop appropriate strategies to reach them.

11-4. Both money and capital markets can be further divided into primary or secondary markets. The *primary market* is where a security is first issued to the investing public, and the issuing company receives the proceeds. For example, when a company comes out with a new issue of common stock, it does so in the primary market. In contrast, investors trade outstanding issues in the *secondary market.* The NYSE, AMEX, Nasdaq, and all the other exchanges are part of the network of secondary markets, and this is where the vast majority of securities transactions take place.

11-5. The New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX) are both national in scope, but the similarities end there. The NYSE dominates the AMEX in size, trading volume, etc., and the quality of the companies is much higher on the NYSE (the listing requirements on the NYSE are far more stringent than those on the AMEX). Over 3,000 firms with over 3,300 different stocks (including several hundred foreign issues) and about 1,600 corporate bonds are listed on the NYSE. The AMEX has only about 800 listed stocks and just a few listed bonds. The organized exchanges account for about half of the total *dollar* volume of all common shares traded in the U.S. stock market.

11-6. There are several *regional exchanges* that deal primarily in securities with local and regional appeal. They typically list between 100 and 500 securities. Most are modeled after the NYSE, but their membership and listing requirements are considerably more lenient. They will often list securities that are also listed on the NYSE or AMEX in order to enhance their trading activity. The Midwest, Pacific, Philadelphia, Boston, and Cincinnati exchanges are the biggest and best known of the regional exchanges.

11-7. Rather than being a physical marketplace, such as the NYSE, the *NASDAQ market* is composed of hundreds of brokers and dealers linked together via a communications network which allows the buyers and sellers of securities to initiate trades. There are no real listing requirements in the over-the-counter market; all types of *unlisted securities* can be sold or traded in this market.

11-8. There are about 7,000 actively traded issues in the *Nasdaq (National Association of Securities Dealers Automated Quotation System)* portion of the OTC with about 2,700 of these being part of the *National Market System (NMS)*. The NMS is for the largest, most actively traded securities, which generally have a national following. Trades for these securities are executed efficiently, and these stocks are about as liquid as those traded on the NYSE.

However, the vast majority of the firms traded in the OTC market are not part of Nasdaq. These are very small firms which are "thinly traded"—not much of a market exists for them, and they are rather illiquid. These stocks are listed on the "pink sheets," which are published daily and are available from brokers. The electronic quotes available at any given time on these companies may not be current, as prices are only updated electronically at the request of the traders or when there is significant trading.

11-9. *Bull markets* are favorable markets normally associated with investor optimism, economic recovery, and governmental stimulus. *Bear markets* are unfavorable markets normally associated with investor pessimism, economic slowdowns, and government control. The markets are either bullish or bearish, depending upon whether stock prices are generally rising (a bull market) or falling (a bear market).

The answer to the whether the current market is bullish or bearish depends on the recent course of stock prices and investor sentiment as the instructor conducts the

course. An interesting discussion of the current market could include comments on such things as the age of the bull or bear market, signs that it will continue or change, who the current market participants seem to be, and any other information that could help describe the current and future course of the market.

11-10. *Stockbrokers,* sometimes called "account executives," purchase and sell securities for their customers. They must be licensed by the exchanges where they place orders and must abide by strict ethical guidelines. Stockbrokers work for brokerage firms that own “seats" on the organized securities exchanges. You should select a stockbroker in light of your personal investment goals and needs. Deep discount brokers are appropriate for investors who do not desire personal advice, while full service brokers are appropriate for investors who want more guidance. If you choose a brokerage firm that offers more personal service, your broker should understand these goals and be able to effectively assist you in achieving them. A stockbroker with a disposition toward investing similar to his or her clients should provide an optimum working relationship. A good broker will attempt to establish a long-term broker-client relationship by helping the client achieve his or her long-range investment goals.

11-11. The function of a *discount broker* is to make trades, purchases, and/or sales for his or her customers at a low cost. Because discount brokers usually provide little brokerage advice, their overhead is minimal, and this cost saving is passed along to the customer via reduced transactions costs.

With the increase in the number of discount brokerage firms, there is greater variation in both fees charged and services offered. Some firms base commissions on the dollar value of the transaction, some on the number of shares, and some use both (refer to Exhibit 11.3). Those with higher commissions generally offer more services such as sweep accounts and research; some charge for research reports.

11-12. *Online brokers* allow investors to execute trades electronically online. Investors first establish an account with an online broker and then start trading by accessing the online broker’s Web site. Online services are appealing to people who are comfortable with using computers and are willing to research their selections themselves.

An individual investor who usually trades in round lots and who does not need research and advisory help will usually find the services of the discount or online brokers most helpful. In contrast, if you normally deal in small/odd lots, the discounters are not for you—indeed, they sometimes discourage such business by charging sizable minimum fees. However, technology and services offered are changing rapidly, so it pays to check around for the latest offerings.

11-13. The *SIPC (Securities Investor Protection Corp.)* is a private, non-profit organization authorized by the U.S. Congress (in 1970) to protect customer accounts against the financial failure of a brokerage firm. SIPC insurance covers each account for up to $500,000, of which up to $100,000 may be in cash balances held by the firm. This insurance does not guarantee that the dollar value

of the securities will be recovered. It only ensures that the securities themselves will be returned. The SIPC is *not* intended to insure against investment losses or bad advice from a broker. If you do lose money as a result of bad advice, the first thing to do is to discuss the situation with the managing officer at the branch where you do your business. If that does not work, write the firm's compliance officer and contact the securities office in your home state. If that still does not help, the claim might have to go into *arbitration.*

11-14. *Arbitration* and *mediation* are two methods of dispute resolution. With arbitration, the two parties—in this case, you and your broker—present the two sides of the argument before an arbitration panel, who then decides how the case will be resolved. If it is binding arbitration—and it well could be—you have no choice but to abide by the decision. As an alternative to arbitration, an investor may try to resolve the matter through *mediation.* The idea is to have the two parties try to negotiate with one another in order to settle their dispute and *voluntarily* arrive at a settlement.

11-15. The three basic types of orders are the *market order,* the *limit order,* and the *stop-loss order.* A *market order* is placed to buy or sell stock at the best price available at the time it is placed. A market order usually takes only seconds to fill once it hits the trading floor. A *limit order* is an order to buy at a specified price or lower, or to sell at a specified price or higher. The order is executed as soon as the specified market price or better exists and all other such orders having precedence have been satisfied. A limit order can remain in effect until a certain date or until canceled. With a limit order, the investor is looking for an attractive opportunity to trade. A *stop-loss order* is an order to sell a stock when the market price reaches or drops below a specified level. When the stop price is reached, the stop order then becomes a market order. With a stop-loss order, the investor is attempting to put a floor under his or her possible losses. However, the investor is not guaranteed that their stop-loss will be executed at the specified price. If the market starts to tumble and a stop-loss order kicks in, the next available price may be lower than the specified price.

11-16. Investors who use margin trading to purchase securities can magnify their returns on investments if stock prices rise because they have fewer of their own dollars at risk. However, margin trading also magnifies losses because in the event of a loss, investors are out not only their own dollars lost, but also the interest owed the broker.

11-17. A *short sale* is a transaction that involves selling borrowed securities in the expectation that they can be repurchased at some future date at a lower price. The short seller profits when the price of the security falls, making money by selling the securities at a higher price and then buying them back later at a lower price. The idea behind a short sale is just like any other transaction: buy low and sell high; the only difference is the short seller does it in reverse. The securities sold are borrowed on behalf of the short seller by his or her broker. The brokerage firm requires the short seller to abide by certain rules and regulations when making a short sale.

11-18. The four basic types of investment information that investors should try to follow are:

1. *Economic developments and current events*—to help you evaluate the underlying investment environment.
2. *Alternative investment vehicles*—so that you can stay abreast of market developments.
3. *Current interest rates and price quotations*—both to monitor your investments
   and to stay alert for developing investment opportunities.
4. *Personal investment strategies*—so that you can hone your skills and watch for new techniques as they develop.

11-19. *Market averages* and *indexes* describe the general behavior of the securities markets over time. These averages move up and down in accordance with price movements of the securities comprising the average or index. The averages or indexes most closely followed by the investing public are the Dow Jones Industrial Average, the Standard & Poor's 500 Index, the New York Stock Exchange Composite Index, and the American Stock Exchange Index. In addition to these, there are several other indexes—including the Nasdaq composite, the Nasdaq 100, Wilshire 5000, and MidCap 400—whose behavior is widely reported in the financial media.

11-20. The *Dow Jones Industrial Average* is the oldest and probably most widely followed measure of overall stock market performance and is composed of 30 blue-chip industrial companies.

The *S&P 500 Index* is composed of 500 large companies. Because this index is based on more stocks and represents a wider variety of companies than the DJIA, it is also a very popular measure of overall stock market performance.

The *S&P MidCap400* is composed of 400 medium sized companies with market caps from about $500 million to $3 billion, and is used to assess medium company stock performance.

The *Nasdaq Composite* is often used to assess the price behavior of high tech stocks—because so many high tech stocks trade on the Nasdaq—and is calculated using virtually all the stocks traded on the Nasdaq system.

The *Russell 2000 Index* tracks the behavior of 2,000 small-sized companies and is used as a broad measure of the small-cap segment of the market.

The *Wilshire 5000 Index* is actually composed of 6,000– 7,000 stocks and reflects the total market value of 98-99% of all publicly traded stocks in this country. It is used not only as a measure of the total market behavior but also of total market size on any given day.

11-21. The *Internet* has opened the world of investing to small, individual investors. Not only can individuals execute trades quickly and inexpensively through discount Internet brokers, but they can also easily and quickly access a wealth of information and screening tools once available only to professionals.

11-22. Individuals can obtain real-time quotes, monitor and chart their portfolios and trade many different types of securities in addition to stocks.

11-23. Online investment tools include financial calculators and worksheets, screening and charting tools, portfolio trackers, and personal calendars that notify you of forthcoming announcements and send you alerts concerning your stocks. These tools can be used to aid in developing financial plans and setting investment goals, finding securities to meet your objectives, analyzing potential investments, and organizing your portfolio.

11-24. Day traders are the opposite of the traditional buy-and-hold investor with the long-term approach. *Day trading* involves buying and selling stocks quickly throughout the day. Day traders attempt to make quick profits by buying in and then selling while the stock is still on an upward trend. Some day traders also do short sells in anticipation of price decreases. True day traders do not own any stocks overnight for fear that prices might change radically in the wrong direction overnight.

11-25. Placing "all your eggs in one basket" may prove to be extremely rewarding, but it also introduces the risk that you could suffer a significant loss or even lose your total investment. By investing in a *portfolio* rather than a single security, you can spread risk over a number of securities rather than a single issue. The overall return will also vary, because at any given time some securities will have a higher yield than will others. A portfolio provides diversification, protection, more security, and probably a more favorable risk-return tradeoff for the investor.

11-26. *Asset allocation* involves a decision on how to divide your portfolio among different types of securities in order to diversity your holdings and thereby lessen your overall exposure to risk. You determine what asset mix best meets your financial goals, and once the mix is set, you select the specific securities for each asset category. For example, a portfolio's asset mix could be 20% in short-term securities (money market), 20% in bonds, and 60% in stocks.

11-27. Once you establish your portfolio according to the asset allocation scheme, these percentages guide you in investing new money and also in rebalancing your portfolio if the value of an asset class changes significantly.

11-28. Keeping track of your investment holdings is essential to a well-managed securities portfolio. Just as you need investment objectives to provide direction to your portfolio, keeping track of your holdings helps you monitor it. An informed investor knows what his or her investment holdings are, how they have performed over time, and whether or not they have lived up to expectations. If they have not performed as expected, you may want to sell them so that you can put your money

into securities that better suit your investment objectives. In addition, by tracking your portfolio you keep good records for tax purposes.

Financial Planning Exercises

1. The solutions to this problem appear on Worksheet 11.1 on the following page. The keystrokes for using the financial calculator appear below (set on 1 payment per year and End Mode).

a.		**b.**		**c.**	
50,000 +/-	FV	50,000 +/-	FV	50,000 +/-	FV
8	N	8	N	10,000	PV
10	I/YR	10	I/YR	8	N
PV	$23,325.37	PMT	$4,372.20	10	I/YR
				PMT	$2,497.76

d. An investment plan is a statement, preferably written, that sets out how capital will be invested to reach the financial goal. Once Erin decides on a course of capital accumulation, she must choose an investment plan outlining how she will invest to earn the ten percent she requires. Once she decides on the best investment vehicles, she must stick to the plan in order to ensure success.

Problem 1—Worksheet 11.1

DETERMINING AMOUNT OF INVESTMENT CAPITAL

Financial goal: Accumulate $50,000 in 8 years in order to open a bookstore.

1. Targeted Financial Goal (see Note 1)		$ 50,000
2. Projected Average Return on Investments		10%
A. Finding a Lump Sum Investment:		
3. Future Value Factor, from Appendix A ■ based on 8 years to target date and a projected average return on investment of 10%		2.144
4. Required Lump Sum Investment ■ line 1 ÷ line 3	(a)	$ 23,320.90
B. Making a Series of Investments Over Time:	(b)	(c)
5. Amount of Initial Investment, if any (see Note 2)	$0	$ 10,000
6. Future Value Factor, from Appendix A ■ based on 8 years to target date and a projected average return on investment of 10%	2.144	2.144
7. Terminal Value of Initial Investment ■ line 5 × line 6	$0	$ 21,440
8. Balance to Come from Savings Plan ■ line 1 − line 7	$50,000	$ 28,560
9. Future Value Annuity Factor, from Appendix B ■ based on 8 years to target date and a projected average return on investment of 10%	11.436	11.436
10. Series of Annual Investments Required over Time ■ line 8 ÷ line 9	$4,372.16	$ 2,497.38

Note 1: The "targeted financial goal" is the amount of money you want to accumulate by some target date in the future.

Note 2: If you're starting from scratch—i.e., there is *no* initial investment—enter zero on line 5, *skip* lines 6 and 7, and then use the total targeted financial goal (from line 1) as the amount to be funded from a savings plan; now proceed with the rest of the worksheet.

[An example of stock quotes from *The Wall Street Journal* is shown in Exhibit 11.5 so that students will remember what goes in each column.]

a. Each day's paper will reflect the quotes as of the close of the previous trading day, so Thursday's paper will have the quotes from Wednesday, August 9, provided the markets were open on that day.

b. The stock closed at $29.70 on Wednesday, August 9.

c. The price to earnings ratio is 24. This number is calculated by dividing the current price per share ($29.70) by the company's earnings per share (this would have to come from the company's income statement). This means that investors are willing to pay $24 for every $1 of earnings per share that the company generated last year.

d. The last price at which the stock traded on the date quoted was the closing price of $29.70.

e. A dividend of $1.64 per share is expected this year. The stock's dividend yield is 5.5%

f. The highest and lowest prices at which the stock traded during the past 52 weeks were $29.62 and $17.75, respectively.

g. The number of shares traded on the date quoted was 277,900 shares.

h. The closing price on the date quoted is $.32 higher than the closing price of the previous day. If the stock closed at $29.70 on this date, then it closed at $29.70 – $0.32 on the day before, or $29.38.

3. This exercise serves to illustrate that a company's stock price per share by itself does not indicate how much a company is worth. Two companies with the same total valuation can have stock prices that are very different, depending on the number of shares each company has outstanding. Some companies like to split their shares when their stock price climbs to a certain level in order to make their shares more affordable to a larger number of investors. Others, like Berkshire Hathaway, do not.

The following table shows the price per share when this manual was prepared and the total valuation for the number of shares given in the exercise.

	BRKA	KO	WDFC	NKE	WMT	S
Price/Share	$89,490	$49.24	$30.50	$69.66	$53.85	$44.25
No. Shares	50	150	100	100	150	50
Total Value	$4,474,500	$7,386	$3,050	$6,966	$8,078	$2,213

4. When Cecile Higgins places her *market order* to buy 100 shares of Kodak with her broker, the order is immediately transmitted to the main office of the brokerage firm and then to the exchange floor, where it is immediately executed. Confirmation that the order has been executed is transmitted back along the same route; from the floor of the exchange back to the broker placing the order and then to the customer. Due to the sophisticated telecommunications involved, the entire process may take only a matter of minutes.

   If Cecile instead places a *limit order,* the broker transmits the specified buy or sell price to an exchange specialist dealing in the given security. The specialist notes the limit order and limit price in his or her "book." The order is executed as soon as the specified market price is in effect and all other such orders with precedence have been satisfied. The order can be placed to remain in effect until a certain date or until canceled. Such an instruction is called a "good till canceled" order (GTC).

5. If Sarah Jordan buys 300 shares of PepsiCo at $45 a share, the total transaction will cost $13,500. If she uses the maximum margin available from her broker, she will borrow 50% of the purchase price, or $6,750. Sarah must supply the other 50% of the purchase price, or $6,750 from her own funds. Nine percent interest on the $6,750 borrowed for the year would result in an interest cost of $607.50.

   If Sarah bought the stock at $45 per share and sold it at $60, she would make a total profit of $4,500. To illustrate the effect of margin on stock returns, consider the following:

	Without Margin	With 50% Margin
Total Profit	$4,500	$4,500
Less Interest	– 0	– 608
Net Profit	$4,500	$3,892
Amount of Own Capital Invested	$13,500	$6,750
Return on Investment	33.3% ($4,500/$13,500)	57.7% ($3,892/$6,750)

   Thus, while the *dollar amount* of the Net Profit may be *more* without the margin (because there is no interest to pay), the *percentage return* on investment is *much higher* with the margin trade (because less of the investor's capital is involved).

6. [Note: The percentage return will be the same whether one share is owned or $5000 worth is owned. Therefore, to simplify calculations, returns will be determined for one share.]

   The general equation for determining the return is:

$$\text{Return} = \frac{\text{Price Appreciation}}{\text{Original Investment}}$$

a. $\frac{\$120 - \$80}{\$80} = \frac{\$40}{\$80} = \underline{\underline{50\%}}$

b. $\frac{\$41 - \$32}{(\$32 \times .5)} = \frac{\$\ 9}{\$16} = \underline{\underline{56.25\%}}$

c. $\frac{\$65 - \$50}{(\$50 \times .75)} = \frac{\$15.00}{\$37.50} = \underline{\underline{40\%}}$

Alternative (b) offers the best return on the investment while alternative (c) offers the worst.

7. If Buster Summers sold 300 shares of stock short at $75 per share and the price of the stock dropped to $60 per share, *he would make a profit of $15 per share* ($75 – $60) or $4,500 ($15 x 300 shares), ignoring commission costs. That is, he is selling a stock at $75 a share which he is later going to buy at $60. His profit is the difference between what he paid for the stock ($60) and what he sold it for ($75), or $15 per share.

8. a. If Elmer sold the stock short at $50 per share and repurchased at $60 per share, he had a loss of $10 per share. Multiply his loss of $10 per share times 100 shares for a total loss of $1,000.

   b. If Elmer bought the stock at $50 per share and later sold it at $60 per share, he had a gain of $10 per share. Multiply his gain of $10 per share times 100 shares for a total gain of $1,000.

   c. If Elmer sold the stock short at $50 per share and later repurchased it at $35 per share, he had a gain of $15 per share. Multiply his gain of $15 per share times 100 shares for a total gain of $1,500.

9. a. Investors who sell a stock short must deposit with the broker an amount of money equivalent to the prevailing initial margin requirement, in this case 50%. If she shorted 500 shares of a stock currently selling at $65 per share, she had to have on deposit with the broker $65 x 500 x .50 = $16,250.

   b. If the investor shorted the shares at $65 and repurchased them at $45, she made a profit of $20 per share. Multiply 500 shares x $20 per share for a total gain of $10,000.

   c. The investor made a gain of $10,000 and had at risk $16,250 of her own money to give her a return on her invested capital of 61.5% ($10,000 ÷ $16,250 = .615 = 61.5%).

10. The NYSE has the most stringent listing requirements of all the organized exchanges. There is a certain amount of prestige in being listed on the NYSE, because these companies have to have a certain minimum size market capitalization as well as meet certain profitability levels. If listed companies fall below these requirements, they stand to be delisted. However, even large, established companies that could easily meet these requirements may choose to

stay on the Nasdaq instead. While the NYSE signals traditional standards, Nasdaq signals growth, vitality and innovation. According to Nasdaq's Web site, more companies now list on Nasdaq than all other major U.S. stock markets. It is the fastest growing major U.S. stock market and trades more shares per day than any other U.S. equities market. Many companies wish to tap into the energy generated by this environment.

11. This question requires that students look at the current levels of the various indices and also their performance during the last six months. It could be used in conjunction with Concept Question 11-9 about the current status of the markets—bullish or bearish.

12. Information for Nordstrom's (JWN) common stock:

52-week high	$42.90
52-week low	$24.45
Annual dividends	$0.34 per share
Dividend yield	0.8%
No. shares traded	1,018,000 shares
Closing price	$40.51
P/E ratio	23

Using the stocks listed in Exhibit 11.5, the following information can be determined:

Highest P/E ratio	NewmtMin	55
Largest share volume Biggest Change in Price	NortelNtwks Norsk	198182 -3.14 change
3 stocks with highest dividend yields	NrdcAmTkr	12.9% yield
	Nokia	4.9% yield
	Nisource	4.6% yield
3 stocks with highest closing prices	Norsk	$112.42 close
	Nike	$84.28 close
	Noble Crp	$72.93 close

13. From the S&P report on Nike in Exhibit 11.6:

a.	2005 Revenues	$13,740 million
b.	Latest Annual Dividend	$.90 a share
	Dividend Yield	1.5%
c.	2006 Earnings per share Estimate	$5.30 a share
d.	No. of Shareholders	19,054 million
e.	2005 Book Value per Share	$19.54
	2005 Earnings per Share	$4.48
f.	Where stock is traded	NYSE
g.	Long-Term Debt Outstanding in 2005	$687 million
h.	When company was formed	1964
	Chairman	P.H. Knight
i.	2005 effective tax rate	35%

14 Refer to the completed Worksheet 11.2 on the following page. It is suggested that the instructor provide the students with *a specific day* on which to complete the worksheet so that the numbers can be easily compared. Students should also check for stock splits, or stocks will appear to have a loss when in fact they have a profit.

AN INVENTORY OF INVESTMENT HOLDINGS

Name(s): Rebecca & Andrew Cook **Date:**

Type of Investment	Description of Investment: Security	Ticker	No.	Date Purchased	Amount of Investment: Quote	$ Amount	Annual Income: Per Security	Total	Latest Market Value: Quote	$ Amount	Comments/ Planned Actions
Com. Stk.	Adams Express	ADX	100	Dec-94	$18.00	$ 1,800.00					research for
	(Split in 2000, 3 for 2)		150				$ 0.20	$ 30.00	$ 13.83	$ 2,074.50	possible sale
Com. Stk.	Fannie Mae	FNM	250	Dec-95	$24.25	$ 6,062.50					sell half to
	(Split in 1996, 4 for 1)		1000					$ -	$ 58.92	$58,920.00	rebalance portfolio
Com. Stk.	Bed Bath & Beyond	BBBY	150	1997	$ 8.75	$ 1,312.50					
	(Split twice, 2 for 1 each time)		600				$ -	$ -	$ 38.90	$23,340.00	hold
Com. Stk.	Starbucks	SBUX	200	1998	$15.25	$ 3,050.00					
	(Split in 1999, 2001, 2005, 2 for 1 ea. time)		1600				$ -	$ -	$ 37.44	$59,904.00	hold
Savings	3-yr / 6.15% CD at bank		1	2005		$ 8,000.00	$ 492.00	$ 492.00		$ 8,000.00	hold
Totals:						**$20,225.00**		**$ 522.00**		**$152,238.50**	

Solutions to Critical Thinking Cases

11.1 The Thomson's Struggle With Two Investment Goals

1. According to the worksheet which follows, the Thomsons would need $46,815 to fund the educational needs of their children. This assumes they will need $40,000 in six years (which will require an investment of $25,205 today) and another $40,000 two years later, in eight years (which will require an investment of $21,610). Given they have already accumulated $45,000 for their kids' education fund, they are about *$1,815 short* of the amount needed, which they should have no problem saving.

DETERMINING AMOUNT OF INVESTMENT CAPITAL

Financial goal: Fund the educational needs of 2 children — $40,000 needed in 6 years, + another $40,000 in 8 years.

	Child 1	Child 2
1. Targeted Financial Goal (see Note 1)	$40,000	$ 40,000
2. Projected Average Return on Investments	8%	8%
A. Finding a Lump Sum Investment:	6 yrs.	8 yrs.
3. Future Value Factor, from Appendix A ■ based on 6 / 8 years to target date and a projected average return on investment of 8%	1.587	1.851
4. Required Lump Sum Investment ■ line 1 ÷ line 3	$25,204.79	$ 21,609.94
B. Making a Series of Investments Over Time:		
5. Amount of Initial Investment, if any (see Note 2)		$
6. Future Value Factor, from Appendix A ■ based on ______ years to target date and a projected average return on investment of ______		
7. Terminal Value of Initial Investment ■ line 5 × line 6		$
8. Balance to Come from Savings Plan ■ line 1 − line 7		$
9. Future Value Annuity Factor, from Appendix B ■ based on ______ years to target date and a projected average return on investment of ______		
10. Series of Annual Investments Required over Time ■ line 8 ÷ line 9		$

Note 1: The "targeted financial goal" is the amount of money you want to accumulate by some target date in the future.

Note 2: If you're starting from scratch—i.e., there is *no* initial investment—enter zero on line 5, *skip* lines 6 and 7, and then use the total targeted financial goal (from line 1) as the amount to be funded from a savings plan; now proceed with the rest of the worksheet.

2. Using the financial calculator set on 1 P/YR and End Mode, these investments would be worth a total of $326,267 in 20 years, given an 8% investment rate.

Mutual Fund:		Retirement Account:	
50,000 +/-	PV	20,000 +/-	PV
8	I/YR	8	I/YR
20	N	20	N
FV	$233,048	FV	$93,219

3. The Thomsons' currently have $70,000 in their retirement nest egg. If they were to add $6,000 to their nest egg at the end of each of the next 20 years, they would have a total of $600,839.

Using the financial calculator set on 1 P/YR and End Mode:

70,000 +/-	PV
6,000 +/-	PMT
8	I/YR
20	N
FV	$600,839

4. They are doing a great job in meeting *both* of their investment goals. Not only have they basically met the educational funding needs of their children, but they are well on their way to building up a retirement nest of over half a million dollars. Keep up the good work!

11.2 Col Takes Stock of His Securities

1. Refer to the completed Worksheet 11.2 shown on the following page. It is suggested that the instructor provide the students with *a specific day* on which to complete the worksheet so that the numbers can be easily compared; also, he or she might want to warn the students to check for any stock splits. Please note that eBay has indeed split 2 for 1 three times since 1999 when it was purchased to the date of this writing, so that on the first split, the 200 shares became 400; on the second split, the 400 became 800; and on the third split, the 800 became 1600. A good site to research securities is finance.yahoo.com. When you pull up the stock's chart, the splits are marked and the dates written at the bottom. Also, you can pull up information about all the companies at once by typing in the tickers separated by a space.

2. Col's net worth has increased 6-fold from when he started his investments in 1999 to the assessment date here of 2006, so he has done very well indeed! However, his portfolio needs to be rebalanced. See the discussion which follows in #3 below.

3. Col does have a good representation of various industries in his portfolio. He should consider selling his WD-40 stock. Its performance has been less than stellar, and he can find another stock that will give him a greater return. His

inclusion of the money market mutual fund is a risk-reducing strategy in that it provides liquidity and some stability. In fact, even though Col considers himself an aggressive investor, he probably should have some amount of bonds in his portfolio to reduce volatility and to protect on the downside when stocks take a tumble. His portfolio is currently about 93% in equities. By adding some amount of bonds, he can reduce his overall risk without reducing his return by much. The table below shows the percentage of his total portfolio represented by each company.

Company	**Current Value of Stock**	**% of Total Portfolio**
eBay	$ 48,784.00	27.2%
WD-40 Co.	8492.50	4.7%
Franklin Resources	42,288.00	23.6%
Fisher Scientific	37,669.50	21.0%
P.F. Chang's China Bistro	29,944.00	16.7%
Money Mkt. fund	12,000.00	6.8%
Totals	**$ 179,178.00**	**100.0%**

AN INVENTORY OF INVESTMENT HOLDINGS

Name(s): Col Thomas **Date:**

Type of Investment	Description of Investment: Security	Ticker	No.	Date Purch.	Amount of Investment: Quote	Amount of Investment: $ Amount	Annual Income: Per Security	Annual Income: Total	Latest Market Value: Quote	Latest Market Value: $ Amount	Comments/ Planned Actions
Com. Stk.	eBay	EBAY	200	1999	$ 9.00	$ 1,800.00					
	(Split 3 times, 2 for 1 ea. time)		1600				$ -	$ -	$ 30.49	$ 48,784.00	hold
Com. Stk.	WD-40 Co.	WDFC	250	1999	$ 21.00	$ 5,250.00	$ 0.88	$220.00	$ 33.97	$ 8,492.50	sell
Com. Stk.	Franklin Resources	BEN	200	1998	$ 52.00	$ 10,400.00					
	(Split 2 for 1)		400				$ 0.48	$192.00	$ 105.72	$ 42,288.00	hold
Com. Stk.	Fisher Scientific	FSH	450	1999	$ 17.50	$ 7,875.00	$ -	$ -	$ 83.71	$ 37,669.50	hold
Com. Stk.	P.F.Chang's China Bistro	PFCB	400	1999	$ 12.50	$ 5,000.00					
	(Split 2 for 1)		800				$ -	$ -	$ 37.43	$ 29,944.00	hold
MMkt	Money mkt. mutual fund - 3%		12000	2001	$ 1.00	$ 12,000.00	$360.00	$360.00	$ 1.00	$ 12,000.00	hold
Totals:						**$ 42,325.00**		**$772.00**		**$ 179,178.00**	

Note: This spreadsheet does not account for the reinvesting of dividends and interest.
We are not told whether these amounts are used for current income needs or reinvested.

Chapter 12

Investing in Stocks & Bonds

Chapter Outline

Learning Goals

I. The Risks and Rewards of Investing
- A. The Risks of Investing
  - 1. Business Risk
  - 2. Financial Risk
  - 3. Market Risk
  - 4. Purchasing Power Risk
  - 5. Interest Rate Risk
  - 6. Liquidity Risk
  - 7. Event Risk
- B. The Returns from Investing
  - 1. Current Income
  - 2. Capital Gains
  - 3. Interest-on-Interest: An Source of Return
- C. The Risk-Return Trade-Off
- D. What Makes a Good Investment?
  - 1. Future Return
  - 2. Approximate Yield

Concept Check

II. Investing in Common Stock
- A. Common Stocks as a Form of Investing
  - 1. Issuers of Common Stock
  - 2. Voting Rights
  - 3. Basic Tax Considerations
- B. Dividends
- C. Some Key Measures of Performance
  - 1. Book Value
  - 2. Net Profit Margin
  - 3. Return on Equity
  - 4. Earnings Per Share
  - 5. Price/Earnings Ratio
  - 6. Beta

- D. Types of Common Stock
  - 1. Blue-Chip Stocks
  - 2. Growth Stocks
  - 3. Tech Stocks
  - 4. Income Stocks versus Speculative Stocks
  - 5. Cyclical Stocks or Defensive Stocks
  - 6. Mid-Caps and Small Caps
- E. Market Globalization and Foreign Stocks
- F. Investing in Common Stock
  - 1. Advantages and Disadvantages of Stock Ownership
- G. Making the Investment Decision
  - 1. Putting a Value on Stock
  - 2. Investment Club Approach to Stock Valuation
  - 3. Timing Your Investment
  - 4. Be Sure to Plow Back Your Earnings
- *Concept Check*

III. Investing in Bonds

- A. Why Invest in Bonds?
- B. Bonds Vs. Stocks
- C. Basic Issue Characteristics
  - 1. Types of Issues
  - 2. Sinking Fund
  - 3. Call Feature
- D. The Bond Market
  - 1. Treasury Bonds
  - 2. Agency Bonds
  - 3. Municipal Bonds
  - 4. Corporate Bonds
  - 4. The Special Appeal of Zero Coupon Bonds
  - 5. Convertible Bonds
- E. Bond Ratings
  - 1. Pricing a Bond
- F. Bond Prices and Yields
  - 1. Current Yield and Yield to Maturity
- *Concept Check*

Summary
Financial Planning Exercises
Applying Personal Finance

What's Your Type?

Contemporary Case Applications

- 12.1 The Jordans' Problem: What to Do with All That Money?
- 12.2 Kathy Decides to Try Her Hand at Investing

Money Online

Major Topics

The financial rewards from investing can be great. However, investors first need to understand the features of the various types of investments and the risks inherent in each. The major topics in this chapter include:

1. The risks associated with investing include business risk, financial risk, market risk, interest rate risk, purchasing power risk, and liquidity risk and event risk.
2. Interest-on-interest underlies all elements of total return and is the basic assumption in estimations of future return.
3. The risk-return trade-off is an important element of investing.
4. Common stock is a rewarding type of investment security.
5. The valuation of common stock provides a means of specifying the risks and rewards associated with common stock investing.
6. Bond investing provides current income from interest.

Key Concepts

In studying investments, one must understand the jargon of the investment world. This chapter explains basic investment terminology and explores the features of the various types of investments. Key concepts in this chapter include the following:

1. The risks of investing
2. Investment returns
3. Interest-on-interest
4. The risk-return trade-off
5. Measures of return
6. Common stocks
7. Rights of common stockholders
8. Dividends
9. Measures of stock performance
10. Common stock valuation
11. Types of common stock
12. Foreign securities and ADRs (American Depository Receipts)
13. Bonds
14. Bond issue characteristics
15. Types of bonds
16. Bond ratings
17. Bond prices and yields
18. Inverse relationship between interest rates and bond prices
19. Zero coupon bonds
20. Convertible bonds

Answers to Concept Check Questions

12-1. Investors are exposed to *business risk*, the possibility that the firm will fail, due to factors affecting the firm, such as economic or industry factors or poor management decisions. Business risk may be thought of as the degree of

uncertainty associated with the firm's earnings and consequent ability to pay dividends and interest. There is *financial risk,* which is the risk associated with the mix of debt and equity financing used by the issuing company. Too much debt could also lead to financial failure. *Market risk* is reflected in the price volatility of a security and is associated with factors such as changes in political, economic and social conditions and in investor tastes and preferences. *Purchasing power risk* is the risk resulting from possible changes in price levels that can have a significant effect on investment returns. In times of rising prices, the purchasing power of the dollar declines. *Interest rate risk* results from changing market interest rates that mainly affect fixed-income securities. The prices of these securities decrease with rising interest rates and increase with falling rates. *Liquidity risk* is associated with the inability to liquidate an investment conveniently and at a reasonable price. Finally, there is *event risk,* which is the risk that something totally unexpected will happen (like a corporate takeover) to cause the market price of a security to drop dramatically.

12-2. The *risk-return trade-off* refers to the universal rule of investing that the amount of risk associated with an investment is directly related to the expected return of the investment. If you want a higher return, you must be willing and able to accept a higher level of risk. The *risk-free rate of return* is the positive level of return that you can earn even though there is virtually no risk of default involved in the security. This rate is usually identified as the return on short-term government securities, such as Treasury bills. (Even though this is referred to as the "risk-free" rate, bear in mind that these low rates of safe return are very susceptible to purchasing power risk—the risk that the growth in the value of the investment will not keep pace with inflation. In addition, if these investments are held outside a tax-sheltered environment, they are also subject to taxes.)

12-3. The two basic sources of return are current income and capital gains. Current income is the amount of return generated annually from an investment and takes the form of dividends, interest, or rent. A capital gain, in contrast, reflects the price behavior of an investment over time and is captured through capital appreciation (or loss).

12-4. *Interest-on-interest* is one of the most important, yet most overlooked, sources of return. Interest-on-interest means keeping your capital fully invested—it means reinvesting the current income and *realized* capital gains into other investment products. It is through interest-on-interest that we are able to earn fully compounded rates of return (over the long haul) on our investments. Indeed, over extended (lengthy) periods of time, interest-on-interest may account for as much as 40–60% of total return.

12-5. An investor's *desired rate of return* is the minimum rate of return acceptable for the amount of risk that the investor must bear. An investment should be considered acceptable only if it is expected to generate a rate of return that meets or exceeds the investor's desired rate of return.

12-6. Yes, tax-wise, it makes a difference to investors whether they receive a return on stocks in the form of dividends or capital gains. Short-term capital gains (gains on

property held less than one year) are taxed as regular income to the taxpayer at rates which currently go up to over 30% (rates are scheduled to go down through time). Dividends and capital gains on property held longer than one year are taxed more favorably. For taxpayers in the 10% and 15% tax brackets, the rate is 5%. For taxpayers in brackets higher than 15%, the rate is 15%. Also, an even more favorable 5-year capital gains rate has recently come into effect.

12-7. Dividends can take two forms. *Cash dividends* are just what the name implies. The most common form of dividend, they are typically paid on a quarterly basis in cash. *Stock dividends* pay existing shareholders in new shares of stock. However, the shareholder's proportion of ownership and investment value remain the same. The price generally falls in direct proportion to the size of the stock dividend. Investors should prefer to receive cash dividends. Cash dividends provide additional return, while stock dividends do not represent additional value. When a company issues a stock dividend, the price of its shares falls accordingly, and each shareholder holds the same proportion of the company's total outstanding stock as before.

12-8. a. *Book value* represents the accounting value of a firm. The book value is determined by subtracting the firm's liabilities and preferred stock value from its assets. The resulting amount would be the book value of the common stock.

b. *Return on Equity (ROE)* relates the amount of profits that the firm is generating relative to the firm's equity base, and it reflects the overall profitability of the firm. It captures the amount of success the firm is having in managing its assets, operations, and capital structure; ROE is important because of its impact on the profits, growth, and dividends of the firm. An increasing ROE is desirable, while a decreasing ROE is something the firm would probably rather avoid.

c. *Earnings per share (EPS)* is the amount earned for each common share outstanding during a specific period of time. The EPS is determined by dividing all earnings after taxes and claims by preferred shareholders by the number of common shares outstanding.

d. The *price/earnings ratio (P/E)* is calculated by dividing the price of the common stock by the earnings per share; it indicates how aggressively the stock is being priced relative to its earnings and reflects the level of investor confidence and expectations.

e. *Beta* measures the market risk in a share of common stock; it reveals how the price of a stock behaves relative to the market (which has a beta of one). The larger the stock's beta, the more risky the investment. A stock with a beta of 1.7, for example, is considered to be more price volatile than one with a beta of 0.7.

12-9. *Blue chip stocks* are issued by the strongest, most stable companies and usually provide uninterrupted streams of dividends and strong long-term growth prospects.
Growth stocks are expected to continue to experience consistently high rates of growth in operations and earnings. Both blue-chips and growth stocks have great

appeal to investors with long-term investment objectives. Growth stocks offer the better return at somewhat greater risk.

Tech stocks are those of companies in the technology sector of the market. The technology sector has been a dominant sector in market growth during the past 10-15 years and is expected to remain fairly strong for the foreseeable future. Tech stocks usually fall into the growth or speculative category, although some are now in the blue-chip category.

Income stocks are purchased primarily for the high current dividends they pay. An added feature of these stocks is that the amount of their dividends usually increase over time. They are attractive to investors who need current income and are less concerned about future growth in value or the higher taxation of dividends.

Speculative stocks offer the investor an unusual opportunity for price appreciation based on some special situation that has occurred in the company. These securities are usually not attractive to conservative long-term investors.

Stocks whose price movements follow the economy are *cyclical stocks.* They tend to have positive market risk and are best used by investors when the economy starts to recover from a recession. *Defensive stocks* are considered counter cyclical since they usually do not move with the economy. These are generally lower risk stocks. Both cyclical and defensive stocks can be used in a portfolio that contains other types of stocks. Their purpose would be to change the risk of the portfolio.

Mid-cap and *small-cap* stocks are stocks of companies whose market capitalization falls under certain limits: about $4–5 billion for mid-caps and $1 billion for small caps. Mid-caps offer investors opportunities for capital appreciation and are an alternative to large stocks. Small caps, and even smaller *micro caps,* are riskier investments and require careful analysis.

Student preferences among these stock types will vary, but point out that a diversified portfolio may well have some of each to provide long-term stability.

12-10. In a *dividend reinvestment plan* shareholders can sign up to have their cash dividends automatically used to buy additional shares of the company's common stock. A major purpose of an investment program is to earn a fully compounded rate of return. This means keeping your money fully invested at all times, something that a dividend reinvestment plan allows you to do automatically.

12-11. A *secured bond* is one that is backed by a legal claim on some specific property of the issuer, which is called collateral. These are senior bonds. Examples of secured bonds are mortgages, which are secured by real property, and equipment trust certificates, which are backed by equipment and are used by airlines and railroads.

Unsecured bonds, although they are still legally binding debt obligations of the company, are not backed by property. They are backed only by the promise of the

issuer to pay interest and principal on a timely basis. These are junior bonds, and *debentures* are probably the most popular of such issues.

12-12. No, junk and zero-coupon bonds are not the same. *Junk bonds* pay a high coupon and offer a high yield because they are considered to be a riskier investment. They are issued by companies which have received below-investment grade ratings on their bond issues. On the other hand, *zero coupon bonds* do not pay a coupon. They are sold at a deep discount to par value and mature at par value. Some zero-coupon bonds are very high quality and are particularly useful for investors who have a cash flow need at a certain target date. With no interest payments, investors do not have to worry about rates of return on reinvested interest payments. However, because there are no coupon payments, zeros experience greater price volatility when interest rates change, which can be of great concern to investors who sell zeros before maturity. Additionally, interest is "imputed" on zeros, and if they are held outside a tax-sheltered environment, investors must pay yearly income taxes on this imputed interest even though they have received no cash interest payments.

Municipal bonds are issued by state and local governments and provide interest income to investors that is not subject to federal income tax *(Note:* while the *interest income* is tax exempt, *capital gains* are not). The 1986 Tax Reform Act changed the tax status of some municipal bonds. If the proceeds of the bond issue are used for nonessential purposes, the interest received *is* subject to federal income tax. Additionally, if you live in a state with a state income tax and buy municipal bonds from another state, that interest income will be subject to your state's income tax. And finally, taxpayers subject to the alternative minimum tax may have to pay federal income taxes on income from municipal bonds, so yes, taxes may have to be paid on municipal bonds.

12-13. A *convertible bond* is a type of debenture bond that carries with it the provision that within a certain time period it may be exchanged into a certain number of shares of the issuing company's common stock. Investors buy convertible bonds because they offer the steady income of a debt security plus the promise of participation in the growth of the equity value of the company should the price of the company's stock appreciate above the conversion price of the bond.

12-14 The *conversion privilege* stipulates the nature of the conversion feature. It includes a statement about the conversion period during which the bond can be converted, and the conversion ratio, which specifies the number of shares of common stock into which the bond can be converted. It is the conversion ratio acting with the market price of the common stock that gives the bond its conversion value. The *conversion value* is the value at which the bond would trade if it were priced to sell on the basis of its stock value. It is found by multiplying the conversion ratio, or the number of shares of common stock one will get, by the market price of the common stock. Since the conversion ratio is usually fixed, the conversion value can only change if and when the market price of the common stock changes. Therefore, a rise in the market price of the convertible will depend on a rise in the market value of the common stock.

12-15. *Moody's* and *Standard & Poor's* each have their own system of rating bonds. Their ratings reflect the quality and degree of risk they perceive in the bond. (See Exhibit 12.9 in the text for the ratings and associated interpretations.) Every time a large, new issue comes to the market, it is analyzed by a staff of professional bond analysts to determine its default risk exposure and its investment quality. The rating given applies only to that particular bond issue, so that one company could have more than one issue of bonds outstanding, and each could have a different rating. The rating agencies also reexamine older bonds to see if their ratings need to be changed.

12-16. The *higher the current market interest rate* is relative to the stated interest rate on an outstanding bond, the *lower the market price* of the bond; in contrast, the *lower the current market interest rate* is relative to the bond's stated interest rate, the *higher the market price* of the bond. The current market interest rate viewed relative to the stated interest rate on a bond impacts the bond price in the marketplace. When the current market rate is higher than the stated rate, the bond sells at a *discount.* When the current market rate is below the stated (coupon) rate, the bond will sell at a *premium.* Current market rates, therefore, can have a profound effect on the prices of outstanding bonds.

Financial Planning Exercises

1. A good investment is one that promises enough return to compensate the investor for the amount of risk involved; this basic *risk-return* rule applies to *any* type of investment vehicle. Investments should also be selected according to their appropriateness for the investor's objective (for example, current income or long-term growth), time horizon, and liquidity needs. Tax implications can also influence investment choices, particularly for investors in the higher tax brackets.

a. Approximate Yield = $\dfrac{\$3 + \dfrac{(\$75 - \$45)}{3}}{\dfrac{(\$75 + \$45)}{2}} = \dfrac{\$13}{\$60} = .2167 \text{ or } 22\%$

b. Approximate Yield = $\dfrac{\$0 + \dfrac{(\$60 - \$25)}{2}}{\dfrac{(\$60 + \$25)}{2}} = \dfrac{\$17.50}{\$42.50} = .4118 \text{ or } 41\%$

c. Approximate Yield = $\dfrac{\$120 + \dfrac{(\$1000 - \$950)}{1}}{\dfrac{(\$1000 + \$950)}{2}} = \dfrac{\$170}{\$975} = .1744 \text{ or } 17\%$

Based on the above calculations, the investments would be ranked from highest to lowest expected return as b, a, then c; this assumes, of course, that there is *equal risk* exposure and identical *tax implications* in all three investments.

2. a. Dividend Yield = $\dfrac{\text{Annual Dividends Received}}{\text{Market Price of the Stock}} = \dfrac{\$\,2.50}{\$50.00} = .05 \text{ or } 5\%$

b. Book Value Per Share

$$= \frac{\text{Total Assets} - \text{Total Liabilities} - \text{Total Preferred Stock}}{\text{Number of Shares of Common Stock Outstanding}}$$

$$= \frac{\$20{,}000{,}000 - \$8{,}000{,}000 - \$3{,}000{,}000}{500{,}000}$$

$$= \underline{\$18.00 \text{ per share}}$$

c. Earnings Per Share

$$= \frac{\text{Net Profit After Tax} - \text{Total Annual Preferred Dividends}}{\text{Number of Shares of Common Stock Outstanding}}$$

$$= \frac{\$2{,}500{,}000 - \$240{,}000}{500{,}000} = \frac{\$2{,}260{,}000}{500{,}000}$$

$$= \underline{\$4.52}$$

d. Price/Earnings Ratio

$$= \frac{\text{Current Market Price of Common Stock}}{\text{Earnings Per Share}}$$

$$= \frac{\$50.00}{\$4.52} = 11.06 \text{ or } \underline{11 \text{ times}}$$

3. a. While student answers will vary, given the parameters in the question (capital appreciation and above-average risk tolerance), most will probably focus on the following categories:

Growth and *Tech stocks:* These stocks are expected to achieve high growth rates and are ideal for this portfolio because of their potential for large gains from price appreciation. Growth and tech stocks typically carry betas over 1.0, which is not a problem for a risk-taking investor.

Speculative stocks: These would appeal to this investor as well. Unlike stocks with a proven record of earnings, these stocks are bought with the hope that prices will rise due to something new—products, information, research developments, etc. For example, stocks of biotech companies whose researchers are developing new treatments for cancer are speculative. Once they have a proven product, they may be considered growth stocks.

Mid-cap stocks: Stocks with market capitalization under about $4–5 billion offer attractive return potential without the price fluctuations of speculative stocks. They would be a good balance to the riskier investments in the portfolio.

Small-cap stocks: These stocks of companies with less than $1 billion in market capitalization offer high growth and return potential but with higher risk than midcaps.

Point out that even a long-term growth portfolio should probably also contain some large blue-chip stocks, income stocks, bonds, and money market.

b. With a smaller amount to invest, students should include the more conservative categories—blue chip, defensive, income stocks, bonds and money market—in a greater proportion to provide a balance for higher risk holdings. A more risk averse investor might eliminate speculative stocks altogether and increase the amount of conservative securities.

4. Students' answers will vary.

5.

$$\text{Expected Return} = \frac{\$3 + \frac{\$100 - \$60}{3}}{\frac{\$100 + \$60}{2}}$$

$$= \frac{\$16.33}{\$80} = \underline{\underline{20.4\%}}$$

Using the financial calculator set on 1 P/YR and End Mode:

60 +/-	PV
3	PMT
3	N
100	FV
I	22.8%

6. Book Value = Total Assets – Total Liabilities – Total Preferred Stock
= $2,500,000 – $1,800,000 – $200,000
= $500,000

$$\text{Book Value Per Share} = \frac{\text{Total Assets} - \text{Total Liabilities} - \text{Total Preferred Stock}}{\text{Number of Shares of Common Stock Outstanding}}$$

$$= \frac{\$2{,}500{,}000 - \$1{,}800{,}000 - \$200{,}000}{50{,}000}$$

$$= \underline{\$10.00 \text{ per share}}$$

7. a.

$$\text{Earnings Per Share} = \frac{\text{Net Profit After Tax} - \text{Total Annual Preferred Dividends}}{\text{Number of Shares of Common Stock Outstanding}}$$

$$= \frac{\$15{,}800{,}000 - \$1{,}000{,}000}{2{,}500{,}000} = \frac{\$14{,}800{,}000}{2{,}500{,}000}$$

$$= \underline{\underline{\$5.92}}$$

b.

$$\text{Price/Earnings Ratio} = \frac{\text{Current Market Price of Common Stock}}{\text{Earnings Per Share}}$$

$$= \frac{\$60}{\$5.92} = \underline{\underline{10.14 \text{ times}}}$$

c. Dividend Yield $= \dfrac{\text{Annual Dividends Received}}{\text{Market Price of the Stock}}$

$= \dfrac{\$1.75}{\$60} = .029$ or $\underline{\underline{2.9\%}}$

8. Mr. M. Bags should not buy Consolidated Everything if he desires a 15% rate of return, as this stock's expected return will not be that high.

$$\text{Expected Return} = \frac{\$0 + \dfrac{\$105 - \$65}{4}}{\dfrac{\$105 + \$65}{2}}$$

$$= \frac{\$10}{\$85} = \underline{\underline{11.8\%}}$$

Using the financial calculator set on 1 P/YR and End Mode:

65 +/-	PV
0	PMT
4	N
105	FV
I	12.7%

9. To solve this problem, we must first find the *taxable equivalent yield* on the municipal bond and then compare that to the yield on the Treasury bond. The taxable equivalent yield for an investor in the 28% marginal tax bracket is:

$$\text{T.E.Y.} = \frac{5.25\%}{1 - .28} = \frac{5.25\%}{.72} = \underline{\underline{7.3\%}}$$

This calculation shows us that for an investor to be better off with the Treasury bond, this taxable investment must return greater than 7.3%. Such is not the case with the 6.5% T-bond. The investor would be better off with the municipal bond. However, since there is little risk of default on T-bonds, only highly rated municipal bonds should be compared to Treasury securities.

10. a. The *current yield* is found by dividing the annual interest income by the market price of the bond. It is basically the same figure as the dividend yield on a stock, and it would be important to investors seeking current income.

b. The *yield to maturity* is the annual rate of return a bondholder would receive if he or she held the bond to its maturity. This yield is approximated by adding the annual income to the average capital gain over the life of the bond and dividing this by the average amount invested in the bond. Thus, whereas current yield involves only interest income, yield to maturity considers both interest income and capital gains.

These yield measures are important to bondholders because they are used to assess the underlying attractiveness of a bond investment. If a bond provided a yield to maturity that equaled or exceeded the desired return on a bond, it would be an attractive investment. When using the financial calculator, set on 1 payment per year, End Mode, and assume that interest payments are made twice a year.

Quote	Current Yield	Yield to Maturity Using Financial Calculator
9%, 20 yr., $850	$90/$850 = 10.6%	850 +/- PV 1000 FV 90/2 PMT 20 x 2 N I/YR 5.426 x 2 = 10.85%

Yield to maturity using formula:

$$\text{Approximate Yield to Maturity} = \frac{\$90 + \frac{(\$1{,}000 - \$850)}{20}}{\frac{(\$1{,}000 + \$850)}{2}}$$

$$= \frac{\$\ 97.50}{\$925.00} = .1054 \text{ or } \underline{\underline{10.54\%}}$$

11. Calculations for the 3 bonds follow. When using the financial calculator, set on 1 payment per year, End Mode, and assume that interest payments are made twice a year.

Quote	Current Yield	Yield to Maturity Using Financial Calculator
a. 9.5%, 20 yr., 97.75	95/977.50 = 9.72%	977.50 +/- PV 1000 FV 95/2 PMT 20 x 2 N I/YR 4.88 x 2 = 9.76%
b. 16%, 15 yr., 164.625	160/1646.25 = 9.72%	1646.25 +/- PV 1000 FV 160/2 PMT 15 x 2 N I/YR 4.18 x 2 = 8.36%
c. 5.25%, 18 yr., 54	52.50/540 = 9.72%	540 +/- PV 1000 FV 52.50/2 PMT 18 x 2 N I/YR 5.64 x 2 = 11.27%

Yield to maturity using formula:

Bond a:

$$\text{Approx. YTM} = \frac{\$95 + \frac{(\$1{,}000 - \$977.50)}{20}}{\frac{(\$1{,}000 + \$977.50)}{2}} = \frac{\$96.13}{\$988.75} = 9.72\%$$

Bond b:

$$\text{Approx. YTM} = \frac{\$160 + \frac{(\$1{,}000 - \$1{,}646.25)}{15}}{\frac{(\$1{,}000 + \$1{,}646.25)}{2}} = \frac{\$116.92}{\$1{,}323.13} = 8.84\%$$

Bond c:

$$\text{Approx. YTM} = \frac{\$52.50 + \frac{(\$1{,}000 - \$540)}{18}}{\frac{(\$1{,}000 + \$540)}{2}} = \frac{\$78.06}{\$770} = 10.14\%$$

Thus, while all three bonds have exactly the same current yields, their yields-to-maturity (using the approximation formula) vary, from a low of 8.84 % (for the premium bond) to a high of 10.14 % (for the deeply discounted bond).

12. Calculations for the 3 bond quotes follow. When using the financial calculator, set on 1 payment per year, End Mode, and assume that interest payments are made twice a year.

Quote	**Current Yield**	**Yield to Maturity Using Financial Calculator**	
a. 10%, 25 yr., $1250	$100/$1250 = 8.0%	1250 +/- 1000 100/2 25 x 2 I/YR	PV FV PMT N 3.86 x 2 = 7.7%
b. 10%, 25 yr., $1000	$100/$1000% = 10%	1000 +/- 1000 100/2 25 x 2 I/YR	PV FV PMT N 5.00 x 2 = 10%
c. 10%, 25 yr., $750	$100/$750 = 13.3%	750 +/- 1000 100/2 25 x 2 I/YR	PV FV PMT N 6.76 x 2 = 13.5%

When a bond is trading at par value, its current yield and yield to maturity will be equal. When it is trading at a premium, its yield to maturity will be less than its current yield because the investor is paying more than par for the bond. When the bond is trading at a discount, its yield to maturity will be greater than its current yield because the investor paid less than par value for the bond.

13. A zero coupon bond by definition pays no coupon or yearly interest, so investors profit only from the capital gains. Zero coupon bonds are purchased at a deep discount and pay the investor par value at maturity. Investors discount $1000 back to the present using the going interest rate to determine how much they would be willing to pay today to purchase the bond. If the bond quote is 12.50**,** investors are willing to pay 12.50% of par or 0.125 x $1000 = $125 per bond.
Current yield = annual interest/current market price = 0
[Zeros pay no annual interest]

$$\text{Approx. YTM} = \frac{\$0 + \frac{(\$1{,}000 - \$125)}{25}}{\frac{(\$1{,}000 + \$125)}{2}} = \frac{\$35}{\$562.50} = .062 = \underline{\underline{6.2\%}}$$

When using the financial calculator, set on 1 payment per year and End Mode.

125 +/-	PV
1000	FV
25	N
I	8.67%

14. a. A 7.5% coupon bond will pay 0.075 x $1000 par value or $75 in interest per year. Current yield when purchased = annual interest/current market price = $75/$850 = 0.088 = <u>8.8%</u>. Current yield one year later = $75/$962.50 = 0.0779 = <u>7.79%</u>.

b.
$$\text{Approx. yield} = \frac{\$75 + \frac{(\$962.50 - \$850)}{1}}{\frac{(\$962.50 + \$850)}{2}} = \frac{\$187.50}{\$906.25} = .207 = \underline{\underline{20.7\%}}$$

When using the financial calculator, set on 1 payment per year, End Mode, and assume that interest payments are made twice a year.

850 +/-	PV
962.50	FV
2	N
75/2	PMT
I/YR	10.69 x 2 = <u>21.4%</u>

15. The *conversion value* = Conversion ratio x Market price of the common stock

= 24 shares x $55 per share = <u>$1,320</u>

If the bond is selling for $1,500, the *conversion premium* would be the difference between the price of the bond and its conversion value. In this case the conversion premium is $180 ($1,500 – $1,320).

16. Convertible bond: $1,000 face value, 6% coupon, 20-year maturity, convertible into 20 shares; current price of the convertible is $800; current stock price is $35; current yearly dividend is $.75/share.

a. Current yield = Annual income/Market price
= [(0.06)($1,000)]/$800 = <u>7.5%</u>

Dividend yield	=	Annual dividends/Market price		
	=	$.75/$35	=	2.14%
Bond income	=	(0.06)($1,000)	=	$60
Dividend income	=	20 shares x $.75	=	$15

The bond provides more current income per year.

b. Conversion ratio = Stated number of shares the bond can be converted into = 20 shares

Conversion price = Par value/Conversion ratio
= $1,000/20 = $50/share

c. Conversion value = Conversion ratio x Market price of the stock
= 20 x $35 = $700

Conversion premium = Current market price of convertible – Conversion value
= $800 – $700 = $100

d. Approximate yield to maturity

$$= \frac{\$60 + \frac{(\$1,000 - \$800)}{20}}{\frac{(\$1,000 + \$800)}{2}}$$

$$= \frac{\$60 + \$10}{\$900} = 7.78\%$$

When using the financial calculator, set on 1 payment per year, End Mode, and assume that interest payments are made twice a year.

800 +/-	PV
1000	FV
60/2	PMT
20 x 2	N
I/YR	4.01 x 2 = 8.02%

17. This library problem is designed to provide hands-on experience to the student, and as such any specific solution is not possible here.

Solutions to Contemporary Case Applications

12.1 The Jordan's Problem: What to Do with All That Money?

1. The Jordans have a comfortable income, no children, and no special goal for this money. They should take a long-term investment approach and can afford to be fairly aggressive in their choice of investments, depending on their tolerance for risk.

2. In selecting stocks for their portfolio, the Jordans would want a fair amount of blue-chip stocks with also some growth and defensive stocks to round out their holdings. Many blue-chip companies pay dividends, so some amount of income stocks would be included already in their blue chips. Their selection of growth stocks will probably include some tech stocks, and they can choose several from the mid-cap and small-cap range in order to balance out their portfolio. Defensive stocks provide some amount of downside protection in the event of an economic downturn. If the economic outlook is positive, the Jordans also might want to include some cyclical stocks in their portfolio.

   The Jordans do not need current income from their investments because they each earn a good living. Because they are probably in a fairly high tax bracket, any interest income and short-term capital gains from their investments would be taxed at their ordinary tax rate. Clearly, they would be better off with long-term capital gains and dividends which are currently taxed at a maximum rate of 15%, and capital gains are taxed only when the gains are realized. However, some amount of income producing securities, which could include bonds, should be included in a well balance portfolio because such investments tend to lower the overall risk of the portfolio and lend some amount of stability to price fluctuations.

3. The Jordans should invest this money to supplement any retirement accounts they may have, and we will assume since they both have good jobs that they are contributing the maximum to their tax-sheltered retirement plans (if not, your *first* recommendation would be to fully fund all of these plans and/or IRAs). Next, have the Jordans look over their balance sheet and see what rates they are paying on their debts. Particularly look at debts where the interest is not tax deductible (credit cards, personal loans, auto loans, etc.). Paying down high rate debt provides a *guaranteed* rate of return at the rate of the debt (if you're paying on the debt, you're paying out that rate of return; if you no longer have that debt, you are keeping that rate of return in your pocket and have it to invest).

   Having done these preliminaries, you would probably want to recommend a portfolio consisting mostly of diversified, high-quality stocks for long-term growth and some bonds to act (hopefully) as a cushion when the market goes down.

   The portfolio shown below was developed from listings in Exhibits 11.5 and 12.10, with the exception of the money market mutual fund. Using only the two exhibits in the text limits the choices, obviously, and does not make for as diversified a portfolio as would be desired, but you will notice in the portfolio listed below a representation of various industries. About two-thirds of the portfolio is comprised of stocks while the other third is in fixed income securities. The bonds were chosen because they mature in a fairly short time period. At the time the portfolio was created, the prevailing interest rates were very low, so the idea was to buy shorter-term bonds and repurchase when interest rates rise. Shorter-term bonds have less price volatility and suffer less loss in value than do longer-term bonds when interest rates go up. Note that while Treasuries of the same maturity (see Exhibit 12.11) offered higher coupons, they were selling at larger premiums, making their yields lower than the corporate bond chosen.

Company	Price/Unit	Yr. Div/Int	Units Purch.	Cost	% of Portfolio	Annual Income
DtscheTel	$ 15.09	$ 0	600	$ 9,054	10.1%	$ 0
DevDivRlty	29.70	1.64	300	8,910	9.9%	492
DeVry	24.57	0	400	9,828	10.9%	0
DicksSprtgGds	38.28	0	200	7,656	8.5%	0
djOrthopedics	11.70	0	300	3,510	3.9%	0
DominRes	63.43	2.58	200	12,686	14.1%	516
Donaldson	46.01	0.36	200	9,202	10.2%	72
GMAC 4.5 06	1,002.70	45.00	22	22,059	24.5%	990
Money Mkt 2%	1.00	0.02	7095	7,095	7.9%	142
Totals				**$ 90,000**	**100%**	**$ 2,212**

12.2 Kathy Decides to Try Her Hand at Investing

1. Numerous options are open to Kathy, but due to her fairly conservative disposition, probably only investment quality bonds, blue chip common stocks, and high-quality growth stocks, as well as certain savings instruments, like certificates of deposit, are candidates for investment. The bonds falling into this category could be corporate, municipal, or federal government issues.

2. Historically, stocks have outperformed bonds, so Kathy has a good chance of earning a satisfactory return with any of the different stocks listed. However, the growth and speculative stocks will carry greater risk, particularly the speculative. Whether Kathy earns an acceptable return on the bonds depends not only on the bond returns but also on her tax situation. Corporate bonds pay interest which would be taxed at her regular tax rate. The income from qualified municipal bonds is free from federal income taxes, but the yields on municipals are generally lower than those on corporate bonds.

3. *Income vs. growth*—Kathy is living comfortably and has been able to save quite a bit. Therefore, she probably does not want to invest with an income objective but rather with a growth orientation.

   Short-term vs. long-term—Kathy probably would want to invest this money for the long term, as she does not need it anytime soon and her salary is sufficient for her current living needs. Additionally, Kathy has given herself an emergency fund of $3,000 to handle any unexpected expenses.

   Level of risk—The risk-return trade off should also be considered when analyzing Kathy's investment choices so as to maximize her return without exposing her to an unacceptable level of risk.

4. Suitable recommendations for Kathy's portfolio would probably include some mixture of high-quality stocks and bonds, perhaps half and half or 60% stocks and 40% bonds. The stock portion should be comprised mostly of blue chips with perhaps several quality growth stocks. The bond portion should be comprised of investment grade short-term and intermediate-term bonds, as long-term bonds are subject to greater price fluctuations when interest rates change.

Chapter 13

Investing in Mutual Funds & Real Estate

Chapter Outline

Learning Goals

I. Mutual Funds: Some Basics
- A. The Mutual Fund Concept
  - 1. Pooled Diversification
- B. Why Invest in Mutual Funds?
  - 1. Diversification
  - 2. Professional Management
  - 3. Financial Returns
  - 4. Convenience
- C. How Mutual Funds Are Organized and Run
- D. Open-End versus Closed-End
  - 1. Open-End Investment Companies
  - 2. Closed-End Investment Companies
- E. Exchange-Traded Funds
- F. Some Important Cost Considerations
  - 1. Load Funds
  - 2. No-Load Funds
  - 3. 12(b)-1 Fees
  - 4. Management Fees
  - 5. Keeping Track of Fund Fees and Loads
- G. Buying and Selling Funds

Concept Check

II. Types of Funds and Fund Services
- A. Types of Funds
  - 1. Growth Funds
  - 2. Aggressive Growth Funds
  - 1. Value Funds
  - 2. Equity-Income Funds
  - 3. Balanced Funds
  - 4. Growth-and-Income Funds
  - 5. Bond Funds
  - 6. Money Market Mutual Funds
  - 7. Index Funds
  - 8. Sector Funds
  - 9. Socially Responsible Funds
  - 10. International Funds

11. Asset Allocation Funds

B. Services Offered by Mutual Funds
1. Automatic Investment Plans
2. Automatic Reinvestment Plans
3. Regular Income
4. Conversion Privileges
5. Retirement Plans

Concept Check

III. Making Mutual Fund Investments

A. The Selection Process
1. Objectives and Motives for Using Funds
2. What Funds Have to Offer
3. Whittling Down the Alternatives
4. Stick with No-Loads or Low-Loads

B. Getting a Handle on Mutual Fund Performance
1. Measuring Fund Performance
2. What About Future Performance?

Concept Check

IV. Investing in Real Estate

A. Some Basic Considerations
1. Cash Flow and Taxes
2. Appreciation in Value
3. Use of Leverage

B. Speculating in Raw Land

C. Investing in Income Property
1. Commercial Properties
2. Residential Properties
3. Homes as Investment Vehicles

D. Other Ways to Invest in Real Estate
1. Real Estate Investment Trusts
2. Mortgage-Backed Securities
3. Real Estate Limited Partnership or Limited Liability Companies

Concept Check

Summary

Financial Planning Exercises

Applying Personal Finance

The Feeling's Mutual!

Contemporary Case Applications

13.1 Dave's Dilemma: Common Stocks or Mutual Funds?

13.2 Marge Ponders Mutual Funds

Money Online

Major Topics

This chapter introduces students to mutual funds, one of the most popular investment vehicles today. Mutual funds offer attractive levels of return from professionally managed, diversified portfolios of securities. The number of funds increases each year, and the many different fund types available can make selecting the right fund for an investor's particular needs a confusing process. This chapter also helps students understand the role that real estate plays in a diversified investment portfolio, along with the basics of investing in real estate, either directly or indirectly. Therefore, this chapter guides investors to wise choices by covering the following topics:

1. The basic character of mutual funds, and how diversification and professional management are the cornerstones of the industry.
2. The advantages and disadvantages of owning mutual funds.
3. The five major types of investment companies.
4. Cost considerations when buying mutual funds.
5. The kinds of funds available and the variety of investment objectives these funds seek to fulfill.
6. The array of special services offered by mutual funds and how these services can fit into an investment program.
7. How to assess and select funds that are compatible with the investment needs of the individual.
8. How to measure mutual fund performance.
9. Understanding real estate investments.

Key Concepts

Mutual funds can help an investor achieve the goals of his or her personal financial plan with greater certainty. Understanding how mutual funds operate, the various types of fund offerings, and how to choose the best funds for various needs are necessary before developing a portfolio of mutual funds. Real estate investments can help an investor diversify their portfolio. Understanding real estate investments involves understanding the cash flows from investing as well as the vehicles used to invest. The following phrases represent the key concepts stressed in this chapter.

1. Mutual funds
2. Pooled diversification
3. Professional portfolio management
4. Closed-end and open-end funds
5. Exchange-traded funds
6. Unit investment trusts
7. Load and no-load funds
8. 12(b)-1 fees and other charges
9. Types of mutual funds
10. Variety of fund services available to investors
11. Fund selection
12. Measurements of fund performance
13. Investing in real estate

14. Real estate cash flows and taxes
15. Investing in income property
16. Other ways to invest in real estate

Answers to Concept Check Questions

13-1. A *mutual fund* invests in a diversified portfolio of securities and issues shares in the portfolio to individual investors; mutual funds represent ownership in a managed portfolio of securities. The mutual fund concept, therefore, revolves around *diversification.* Diversification, which reduces the overall risk borne by the investor, is available through a mutual fund. This, coupled with the fact that mutual funds have *professional management*, which frees the individual investor from managing his or her own portfolio, makes mutual funds attractive to individuals.

13-2. Individual mutual funds are created by *management companies,* like Fidelity, Dreyfus, and Vanguard. They also run the fund's daily operations and usually serve as the *investment advisor.* The investment advisor buys and sells securities and otherwise oversees the fund's portfolio. This is normally carried out by the *money manager*, who actually runs the portfolio; *security analysts*, who look for viable investment candidates; and *traders*, who attempt to trade large blocks of securities at the best possible price. In addition, there are fund *distributors,* who actually buy and sell the fund shares; *custodians,* who take physical possession of the fund's securities and other assets; and the *transfer agent,* who keeps track of fund shareholders.

13-3. An *open-end investment company* is a mutual fund in which investors actually buy their shares from and sell them back to the mutual fund itself. There is no limit on the number of shares an open-end fund can issue, and this is by far the most common type of mutual fund.

An *exchange-traded fund* is a type of open-end mutual fund that trades as a listed security on one of the stock exchanges. The number of shares outstanding can be increased or decreased in response to market demand like other open-end mutual funds. However, unlike open-end funds, investors can buy and sell ETFs at any time of the day by placing an order through their broker. Currently, the ETFs available are based on market indexes, such as the S&P 500 (Spiders), DJIA (Diamonds), or Nasdaq 100 (Qubes), and are passively managed. Thus they offer all the advantages of any index fund: low costs, low portfolio turnover, and low taxes.

13-4. A *load fund* is a mutual fund which must be purchased through a broker or other investment advisor. The seller is paid a commission by the mutual fund company for selling its funds. With a front-end load, the commission is assessed when purchases are made into the fund. With a back-end load, the commission is assessed when redemptions are made.

Some load funds appear to be no-load funds but actually carry "hidden loads"—no front- or back-end loads, but they have higher annual expenses. Through time, funds with "hidden loads" may prove to be more expensive for the investor to hold than either front- or back-end load funds.

A *no-load fund* does not pay commissions to brokers or investment advisors and may be purchased directly from the mutual fund company. The no-load fund offers an advantage to investors because, by avoiding the commission (which can be as high as 8.5%), they can buy more shares in the fund with a given amount of capital, and therefore, other things being equal, earn a higher rate of return.

13-5. While all funds will have some amount of annual operating expenses, those with "hidden loads" have relatively higher annual expenses and will also probably have *12(b)-1 fees*. These 12(b)-1 fees are marketing fees which are often used as an indirect way of charging commissions. A fund cannot label itself as “no-load” if it charges a 12(b)-1 fee higher than 0.25%, but it can label itself as "no-load" even if its other annual expenses are high.

13-6. A *back-end load fund* charges a redemption fee/commission when the investor *sells* the fund. (Redemption fees often decline over time and may disappear all together after the first 3–6 years of ownership). A *low-load fund* is a type of front-end load fund, but it keeps the load charge very low, usually less than 2 or 3%, while a *hidden load* is a term used to describe the 12(b)-1 fee and higher annual expenses mentioned in the previous question.

There are several ways that investors can determine if a mutual fund carries a load or not. The *WSJ* and other major papers use letters in their mutual fund quotes to identify various types of fees; for example, "r" means the fund has a redemption charge. Internet sites, such as quicken.com and quote.yahoo.com, provide this information when you search for the various funds. Finally, every fund prospectus must contain a *fee table* that fully discloses the types and amounts of fees and charges. Many mutual fund companies have a Web site where you can find information about their funds as well as download a prospectus.

13-7. The objective of a *growth fund* is long-term growth and capital gains are the primary goals of such funds, and as a result they invest principally in common stocks that have above-average growth potential. They are usually viewed as long-term investment vehicles that are most suitable for the more aggressive investor who wants to build capital and has little interest in current income.

Balanced Funds are so named because they tend to hold a balanced portfolio of both stocks and bonds, and they do so for the purpose of generating a well-balanced return of current income and long-term capital gains. For the most part, they confine their investing to high-grade securities, and are therefore usually considered a relatively safe form of investing.

13-8. *International funds* invest most or all of their assets in foreign securities. Some limit their portfolio to a particular country or geographical region—Japan, Mexico, Europe, Asia—while others have a broader base of investments. Another

type of fund that invests in foreign securities is the *global fund,* which includes U.S. multinational companies as well as foreign corporations. There are many categories of both international and global funds: stock, bond, money market, growth, aggressive growth, balanced, etc. In general, these funds seek higher returns by capitalizing on changing market conditions abroad and the changing value of the dollar against foreign currencies. International and global funds provide a good way for investors who lack extensive knowledge of international economics to diversify internationally.

13-9. Unlike other mutual funds that invest primarily in one asset category, *asset allocation funds* invest in several markets. For example, a fund may invest 50% in common stocks, 25% in fixed income securities, 15% in money market securities, and 10% in foreign securities. These funds simplify the task of dividing an investor's assets among the various classifications. Instead of buying separate funds to achieve asset allocation, an investor can find one fund that matches his or her desired allocation plan. Whereas other types of mutual funds have a prescribed distribution among asset classes, asset allocation funds adapt their mix as market conditions change. Investors should monitor these changes to be sure the fund continues to match their personal objectives.

Another way to hold various asset classes in one mutual fund is through a *fund of funds*. Instead of picking individual securities to hold in its fund, a fund of funds holds shares of other funds. This makes for great diversity and capitalizes on the investment styles of other money managers. As an example, the Vanguard STAR fund holds shares from several of Vanguard’s other stock funds, bond funds, and money market funds in its portfolio, and the expenses of these funds are passed on to STAR fund holders on a pro rata basis.

13-10. Even though growth, income, and capital preservation are primary mutual fund objectives, each fund concentrates on one or more particular goal(s). Thus, for people who rely heavily on current income, an investment in an income fund would be the right choice. Investors who do not require the current income and are content with waiting for capital appreciation can benefit from growth funds. These classifications of mutual funds are helpful in determining whether or not the goal of the mutual fund is compatible with one's own investment objective. The SEC requires that the specific objective of a fund be stated in its prospectus, along with how it intends to meet its objective.

13-11. A *fund family* consists of the different funds offered by the same investment company, like Fidelity, Kemper, or Vanguard. The major advantage of these families is the right to switch among them for little or no charge as investment objectives change or as the investment environment changes.

13-12. *Automatic reinvestment plans* allow the shareowners to elect to have interest, dividends, and capital gains realized on their holdings automatically reinvested in additional shares. Fractional shares are issued, if necessary, and usually there is no charge on the reinvestment transaction. This keeps investors' capital fully invested, allowing it to earn compounded rates of return. A*utomatic investment plans*, on the other hand, are programs by which investors channel a fixed amount

from their bank account directly into a mutual fund at regular intervals, usually monthly or quarterly. These plans provide investors a convenient way to build up their mutual fund holdings over time. Also, many funds offer lower minimum initial investments to investors who enroll in automatic investment plans.

13-13. The most common motives for purchasing mutual fund shares are diversification, professional management, financial return, and convenience. The primary motive for investing in mutual fund shares is the *ability to diversify* and diminish risk by indirectly investing in a number of different types of securities and/or companies. The fact that a *professional manager* is paid to make investment decisions is expected to improve the owners' returns. Mutual funds also provide a way to invest in areas that an investor may not fully understand, and in reality, many people do not have the time or inclination to track their own investments. *Convenience,* provided by the fact that investment company shares can be purchased through a variety of sources, also adds to their appeal. In addition, mutual funds provide their investors with a variety of services, like automatic reinvestment plans, phone or online switching, and conversion privileges.

Mutual funds also offer the small investor a way to invest with little start-up capital. In fact, some funds require only a very low or even no minimum initial investment if an automatic monthly draft is made from the investor's bank account. To keep expenses low, the investor can pick a quality no-load fund and bypass the broker entirely. These funds are easy to get into, easy to get out of, and the investor doesn't have to worry about whether to take physical possession of the securities or not.

13-14. The mutual fund selection process begins with an assessment of your investment objectives. Key factors to consider include: your reasons for investing, your risk tolerance, the use of the fund (capital accumulation, speculation, conservation of principal), what types of return you require, and services desired. Clearly, answering these questions is essential if you are to select from the universe of thousands of funds those with the investment objectives, operations, and services that meet your particular needs. Research comes next: financial publications *(The Wall Street Journal, Investor's Business Daily, Barron's, Forbes, Fortune, Kiplinger's*, and *SmartMoney,* for example) regularly publish mutual fund reports and rankings, many of which are available online. Other valuable research sources are *Morningstar* and *Weisenberger* mutual fund report services, *Value Line,* and similar companies.

The next step is to narrow the field by choosing several types of funds that match your investment and asset allocation objectives and then apply other constraints (load versus no-load, services offered, etc.) to further define potential investment candidates. The final decision should be based on the fund's investment performance.

13-15. A *load fund* charges a fee, usually up front, to invest in the fund. This fee does not go to the manager to reward him or her for superior performance, but rather it goes to the sales person or broker who sold you the fund. Therefore, the only reasons you would ever want to invest in a load fund is if the sales person or

broker adds value to your investment decisions or if the fund offers superior performance above that which can be found in any no-load funds.

A *no-load fund* does not charge the investor a fee, so every dollar gets fully invested. Also, a no-load fund does not have to take as high a risk to earn the same return as a load fund because of its lower expenses. Research has shown that, indeed, load funds do not outperform no-load funds, so that there is generally no advantage to buying load funds. Beware, however, some funds do not charge a front-end load but do charge hefty annual fees, 12(b)-1 fees, and/or redemption fees, and in this case, you might truly do better with a well-managed load fund with low annual fees. Also be careful when you see performance rankings, because many times the load is not reflected in the return. In reality, if you had actually held that load fund, you would not have earned the stated return after adjusting for the load.

13-16. There are three potential sources of return to mutual fund investors: (1) *current income* (from the dividends and interest earned by the fund); (2) *capital gains distribution* (from the *realized* capital gains earned by the fund); and (3) *change in the fund's share price*. Each of these components has an effect on the total return of a mutual fund. Both dividends and realized capital gains are accumulated and then distributed to fund shareholders. Unrealized capital gains affect return because when the fund's holdings increase or decrease in price, the NAV moves as well. The greater the return from any of these components, the greater the total return to the investor.

13-17. Student preferences for dividends, realized capital gains, or unrealized capital gains will depend on several factors. Dividend and realized capital gain income can be reinvested to achieve fully compounded returns. However, there are tax consequences from each distribution: current income (interest) and short-term capital gains are taxed at the taxpayer's marginal tax rate; long-term capital gains and dividends are taxed at lower, more favorable rates. Unrealized capital gains (increases in NAV) have no tax implications until the shares of the fund are sold, so payment of taxes on this portion can be delayed. As the taxpayer gets into the higher marginal tax brackets, the tax implications become more and more of a consideration.

13-18. Since a mutual fund is really a large portfolio of securities, it behaves very much like the market as a whole, or a given segment of the market (as bond funds would relate to bond markets). In general, when economic conditions are good and the stock market moves up, mutual funds do well. When the market takes a plunge, mutual funds do poorly, although some portfolio managers do better than others at managing downside risk.

13-19. a. *Cash flow and taxes*: An investor's cash flow, or annual after-tax earnings, depends not only on the revenues generated from a particular piece of property, but also on depreciation and taxes. Depreciation is a bookkeeping entry that is considered an expense for tax purposes even though it involves no actual outflow of cash. Therefore, it reduces your taxable income and your taxes.

b. *Appreciation in value*: Most types of real estate – including everything from raw land to various forms of income-producing properties – have experienced significant growth in value over time. Therefore, an investment evaluation should include expected changes in property value (that is, price appreciation). Price appreciation should be treated as capital gains and included as part of the return from the investment, minus the capital gain taxes paid.

c. *Use of leverage*: Leverage involves the use of borrowed money to magnify returns, which is a big attraction to investing in real estate. Because real estate is a tangible asset, investors are able to borrow as much as 75 to 90 percent of its cost. As a result, if the profit rate is greater than the cost of borrowing, then the return on a leveraged investment will be proportionally greater than the return generated from an unleveraged investment.

13-20. Speculating in raw land is considered a high-risk venture because the key to such speculation is to isolate areas of potential population growth and/or real estate demand (ideally before anyone else does) and purchase the property in these areas in anticipation of their eventual development. This involves a high degree of uncertainty.

13-21. The major categories of income property include *commercial properties* and *residential properties*. The advantages of investing in income properties is that they provide both attractive returns and tax advantages for investors. Disadvantages include the owner of the property being responsible for leasing the units and maintaining the property. Single-family homes can be used to generate income by the ability to deduct interest paid on a mortgage from taxes, capital gains exemption when you sell the home, renting out of a second residence, and "flipping houses". "Flipping houses" involves buying a house, upgrading the property and then selling it for a higher price than you paid, including the cost of upgrades.

13-22. a. *Stock in real estate related companies* offers investors the benefits of real estate ownership – both capital appreciation and current income – without the headaches of property management. These are investment companies that invest money in various types of real estate and real estate mortgages. It is like a mutual fund in that is sells shares of stock to the investing public and uses the proceeds, along with borrowed funds, to invest in a portfolio of real estate investments.

b. *Mortgage backed securities (MBSs)* represent ownership in a pool of mortgage loans, typically on residential properties. Government agencies such as GNMA and FNMA issue most of the MBSs. Most are actively traded and offer returns that are about 1 to 2 percent above similar low-risk securities. Investors receive monthly income from the principal and interest on the underlying individual mortgages. Most MBSs require a $25,000 minimum investment.

c. *Real estate limited partnerships or limited liability companies* are organized to invest in real estate. The managers assume the role of general partner, which means their liability is unlimited, and the other investors are limited partners who are legally liable only for the amount of their initial investment. Investors buy

units in an LP or LLC, a unit represents an ownership position. These are riskier investment categories than the others discussed above, and appeal to more affluent investors who can afford the typical unit cost of $100,000 or more.

13-23. The basic structure of a REIT is like a mutual fund in that it sells shares of stock to he investing public and uses the proceeds, along with borrowed funds, to invest in a portfolio of real estate investments. The investment consideration associated with a REIT is that income earned by the REIT is not taxed, but the income distributed to owners is designated and taxed as ordinary income while dividends on common stocks normally are taxed at preferential rates of 15 percent or less.

The three basic types of REITs are:
1. Equity REITs
2. Mortgage REITs
3. Hybrid REITs

Financial Planning Exercises

1. Investing directly in stocks and bonds means the investor actually owns a specific number of shares, holds a direct interest in the issuing firm (or is a lender to the firm in the case of bonds), and receives income from the issuing firm. The investor is in control of the selection and sale of securities, can select securities with the type of gains desired and can time the realization of those gains. This is particularly important to taxpayers in the higher tax brackets.

   With mutual funds, the investor deals with an intermediary (the investment company) that acquires the stocks, bonds, and other financial assets for the combined benefit of its stockholders. The fund manager makes the decisions concerning the selection and sale of securities, not the investor. Mutual funds are attractive to people who have limited amounts of capital but want diversification. They also appeal to investors who lack the expertise, commitment, or time to effectively manage a portfolio on their own.

2. The prices and loads for each fund follows. [Note: load information was obtained from finance.yahoo.com. Find the fund's ticker and look under "Profile" for fund expense information. You can also pull up the fund family's Web site.]

Fund	Type of Load	Front Load	$ Load	Purchase Price	NAV or Selling Pr.
a. Diversified Equity Growth Fund	12(b)-1	0%	$ 0	$ 20.49	$ 20.49
b. Domini Social Equity Fund	12(b)-1	0%	0	30.67	30.67
c. Dodge & Cox Intl. Stock	None	0%	0	36.54	36.54
d. Dreyfus S&P 500 Index	Redemption and 12(b)-1	0%	0	37.26	37.26
e. Dreyfus Growth & Income Index	None	0%	0	16.01	16.01

Highest year-to-date return: Dodge & Cox Intl. Stock at 4.3%
Lowest year-to-date return: Diversified Equity Growth Fund at 0.5%
Highest 3-year return: Dodge & Cox Intl. Stock at 40.0%
Lowest 3-year return: Diversified Equity Growth Fund at 14.6%

There have been numerous changes in the mutual fund industry, and the trend has been away from charging loads. The exhibit in the text denotes the Dreyfus S&P 500 Index as having both a redemption fee and a 12(b)-1 fee, while the Growth & Income Index has neither.

To illustrate how a front-end load would work, assume XYZ Fund charges a 5.25% front-end load and its quoted NAV is $25.47.

$$\begin{aligned} \text{NAV} &= \text{Purchase Price} - .0525(\text{Purchase Price}) \\ &= \text{Purchase Price}(1 - .0525) \\ \text{So NAV}/(1 - .0525) &= \text{Purchase Price} = \$25.47/0.9475 = \$26.88 \end{aligned}$$

[For an example of the impact of a front-end load on realized return, refer to problem number 8 below.]

3. Student portfolios will vary considerably. However, each answer should describe the student's personal financial goals, investment objectives, and risk tolerance, and then relate these factors to the actual fund selection. For example, a student who can tolerate above average risk and is investing for capital appreciation may include aggressive growth, international, and sector funds. More conservative investors may prefer equity-and-income funds, blue chip stock funds, and balanced funds. The selection of funds within a category should be based on performance over at least a five-year time horizon, and in both up and down markets. Finally, the services offered may be a factor for some students. Students should consult various research sources during the decision process.

4. The *less* risky fund from each pair is as follows:

a. The g*rowth-and-income fund*—because it seeks its return not only from capital gains (growth) but also interest and dividends (income) and as such, tends to invest in more conservative issues. The current income serves several functions: it boosts total return even when there is little or no capital growth, and it helps stabilize share price because if times turn sour investors may be more willing to purchase income- producing securities than those which rely on growth alone.

b. The *high-grade corp. bond fund*—bonds, especially high (investment) grade bonds, are less risky because debt securities by nature are less risky than equity securities (the company has a legally binding obligation to repay debt whereas equity is a residual—in the event of liquidation, owners get what's left after debt holders are paid, which is probably zip). However, this doesn't mean that bonds are risk free. They are particularly interest rate sensitive, and the longer the maturity, the more sensitive the bond. Bond funds can also be more risky than holding individual bonds, because bond funds will be trading securities, and if interest rates rise, bond funds will realize capital losses. If you hold an individual

bond until maturity and interest rates rise, you don't realize a capital loss but have instead opportunity cost.

c. The *intermediate-term bond fund*—maybe. The intermediate-term bond fund will consist of investment grade bonds with maturities of 7–10 years or less. The high-yield municipal bond fund will have securities rated below-investment grade, so the quality of the bonds will be lower and therefore riskier. However, municipal bonds are issued by state and local governments, most of which would not like to see their bonds default, so this is a plus even with the below-investment grade rating. Also, like other bonds, municipals can be issued for a variety of time periods, and the shorter the time to maturity, the less risk. Therefore, shorter term high-yield munis could possibly be less risky than intermediate term corporates. You would need more information on the individual funds in order to make a good choice.

d. The *balanced fund*—anytime you go off-shore (as in an international fund), you add more risk (currency exchange rates, political risk, possibly lack of information and/or full financial disclosure); moreover, a balanced fund itself is considered to be a fairly conservative investment vehicle as it seeks both capital gains and current income from a mix of both stocks and bonds.

5. *Conversion (exchange) privileges*—the right to switch from one fund to another—apply to funds within one family. There may be some limitations imposed by the fund family. Some brokerages (Charles Schwab, for example) offer conversion privileges for selected funds from a variety of families. If you have an account at one of these firms, you can switch as long as the fund is on the brokerage's list. Other fund services—automatic investment and reinvestment plans, systematic withdrawal plans, and retirement plans—can be offered by any fund, whether or not it is part of a fund family.

   The instructor could bring in the paper to show the many fund families, such as Fidelity, Dreyfus, T. Rowe Price, Scudder, Merrill Lynch, Vanguard, etc. Emphasis can be placed on the variety of funds offered by each of these families.

6. The instructor may wish to bring in information from a variety of investment company services or the financial media (like *Forbes* or *Barron's).* Because this is an outside project, examples have not been included here. Selection of specific funds can be done in a variety of ways, which may include: funds of a certain size; funds of a particular manager; funds with a particular level of recent or long-term performance; funds recommended by a certain publication in a recent article; funds owned by the student or someone the student knows, etc.

7. There are three sources of return from the ownership of mutual fund shares: realized capital gains, dividends, and price appreciation in the shares. Dave earned a capital gain of $1.83, a dividend of $0.40, and price appreciation of $1.50 ($26.00 – $24.50). Using the approximate yield formula, his rate of return would be:

$$\frac{\$0.40 + \$1.83 + \dfrac{(\$26.00 - \$24.50)}{1}}{\dfrac{(\$26.00 + \$24.50)}{2}} = \frac{\$\ 3.73}{\$25.25} = .148 \text{ or } \underline{\underline{14.8\%}}$$

If the price of the common stock had risen to $30.00, the appreciation in value would have been $5.50 ($30.00 – $24.50), which changes the approximate yield to:

$$\frac{\$0.40 + \$1.83 + \dfrac{(\$30.00 - \$24.50)}{1}}{\dfrac{(\$30.00 + \$24.50)}{2}} = \frac{\$\ 7.73}{\$27.25} = .284 \text{ or } \underline{\underline{28.4\%}}$$

So, yes, Dave would have made *over* a 20% return if the stock had risen to $30 a share.

When using the financial calculator, set on 1 payment/year and End Mode. We will assume that the mutual fund distributed the dividends and capital gains at the end of the year, a total of $2.23 per share ($0.40 + $1.83). The keystrokes on the left show the return if the value of his stock rises to $26 at the end of the year, while those on the right show the return if the value of his stock rises to $30 at the end of the year.

24.50 +/-	PV	24.50 +/-	PV
2.23	PMT	2.23	PMT
26.00	FV	30.00	FV
1	N	1	N
I/YR	15.22%	I/YR	31.55%

8. An exchange-traded fund is like an open-end fund in that the number of shares outstanding can be increased or decreased as investors send in more money or redeem shares. An ETF is like a closed-end fund in that it trades as a listed security on one of the stock exchanges, and it can be traded at any time of day by placing an order through a broker.

   The Vanguard 500 Index Fund would most closely resemble a Spider, as this fund tracks the performance of the S&P 500 Index just as a Spider does. For buy-and-hold investors, the two choices would be fairly comparable, although the 500 Index Fund would not be quite as tax efficient as the Spider. For investors who trade more frequently, the Spider would probably be the better choice, as it can be bought and sold during the day.

9. Approximate Yield:

$$\frac{\$1.05 + \dfrac{(\$23.04 - \$23.35)}{1}}{\dfrac{(\$23.04 + \$23.35)}{2}} = \frac{\$\ \ .74}{\$23.20} = .319 \text{ or } \underline{\underline{3.2\%}}$$

When using the financial calculator, set on 1 payment/year and End Mode. We will assume that the mutual fund distributed the dividends and capital gains at the end of the year.

23.35 +/-	PV
1.05	PMT
23.04	FV
1	N
I/YR	3.17%

Note: This is a good problem to use to demonstrate the impact of load charges on investor return; the instructor might want to point out that even though the NAV of the fund *increased* by \$1.54 a share (\$23.04 – \$21.50), the investor still is faced with a 31¢ *loss* in value over the year, since you buy at the offer price and sell at the NAV. In this case, even though the NAV went up, the investor had to absorb a \$1.85 load charge—the net result: a 31¢ loss. The income is what makes the total return positive. As a point of interest, if this had been a no-load fund, the approximate yield would have been:

$$\frac{\$1.05 + \frac{(\$23.04 - \$21.50)}{1}}{\frac{(\$23.04 + \$21.50)}{2}} = \frac{\$\ 2.59}{\$22.27} = .116 \text{ or } \underline{\underline{11.6\%}}$$

When using the financial calculator, set on 1 payment/year and End Mode. We will assume that the mutual fund distributed the dividends and capital gains at the end of the year.

21.50 +/-	PV
1.05	PMT
23.04	FV
1	N
I/YR	12.04%

10. Using the approximate yield formula, we can find the fund's rate of return for each year as follows:

2006:

$$\frac{\$1.24 + \$3.82 + \frac{(\$58.60 - \$52.92)}{1}}{\frac{(\$58.60 + \$52.92)}{2}} = \frac{\$10.74}{\$55.76} = .1926 \text{ or } \underline{\underline{19.26\%}}$$

2007:

$$\frac{\$.83 + \$2.42 + \frac{(\$64.84 - \$58.60)}{1}}{\frac{(\$64.84 + \$58.60)}{2}} = \frac{\$\ 9.49}{\$61.72} = .1538 \text{ or } \underline{\underline{15.38\%}}$$

When using the financial calculator, set on 1 payment/year and End Mode. We will assume that the mutual fund distributed the dividends and capital gains at the end of the year, a total of $5.06 per share in 2006 and $3.25 per share in 2007. The keystrokes on the left show the return for 2006, while those on the right show the return for 2007.

52.92 +/-	PV	58.60 +/-	PV
5.06	PMT	3.25	PMT
58.60	FV	64.84	FV
1	N	1	N
I/YR	20.29%	I/YR	16.19%

East Coast Growth-and-Income Fund generated a rate of return of almost 20% in 2006 and over 15% in 2007. This appears to be an impressive return record—but to put it in perspective, you should compare it to its comparable market index and to other funds with the same investment objective.

11. a. Student answers will vary. Issues they should consider would be whether or not they want to be responsible for the property management with directly investing. REITs offer the benefits of investing in real estate without the burden of property management.

b. Student answers will vary depending on the key characteristics that would attract them and their personal risk aversion. Key characteristics of *income-producing property* include: leasing or renting to tenants in order to generate an on-going stream of monthly/annual income in the form of rent receipts. These offer both attractive returns and tax advantages for investors, but the owner is responsible for leasing the units and maintaining the property. Key characteristics of *speculative property* include: investors seeking to generate high rates of return by investing in property they hope will undergo dramatic increases in value. These are held in anticipation of their eventual (future) development.

c. One of the principle reasons for including real estate in your investment portfolio is that it provides greater diversification properties than holding just stocks or bonds. That is because real estate typically exhibits less volatility than stocks and doesn’t move in tandem with stocks. As with any investment, you must look at the future cash flows you expect to realize from the property, and compare it to the returns obtainable from alternative investment vehicles. Obviously, don’t put your money into real estate if you think you can earn more in some other type of equally risky investment. Before you decide to buy real estate for your portfolio, however, it’s essential to evaluate such issues as the

outlook for the national economy, interest rate levels, supply and demand for space, and regional considerations.

d. *Stock in real estate related companies* as they offer investors the benefits of real estate ownership – both capital appreciation and current income – without the headaches of property management. These are investment companies that invest money in various types of real estate and real estate mortgages. It is like a mutual fund in that is sells shares of stock to the investing public and uses the proceeds, along with borrowed funds, to invest in a portfolio of real estate investments.

Mortgage backed securities (MBSs) as they represent ownership in a pool of mortgage loans, typically on residential properties. Government agencies such as GNMA and FNMA issue most of the MBSs. Most are actively traded and offer returns that are about 1 to 2 percent above similar low-risk securities. Investors receive monthly income from the principal and interest on the underlying individual mortgages. Most MBSs require a $25,000 minimum investment.

Real estate limited partnerships or limited liability companies as they are organized to invest in real estate. The managers assume the role of general partner, which means their liability is unlimited, and the other investors are limited partners who are legally liable only for the amount of their initial investment. Investors buy units in an LP or LLC, a unit represents an ownership position. These are riskier investment categories than the others discussed above, and appeal to more affluent investors who can afford the typical unit cost of $100,000 or more.

12.

	No Leverage	Leverage
Owner investment	$200,000	$ 50,000
Borrowed Money	0	150,000
Total Investment	$200,000	$200,000
Earnings Before Interest and Income taxes	$ 30,000	$ 30,000
Less: Interest (8% * 150,000)	0	12,000
Earnings before taxes	$ 30,000	$ 18,000
Less: Income taxes (28%)	8,400	5,040
Earnings after taxes	$ 21,600	$ 12,960

$$\text{Return on Investment} = \frac{\text{Earnings after taxes}}{\text{Amount of owner investment}}$$

	No Leverage	Leverage
	$\frac{\$21,600}{\$200,000}$	$\frac{\$12,960}{\$50,000}$
	10.8%	25.92%

By using leverage, she was able to increase her return on her investment. This is due to the fact that the rate of interest was less than her return on investment with no leverage.

13. Student answers will vary depending on the two publicly-traded real estate investment trusts they choose.

14. Student answers will vary depending on the three real estate related stocks they choose.

Solutions to Contemporary Case Applications

13.1 Dave's Dilemma: Common Stocks or Mutual Funds?

1. The key reasons for purchasing mutual fund shares are: diversification, professional management, returns, and services. *Diversification* is achieved because each mutual fund share represents an indirect investment in a diversified portfolio of securities. Because *professional management* is used to select the securities held in the fund, it is expected that the *financial returns* will be safer and higher than if a person managed his or her own portfolio. Dave should understand, however, that while the fund might be able to out-perform what he would be able to do, that certainly does not mean the fund will out-perform the market (indeed, over the long-haul, the chances are the fund will do no better than match the market's return). In addition to performance, mutual funds are convenient to buy and they offer a variety of attractive *services* (see question 2 below).

2. The features usually available from mutual funds include: automatic investment and reinvestment plans, systematic withdrawal plans, conversion privileges, and retirement programs. Three of these would probably be of interest to Dave: (1) the *automatic reinvestment plans,* which would enable Dave to plow back his dividends and capital gains distributions and, therefore, earn a fully-compounded rate of return; (2) *conversion privileges,* which would enable Dave to move (probably by phone or online) his money from one fund to another as his objectives or the investment environment changes (Dave would have to confine his moves to the same family of funds unless he has one of the special accounts mentioned in problem 5); and (3) the *retirement* programs that are available at most funds, which would enable Dave to enjoy the tax-sheltered benefits that accompany IRAs and other retirement programs.

3. If Dave's goal is strictly the receipt of *income,* bond funds, preferred stock funds, income-oriented diversified common stock funds, money market funds, or municipal bond funds should be considered. His choice among these income-oriented funds would depend on his risk disposition and the risk-return trade-offs he perceives in each of these types of funds. If Dave is more interested in *growth* (capital gains), he might choose a growth fund, aggressive growth fund, growth-and-income fund, or sector fund. If he is willing to take the risks, he might also

want to consider going offshore with his money by investing in an *international* fund. Again, the choice among these alternatives will largely depend upon Dave's investment goals, risk disposition and the risk-return tradeoffs.

Dave would probably want to also consider taxes when developing his investment goals. Because he earns a good salary and is single, he is probably in at least the 28% tax bracket. He does not need the investment income and should concentrate on either a *growth-oriented fund* or one providing *tax-exempt income.*

4. Dave's choice between investing in common stock or mutual funds can only be resolved in light of his own risk-return preferences. In general, an investment in a common stock fund would allow Dave to achieve similar types of returns as those available on common stock investments. The difference between the two is that, while the mutual fund investment will provide diversification and professional management, he will have no choice in the selection of individual securities or the timing of gains. Dave must weigh these factors in light of his own investment objectives in order to decide which alternative is preferred. He should recognize that if he chooses to directly invest in common stocks, he will probably have to devote more of his own time to managing this investment than would be the case if he were to rely on the professional management of the mutual fund.

13.2 Marge Ponders Mutual Funds

1. Marge needs to accumulate capital and needs an investment vehicle that will achieve this goal. Given her lack of investment expertise, mutual funds would be an ideal vehicle. She would gain professional investment management and far greater diversification than if she invested her money directly. Moreover, she could set up an automatic investing plan and also reinvest gains to help her reach her goal of long-term capital accumulation.

2. As indicated earlier in the text, certain prerequisites must be satisfied prior to entering an investment program. Marge can cover the necessities, but she should be sure that she also has adequate insurance and sufficient liquidity. All or part of the $15,000 can be invested in a money market mutual fund without losing any liquidity, but with a gain in interest. Marge could use a money market fund to accumulate funds that can later be moved to another fund.

3. Marge's specific investment needs are retirement and college education for her child. These are both long-term programs: 12 years until her child goes to college and much longer until retirement. Both objectives favor a conservative growth fund or a growth-and-income fund. A good strategy would be to start Marge with a money market fund. Once she establishes adequate liquidity, she can then move into other types of funds. Using automatic savings and reinvestment services, Marge should be able to accumulate capital to meet both objectives without undue risk. Because Marge is probably in the lowest tax bracket, taxes on her investments will be minimal and therefore are not a big consideration.

   In meeting her retirement needs, she should also investigate an IRA account. So long as she earns less than the amount allowed by law (and she probably does), she can contribute up to $3,000 (as of 2003) to a traditional IRA account in

addition to any contributions to her employer-sponsored retirement program. Taxes on the contribution (along with earnings on the account) are deferred until she withdraws funds during retirement. She should also consider the Roth IRA (instead of the traditional) because she would pay taxes now on the amount contributed but would never have to pay taxes again on the contribution or the earnings (if left in the Roth IRA until retirement). Since she is probably in a low tax bracket, the taxes she would pay now on the $3000 contribution would be fairly small. Also, the Roth IRA also offers more flexibility in making early withdrawals and for estate planning purposes.

4. Marge might want to use indirect investments in real estate to diversify her portfolio. Being a single mother of a young child, she might not have time for direct investments in real estate. Flipping homes might not be a good idea for Marge as she is not interested in taking a lot of risk and if she doesn't have the talents needed choose the properties and/or make good choices about which improvements a property would need this might not be a good choice. REITs would allow her the advantages of diversifying into real estate without having to maintain the properties herself.

Chapter 14

Planning for Retirement

Chapter Outline

Learning Goals

I. An Overview of Retirement Planning
- A. Role of Retirement Planning in Personal Financial Planning
- B. The Three Biggest Pitfalls to Sound Retirement Planning
  - 1. Compounding the Errors
- C. Estimating Income Needs
  - 1. Determining Future Retirement Needs
  - 2. Estimating Retirement Income
  - 3. Funding the Shortfall
  - 4. Online Retirement Planning
- D. Sources of Retirement Income

Concept Check

II. Social Security
- A. Coverage
- B. Social Security Payroll Taxes
- C. Social Security Retirement Benefits
  - 1. Old-Age Benefits
  - 2. Survivor's Benefits
- D. How Much Are Monthly Social Security Benefits?
  - 1. A Range of Benefits
  - 2. Taxes on Benefits

Concept Check

III. Pension Plans and Retirement Programs
- A. Employer-Sponsored Programs: Basic Plans
  - 1. Participation Requirements
  - 2. What's Your Contribution?
  - 3. Defined Contributions or Defined Benefits
  - 4. Cash Balance Plans
  - 5. Qualified Pension Plans

- B. Employer-Sponsored Programs: Supplemental Plans
  - 1. Profit-Sharing Plans
  - 2. Thrift and Savings Plans
  - 3. Salary Reduction Plans
- C. Evaluating Employer-Sponsored Pension Plans
- D. Self-Directed Retirement Programs
  - 1. Keogh and SEP Plans
  - 2. Individual Retirement Arrangements (IRAs)
    - a. Self-Directed Accounts

Concept Check

IV. Annuities

- A. Classification of Annuities
  - 1. Single Premium or Installments
  - 2. Deposition of Proceeds
  - 3. Fixed versus Variable Annuity
- B. Sources and Costs of Annuities
- C. The Investment and Income Properties of Annuities

Concept Check

Summary
Financial Planning Exercises
Applying Personal Finance
Your Ideal Retirement Plan!
Contemporary Case Applications
14.1 Comparing Pension Plan Features: Which Plan is Best?
14.2 Evaluating Lydia Sanchez's Retirement Prospects
Money Online

Major Topics

Retirement planning is a key element in personal financial planning. To be done right it should be a part of everyone's financial plans early in his or her life/career. Basically, retirement planning involves a systematic accumulation of capital that can be used in retirement to provide a desired standard of living. The major ideas covered in this chapter include:

1. Retirement goals are a function of your age at retirement and your financial position.
2. Retirement plans should be addressed at least 20 to 30 years before your expected retirement date—the longer you put it off, the harder it will be to meet your retirement goals.
3. Social Security is the basis for most retirement plans, and its basic provisions should be understood.
4. Private and government employer pension and retirement plans are still another important source of retirement benefits.
5. Individuals can also set up their own self-directed retirement plans.
6. Annuities are another major source of retirement funds, as they offer a variety of income streams.

Key Concepts

Upon retirement, many people are concerned about outliving their assets—a real possibility if a retiree does not have a lot of assets to begin with, or if the level of consumption far exceeds the rate of return on the assets. Because we really do not know how long we will live, a good retirement plan should consider asset preservation and also employ several options for the income continuation. The following phrases represent the key concepts stressed in this chapter.

1. Estimating retirement needs and income
2. Major pitfalls to retirement planning
3. Social Security concepts
4. Social Security retirement benefits
5. Personal earnings and benefit estimate statement
6. Employer-sponsored retirement and profit-sharing plans
7. Vesting
6. Defined contribution plans and defined benefit plans
7. Cash balance plans
8. Salary reduction plans, such as 401(k) plans
9. Self-directed retirement programs: Keogh and SEP plans; IRAs
10. The annuity principle
11. Annuity payment options
12. Fixed versus variable annuities

Answers to Concept Check Questions

14-1. Retirement planning is a *key element* in the financial planning process. Retirement planning is a long-term process that involves a strategy of systematically accumulating funds for retirement. Retirement planning captures the very essence of financial planning. It is forward-looking, has an impact on current and future standards of living, and, if successful, can be very rewarding.

Both investment and tax planning are important to retirement planning; after all, a key element in retirement planning is the establishment of an *investment plan* that will meet your retirement goals. This is how you build the savings that you need to use during retirement. *Tax planning* is also very important, because certain tax rules can enhance the future value of your retirement nest egg.

14-2. The three biggest mistakes that people make in retirement planning are:

a. They start too late.
b. They put away too little.
c. They invest too conservatively.

Many people simply do not start thinking about retirement until they are in their 40s or 50s; by then, it may be too late to produce the kind of retirement nest egg they want. As a result, many people just have to make do with less in retirement. Likewise, people do not put enough away for retirement. Americans are not known for their strong savings habits, and it shows in their retirement plans.

Obviously, the less put away *prior* to retirement, the less we are going to have in retirement. Finally, too many people treat their retirement plans like savings accounts rather than investment vehicles by placing most (or all) of their retirement funds in low-yielding, fixed-income securities (like U.S. Treasury securities and bank CDs). As a result, people end up earning dismal rates of return on their money.

All three mistakes become doubly important when we introduce *compound interest,* because compounding magnifies the impact of these mistakes. In compounding, we are essentially letting our money work for us. Naturally, the less there is to work with, the less we will have in the future. And with compounding, it is not just a one-for-one trade-off; it could be as much as five-for-one, or more. To illustrate, consider two people: one waits until he is 45 before starting a retirement program and then invests $2,000 a year at a very conservative 6%; the other starts at age 30 with $5,000 per year, invested at 10%. They both plan to retire at age 65.

Amount of Accumulated Capital:

Start at **Age 45**:	Start at **Age 30**:
($2,000/yr. for 20 yrs. at 6%)	($5,000/yr. for 35 yrs. at 10%)
Total invested: $40,000	Total invested: $175,000
Nest egg: $73,571	Nest egg: $1,355,122

As seen here, the differences can be enormous. Obviously, when it comes to retirement planning, it pays to start early, save a lot, and invest your money at *reasonably* aggressive rates of return.

14-3. Retirement goals and income needs are critical inputs in retirement planning. Your goals—for example, your desired age and lifestyle at retirement—will determine how much annual income you require. Your plan will be different (more aggressive) if you want to retire at 55 rather than 65 or if your lifestyle includes lots of travel and luxuries. These and similar factors will determine the amount of income you need.

14-4. The most important *sources* of retirement income are Social Security, personal assets (savings, investments, self-directed retirement plans), and employer-sponsored retirement plans. While Social Security may be the most common source, it does not necessarily provide the largest dollar amount.

14-5. The Social Security Act makes available a number of benefits other than the widely known Old Age, Survivor's, Disability, and Health Insurance (OASDHI) provisions. These include supplementary security income (SSI), unemployment insurance, public assistance, welfare services, and provision for black lung benefits.

Today almost all gainfully employed workers in the United States are covered by the system. Three groups *excluded* from mandatory participation in Social Security are (1) state and local government employees who choose not to be

covered; (2) civilian employees of the federal government hired prior to 1984; and (3) certain marginal employment positions, such as newspaper delivery persons under age 18 and full-time college students working in fraternity and sorority houses. By far, the largest group of workers in these excluded classifications is employees of state and local governments.

14-6. Benefit may be reduced if the Social Security recipient is under age 66 and still gainfully employed – perhaps in a part-time job. In particular, given full retirement age is 67, retirees aged 62 to 66 are subject to a so-called "earnings test", which effectively limits the amounts of income they can earn before they start losing some (or all) of their Social Security benefits. In 2006, that limit was $12,480 per year (this earnings limit rises annually with wage inflation). This rule states that if you're a Social Security recipient aged 62 through 66, you'll lose $1 in benefits for every $2 you earn above the earning test amount.

14-7. No; it is reasonable to expect that Social Security will provide the average married wage earner only about 40 to 60% of the wages that he or she was earning in the year before retirement. Social Security should be viewed as a *foundation* upon which to build retirement income. By itself, it is insufficient to permit a worker and his or her spouse to maintain their preretirement standard of living. Both average and upper-middle-income families must plan to supplement their Social Security retirement benefits with income from other sources. This is especially true because *the more a person earns in excess of the Social Security wage base, the lower the percentage of total preretirement wages that will be replaced by Social Security.*

14-8. An employee should be familiar with the following features of an employer-sponsored pension plan:

a. *Participation requirements* are the eligibility criteria for participation. Most common are requirements relating to years of service, minimum age, level of earnings, and employee classification.

b. *Contributory obligations* specify who pays into the plan. In a *noncontributory* pension plan, the employer pays the total cost of the benefits. Under a *contributory* pension plan, the employee must bear a portion of this cost. Most pensions established by corporations used to be noncontributory, but today the trend is toward contributory plans.

c. The *vesting rights* of the pension are the criteria the employee must meet before he or she can obtain a nonforfeitable right to pension assets accumulated in his or her name. Once these nonforfeitable rights are secured by the employee, they are said to be *vested* in the plan. The law sets down the rules for vesting and partial vesting.

d. *Retirement age* is also an important feature of the plan. Most pensions specify a retirement age, but there may provision for early retirement. Also, find out if the pension benefits are *portable*—can you take them with you if you change jobs?

e. The *method of computing benefits* is spelled out in every retirement plan. A *defined benefit plan* provides a formula for computing benefits that is stipulated in the plan provisions. This type of plan allows employees to determine before retirement how much their monthly retirement income will be. The formula is frequently based on number of years of service and average annual salary,

although other formulas are possible. In contrast, a *defined contribution plan* specifies how much the employer and/or employee are to contribute to the plan but says nothing about what the plan benefits will be. That depends on how much the pension plan administrators are able to earn on the plan's investments.
f. Finally, you should get a full run-down on what, if any, *voluntary supplemental programs* the company offers, such as a 401(k) salary reduction plan.

14-9. In *cliff vesting,* you become fully vested after no more than 3 years of employment. This can be faster than *graded vesting,* where you are *partially* vested for several years, but not *fully* vested for up to a maximum of 6 years. (These are the *maximum* amounts of time company plans can take to vest; many company plans will vest sooner.) If you leave a company with cliff vesting before the required years to fully vest, you receive *none* of the employer account, whereas with graded vesting you will receive a *percentage* of the employer account.

14-10. *Profit-sharing plans* permit employees to participate in the earnings of their employer. They may be qualified under the IRS tax code and therefore eligible for essentially the same tax treatment as other types of pension plans. An argument in support of the use of profit-sharing plans is that they encourage employees to work harder because the employees benefit more when the firm prospers.
The *salary reduction plan,* or *401(k) plan,* basically gives the employee the option (such plans are normally *voluntary)* to divert a portion of his or her salary to a company-sponsored, tax-sheltered account. Unlike profit-sharing plans, contributions are not dependent upon company profits. The amount diverted to the plan reduces the employee's taxable income and therefore the current tax burden; what's more, any investment earnings generated within the plan accumulate on a tax-deferred basis.

Both profit sharing and 401(k) plans are examples of what would be treated as *supplemental* retirement programs at most firms; however, it should be noted that at a growing number of firms (especially the smaller ones), a 401(k) may be the *only* type of retirement plan offered, so in these cases, these plans really are not "supplemental." Profit-sharing plans can be basic plans if they are qualified with the IRS or they can be supplemental. 401(k) plans are usually supplemental.

14-11. You should evaluate the pension plans offered by your employer because they are part of your overall financial plan. What you can expect from your company-sponsored programs affects what you have to come up with on your own. It is best to know where you stand (given your company-sponsored programs) and what, if any, improvements in your retirement and investment plans you need to make to achieve your targeted financial goals in retirement.

14-12. In a *401(k) plan,* an individual is able to put up to $15,000 (in 2006) into the plan. If the maximum contribution of $15,000 were made, for a person in the 28% marginal tax bracket it would reduce taxable income by $15,000 and tax liability by $15,000 x .28 or $4,200. In essence, the federal government helps to fund the

401(k) plan by accepting the reduced taxes now and also by allowing the funds in the plan to grow tax deferred until they are withdrawn.

Keogh plans grew out of the Self-Employed Individuals Retirement Act of 1962, which gave self-employed people the right to establish retirement plans for themselves and their employees. Any individual who is self-employed, either full- or part-time, is eligible to set up a Keogh account; the maximum contribution to the account is $40,000 per year (in 2003) or 25% of earned income, whichever is less. The annual contributions are fully tax deductible and likewise, all earnings in the account accrue on a tax-deferred basis. Keogh accounts are self-directed and can be opened at banks, brokerage houses, mutual funds, and other financial institutions.

Both 401(k) plans and the Keogh plans are *tax deferred*, not tax free. Income taxes are not paid on the amounts contributed, and the accounts are allowed to grow in a tax-free environment. However, any amounts *withdrawn* from these plans are subject to income taxes, and if withdrawn early, may be subject to penalties as well as taxes.

Individual retirement arrangements (IRAs) are similar in many respects to Keogh accounts in that they too are self-directed, they are set up at the same types of financial institutions, and contributions grow on a tax-deferred basis. With both a Keogh and a traditional IRA, you pay no taxes until you start drawing down the funds. If, however, you pull your funds out before you reach age 59 1/2 (certain exceptions apply), you will be hit with a 10% penalty in addition to income taxes on the amount withdrawn.

There are some major differences, however. To begin with, any gainfully employed individual can have an IRA account, not just the self-employed. However, *only certain individuals can deduct their annual contributions from their taxes;* specifically, traditional IRA contributions are fully tax deductible only if (1) you are not already covered by a company-sponsored pension plan, *or* (2) if you are covered by a company-sponsored plan, your adjusted gross income is under a given amount. Another difference between a Keogh and IRA has to do with the amount of annual contribution: the maximum IRA contribution is $4,000 (in 2006), while a contribution of up to $44,000 (in 2006) or 25% of earned income, whichever is less, can be made to a Keogh.

14-13. In differentiating between a nondeductible IRA and a Roth IRA, a nondeductible IRA is open to anyone regardless of their income level or whether they are covered by a retirement plan at their place of employment. Contributions of up to $4,000 a year in 2006, rising to $5,000 in 2008, can be made to this account, but they are made with after-tax dollars. However, the earnings do accrue tax free are not subject to tax until they are withdrawn after the individual reaches age 59 ½.

A Roth IRA is established for the purpose of providing funds for one's retirement, contributions can only be made if one has earned income (except for the non-working spouse), and the maximum allowable contribution is $4000 a person in 2006, rising to $5,000 in 2008, contributions are nondeductible/after-tax dollars,

all earnings in the account grow tax free and all withdrawals from the account are also tax free, as long as the account has been open for a least 5 years and the individual is past the age of 59 1/2 . In other words, as long as these conditions are met, you won't have to pay taxes on any withdrawals you make from your Roth IRA.

14-14. An *annuity* is the opposite of life insurance. It is the systematic *liquidation* of an estate, designed to protect against economic difficulties that could result from outliving personal financial resources. (Life insurance, in contrast, is the systematic *accumulation* of an estate to protect against financial loss resulting from premature death.) The period during which premiums are paid for the purchase of an annuity is called the *accumulation period* and, correspondingly, the period during which annuity payments are made is called the *distribution period.* The *principal* consists of the premiums paid by the person purchasing the annuity, and the *interest* is the amount earned on these funds between the time they are paid and the time they are distributed. Depending on the terms of the annuity, there may be a *survivorship benefit,* the portion of the premium and interest that has not been returned to the annuitant prior to his or her death. In each subsequent period, this amount would be available to the beneficiaries who survive should the annuitant pass away.

14-15. The life annuity with no refund would probably result in the highest monthly payment. The payments are determined by the amount of money accumulated in the annuity and the life expectancy of the annuitant(s).

14-16. A *fixed rate annuity* is an annuity in which the insurance company safeguards your principal and agrees to pay a guaranteed rate of interest on your money. In addition, the (minimum) monthly benefit is set by contract. With a *variable annuity,* the monthly income provided by the policy varies according to the actual investment experience of the insurer.

The amount of money you receive at distribution is directly affected by the type of annuity you have. With a fixed contract the annuitant knows up front exactly what the minimum monthly benefits will be. This *interest-bearing, fixed-rate annuity* is ideally suited to cautious investors who want to assume only a minimum amount of risk to their principal, although the guaranteed interest rate is usually fairly low. With a variable rate annuity, the amount that is ultimately paid out each month varies with the investment results of the insurance company. Nothing is guaranteed.

The *bailout provision* of a fixed rate annuity allows the annuitant to withdraw from the annuity without paying substantial surrender fees if the rate of return on the annuity falls below a certain level. This provision usually only exists for a limited period of time.

14-17. A fixed rate annuity would probably be most suitable for someone who wants a minimum amount of risk exposure.

14-18. The average returns on variable annuities are usually lower than the average returns on mutual funds. The major cause of such differences in performance is the much higher costs associated with variable annuities. Not only are there load charges (commissions) which mutual funds may or may not have, there are insurance fees, contract charges, and/or maintenance fees on variable annuities that, *every year*, come right off the top of any earnings (or push investment losses down even further). Typically, a variable annuity will have a front-end load (commissions charged on every contribution), a back-end load for several years (charges on every withdrawal), and yearly maintenance fees which include an insurance (mortality) expense of an extra 1-2%, making the total yearly expenses in many cases close to 3%. Obviously, these fees and charges can drag down returns. On the plus side, the returns on variable annuities are *tax sheltered* (tax-deferred), whereas they would not be with mutual funds, unless the mutual funds are held in a tax-sheltered retirement account.

Financial Planning Exercises

[Note: Time Value of Money calculations will be shown using both the tables and the financial calculator. Set calculator on End Mode and 1 payment/year.]

1. a. If DeShawn earns 4% on savings of $3,000 a year, her retirement fund will total $285,077 by age 65. [Answer found using a financial calculator. Because the Time Value Tables do not show 4%, the instructor may wish to change the earnings rate to 3% (answer using Appendix B: $3,000 x 75.400 = $226,200) or 5% ($3,000 x 120.797 = $362,391).]

3000 +/-	PMT	3000 +/-	PMT	3000 +/-	PMT
40	N	40	N	40	N
4	I/YR	3	I/YR	5	I/YR
FV	$285,076.55	FV	$226,203.78	FV	$362,399.32

b. At 10%, her fund will total: $3,000 x 442.580 = $1,327,740.

3000 +/-	PMT
40	N
10	I/YR
FV	$1,327,777.67

c. Mark has 30 years to save:

1) $3,000 for 30 years at 4% = $168,255
[at 3%: $3,000 x 47.570 = $142,710]
[at 5%: $3,000 x 66.438 = $199,314]

3000 +/-	PMT	3000 +/-	PMT	3000 +/-	PMT
30	N	30	N	30	N
4	I/YR	3	I/YR	5	I/YR
FV	$168,254.81	FV	$142,726.25	FV	$199,316.54

2) $3,000 for 30 years at 10% = $3,000 x 164.491 = $493,473

3000 +/- PMT
30 N
10 I/YR
FV $493,482.07

2. Worksheet 14.1

PROJECTING RETIREMENT INCOME AND INVESTMENT NEEDS

Name(s) Al and Linda Gonzales Date ________

I. Estimated Household Expenditures in Retirement:		
A. Approximate number of years to retirement		20
B. Current level of annual household expenditures, excluding savings	$	75,000
C. Estimated household expenses in retirement as a *percent* of current *expenses*		125 %
D. Estimated annual household expenditures in retirement (B × C)	$	**93,750**
II. Estimated Income in Retirement:		
E. Social security, annual income	$	20,000
F. Company/employer pension plans, annual amounts	$	35,000
G. Other sources, annual amounts	$	0
H. Total annual income (E + F + G)	$	**55,000**
I. Additional required income, or annual shortfall (D − H)	$	**38,750**
III. Inflation Factor:		
J. Expected average annual rate of inflation over the period to retirement		3 %
K. Inflation factor (in Appendix A): Based on 20 years to retirement (A) and an expected average annual rate of inflation (J) of 3 %		1.81
L. Size of inflation-adjusted annual shortfall (I × K)	$	**70,138**
IV. Funding the Shortfall:		
M. Anticipated return on assets held *after* retirement		8 %
N. Amount of retirement funds required—size of nest egg (L ÷ M)	$	**876,725**
O. Expected rate of return on investments *prior* to retirement		12 %
P. Compound interest factor (in Appendix B): Based on 20 years to retirement (A) and an expected rate of return on investments of 12 %		72.1
Q. Annual savings required to fund retirement nest egg (N ÷ P)	$	**12,168**

Note: Parts I and II are prepared in terms of current (today's) dollars.

3. Social Security should not be viewed solely as an investment. It is rather a means of redistributing wealth from those currently working to those currently in need of the social programs provided. It is properly viewed as a social insurance system. A comparison of the return on Social Security to that from other investments is invalid because Social Security provides benefits not found with alternative forms of investing. Social Security is a compulsory social program having an overriding social objective. This objective is the provision of at least a minimum level of benefit protection to all covered workers or their dependents. Social Security, therefore, cannot be evaluated on the basis of what it will return to any specific individual. Finally, it is difficult to realistically compare Social Security to other investment forms because Social Security is a risk-free program which offers secure benefits that are constantly increasing. The system attempts to maintain benefits at levels that will meet the costs of living for eligible members. Based upon these arguments, it seems reasonable to disagree with the statement presented.

4. The monthly Social Security retirement benefits for Elwood and his wife (both age 62) would be $2,210 (refer to Exhibit 14.3) if he earns less than $16,000 per year (as of 2006). However, because he earns $24,000 at his part-time job and is under age 67, his benefits will be reduced $1 for every $2 he earns above the $16,000 limit. Instead of receiving annual Social Security benefits in the amount of $26,000 ($2,210 x 12), he will receive only $22,520 [$26,520 – ($24,000 – $16,000)/2], a reduction of $6,240. His pension benefits and tax-exempt bond interest are unearned income and therefore do *not* affect the amount of Social Security benefits he receives.

   However, assuming the Cheeseaters file a joint return, their combined income is over the $32,000 limit (as of 2006), so that *some income tax will be due on their Social Security benefits.* With a combined income between $32,000 and $44,000, they would have to pay taxes on 50% of their Social Security benefits. If their combined income is more than $44,000, up to 85% of their Social Security benefits is subject to income tax.

5. With the 401(k) plan, Diane's contributions are made with pre-tax dollars that accumulate in a tax-sheltered account. She will not owe taxes until she withdraws funds (typically after age 59 1/2). She can contribute up to 25% of her salary, to a maximum of $15,000 (2006). Her employer will match her contributions at the rate of $.25 per dollar. She will be offered a variety of investment options for her 401(k) funds, such as equity and fixed income mutual funds and company stock. How she allocates her contributions among these options is up to her; she must be prepared to choose those best suited for her needs and to monitor their performance so she can make changes if required. If she leaves the firm, she can roll over her contributions to the plan into another 401(k) or a rollover IRA. We are not told the vesting requirements for this plan, but if she stays with the firm until she vests, she will be able to take her employer's contributions with her as well when she leaves the firm.

   The cost of a contributory plan is shared by Diane and her employer. In this case she can contribute up to 10% of her salary, compared to 25% with the 401(k)

plan, and it is matched one for one. So for every $1 she puts in, she will have $2, versus $1.25 for the 401 (k). However, she must remain at the firm for five years to be fully vested in the portion attributable to her employer's contributions. The company handles the investment decisions for the plan; she will have no say in how her funds are invested. She should also find out how the plan has performed and if it's fully funded.

As an example, assume Diane is offered a $20,000/year salary and wishes to contribute the maximum to her retirement plan. With the 401(k), she could contribute a maximum of $5,000 (20,000 x .25) and her employer would contribute $1,250 (5,000 x .25) for a total yearly contribution of $6,250. Assuming she is in the 15% tax bracket, her tax savings on her $5,000 contribution would be $750 (5,000 x .15) which effectively reduces her out-of-pocket amount due to her contribution to $4,250 (5,000 – 750).

With the contributory plan, she could contribute a maximum of $2,000 (20,000 x .10) which the company would match for a total yearly contribution of $4,000. Her tax savings on her $2000 contribution would be $300 (2,000 x .15) which effectively reduces her out-of-pocket amount due to her contribution to $1,700 (2,000 – 300). This plan would not allow her to build up her retirement account as fast, but it would be more at the employer's expense, leaving her more current income. With both plans, the employer may cap the amount of contributions they will match. This is something she needs to inquire about, particularly as she expects to receive future salary increases, which would mean she could increase her own contributions and thereby get more in employer matching contributions. However, she will have to stay with her employer until she is vested (5 years for the contributory plan) before she has the nonforfeitable right to the employer's contributions.

6. Maximum 25% contribution: $68,500 x .25 = $17,125. This would be over the maximum allowable amount an employee could elect to defer in a 401(k) of $15,000 (in 2006), so $15,000 would be the most John could contribute (in 2006).

Taxable income:	Salary	$68,500
	Less: 401(k) contrib.	15,000
	Taxable income	$53,500
Tax savings:	$15,000 x .28 = $4,200	
Actual cost to John:	$12,000 – $4,200 = $10,800	

7. Student answers will, of course, vary. They should include basic plans that support the goals listed, with specific savings and investment strategies (for example: "Invest the maximum allowed each year in my company's 401(k) plan and allocate 75% to growth stocks and 25% to bond funds.")

8. In order to contribute to an IRA, you must have earned at least as much income during the year as you contribute to your IRA (an exception is the non-working spouse who can now also contribute $3,000). As of 2006, the maximum yearly contribution to an IRA is $4,000 or 100% of your earned income, whichever is less. There are now a variety of IRAs, and it's possible to contribute to more than

one type, but your total yearly contribution, no matter how you split it up, still cannot be more than $4,000 or the current maximum amount allowable.

Maximum allowable yearly IRA contribution limits for both traditional and Roth IRAs will increase from $4,000 to $5,000 over several years. The phase-in is as follows:

$4,000 for 2005-2007
$5,000 for 2008 and thereafter

Catch-up provisions allow those age 50 or older to increase their yearly contributions.

Traditional IRAs: If neither you nor your spouse (if applicable) is an active participant in an employer-sponsored retirement plan, then you (and your spouse) can claim a full income tax deduction for a contribution to a traditional IRA, regardless of income. If you do actively participate in an employer-sponsored retirement plan and your adjusted gross income (AGI) is less than $50,000 ($70,000 for married filing jointly), you can still fully deduct your traditional IRA contribution (limits as of 2006). If your AGI is between $50,000 and $60,000 ($70,000–$80,000 married filing jointly), your contributions will be only partially deductible, and not deductible at all if your AGI is greater than $60,000 ($80,000 married filing jointly). The nonworking spouse of an active participant in an employer-sponsored retirement plan can still make a fully deductible contribution if the couple's AGI is less than $150,000.

Nondeductible IRAs: Taxpayers who are ineligible to deduct their traditional IRA contributions can still make nondeductible contributions to a traditional IRA. They will pay income taxes on their earnings contributed to the IRA, but once inside the IRA, the contribution will be allowed to grow on a tax-deferred basis until withdrawn.

For both the deductible and nondeductible traditional IRAs, the withdrawal and distribution features are the same. Early withdrawals (taken before the owner turns age 59 ½) are subject to a 10% penalty and income taxes. Exceptions to the 10% penalty are as follow:

- Withdrawals are due to the death or disability of the owner.
- Withdrawals are set up as a series of "substantially equal periodic payments" taken over the owner's life expectancy.
- Withdrawals are used to pay unreimbursed medical expenses which exceed 7.5% of the owner's AGI.
- Withdrawals are used to pay medical insurance premiums when the owner has received unemployment insurance for more than 12 weeks.
- Withdrawals are used to pay for qualified higher education expenses.
- Withdrawals are used to cover expenses due to the first time purchase of a home (no more than $10,000 lifetime total).

Even though the 10% penalty is waived when withdrawals are made for one of the above reasons, income taxes are still due on the amount withdrawn unless the withdrawal was from a nondeductible contribution. In that case, the portion withdrawn attributed to principal would not be taxable because taxes were paid on that income when it was earned; the portion attributed to earnings would be taxable.
Traditional IRAs, whether deductible or nondeductible, are tax-deferred accounts, and the money is allowed to grow tax free until withdrawn. When the owner starts to take distributions in retirement, income taxes are due each year. For a deductible IRA, the entire amount withdrawn each year is taxable. For a nondeductible IRA, as noted above, only the portion attributed to earnings is taxable. (It is best *never* to commingle the assets of deductible and nondeductible IRAs—just go open another IRA if needed!) Owners are required to start taking distributions by April 1 of the year after the year in which they turn 70 ½.

Roth IRA: This nondeductible IRA became available in 1998 and is notably different from the traditional IRAs. You pay taxes on the earnings contributed to the Roth IRA, but when you take distributions in retirement, you pay NO taxes on your withdrawals, provided your account has been established for 5 years. If you make early withdrawals, only the amounts attributed to earnings are subject to the 10% penalty and income taxes, and the first amounts out of your account are considered a return of principal on which you've already paid taxes. Only after you've withdrawn all the principal contributed will you be subject to the penalty and taxes on early withdrawals. Exceptions to the penalty are the same as those above for the traditional IRA. People who continue to work after age 70 ½ can still contribute to a Roth IRA (they cannot contribute to a traditional IRA), and no minimum distributions are required to be taken from a Roth IRA.

Whether you participate in an employer-sponsored retirement plan or not, you (and your nonworking or low-earning spouse) or can still contribute to a Roth IRA if your AGI is less than $95,000 ($150,000 married filing jointly) and phases out at $110,000 ($160,000 married filing jointly).

The Roth IRA offers more flexibility in financial planning, both before retirement and during retirement, as well as in estate planning. It will be available to more people, as the income limits are not as restrictive. And even though the contributions are not deductible, the account has the potential to grow even more than a traditional IRA. However, be sure to check current tax laws when making your decision.

9. a. Dave will accumulate the same amount if he makes a $4000 yearly contribution to either a traditional or a Roth IRA: 4000 +/- PMT; 25 N; 10 I; FV = $393,338.24. Once the money is contributed and no early withdrawals are made, no taxes are collected while the money remains in its tax-sheltered environment.

   b. If Dave contributes to a Roth IRA or saves outside a tax-sheltered account, he will have no yearly tax savings due to his contributions. If he contributes to a deductible traditional IRA, he will have a yearly tax savings of $1200 ($4000 x

.30), so his yearly contribution will have an out-of-pocket cost to him of only $2800 ($4000 – $1200).

If Dave is trying to save outside a tax-sheltered account, his earnings will be subject to income taxes each year. Because dividends and long-term capital gains are taxed at a lower rate and interest and short-term capital gains are taxed at one's regular income tax rate, it is difficult to calculate exactly what the tax bite will be. However, the worst case scenario, tax-wise, would be one in which all growth to the account is in the form of current return. Using this assumption, a taxable account earning 10% per year will earn only 7% on an after-tax basis for someone in the 30% tax bracket [.10 x (1– tax rate)]. Comparing a $4000 contribution made at the end of each year, a taxable account with the above assumption will grow to only $252,996.15 [4000 +/- PMT; 25 N; 7 I; solve for FV], while a tax-sheltered account (whether Roth or traditional IRA) will grow to $393,388.24 (see part a above), a difference of $140,392.09.

Obviously, funds inside a tax-sheltered account will grow to become a greater amount than those in a taxable account. However, remember that ALL distributions in retirement taken from a traditional tax deductible IRA are subject to one's regular income tax rate at the time of withdrawal. With a taxable account, only the previously untaxed growth portion of each withdrawal will be subject to tax, and any growth due to capital gains will be taxed at the more favorable capital gains rate, if current tax laws remain unchanged. The assumption has always been that one would still be better off paying full taxes on the distributions from the tax deductible account, because retirees are likely to be in a lower tax bracket than they were when they were working. This may not always be the case however, further muddying the waters in making the determination concerning which is the better alternative.

In comparing tax savings of a traditional tax deductible IRA and a Roth IRA, as mentioned earlier, Roth contributions are not deductible. Traditional deductible contributions afford a yearly tax savings of $1200 for someone in the 30% tax bracket. If he were to take his $1200 yearly tax savings from making a traditional deductible IRA contribution and invest it in a taxable account, after 25 years he would be $75,898.85 better off by having made a tax-deductible (vs. a taxable contribution to a Roth IRA) contribution each year to a traditional IRA [$1200 +/- PMT; 25 N; 7 I; solve for FV]. Again, we are assuming that all growth on the taxable account is due to current return. However, ALL distributions taken from the traditional deductible IRA are subject to one's regular tax rate at the time of withdrawal, as are the previously untaxed growth portions of withdrawals taken from a taxable account. Distributions properly taken from a Roth IRA are completely TAX FREE. So the higher one's tax rate in retirement (obviously an unknown), the less of their withdrawals they will have to use. Over all, one would probably be better off contributing to the Roth, given that no taxes will be due on distributions and that the Roth offers other attractive features for estate planning purposes.

c. When Dave starts to take distributions in 25 years, the entire amount withdrawn from a traditional IRA is subject to taxes. If he takes his $393,388.24 in a lump sum, 30% will be lost to taxes ($118,016.47) leaving him $275,371.77.

None of the amount withdrawn from a Roth IRA is subject to taxes, so he would have the entire $393,388.24. Even if he had invested his yearly $1200 tax savings from making a traditional IRA contribution, the amount this would have grown to $75,898.85 as shown above) would still not be enough to offset the amount lost to taxes in taking a lump-sum distribution. [Please note that if Dave takes a lump sum distribution, the entire amount is dumped into his current earnings for that year, which could well place him in a higher tax bracket. One of the uncertainties of trying to figure the tax implications at withdrawal for a traditional IRA is that no one knows what the tax structure will be in the future. With a Roth IRA, it won't matter—unless, of course, the laws change!]

d. At this time, the Roth IRA would be a better choice for Dave. Also, a Roth is more flexible during your working years because, as mentioned in #8 above, early withdrawals that are principal only are not subject to penalty or income taxes. People working beyond the age of 70 1/2 can still contribute to a Roth, and no minimum distributions are required from Roths, hence Roths are more flexible for older persons as well. Roths are unique for estate planning purposes, because if one does not need the money from their Roth, they can pass it on to their heirs. The heirs do not have to pay income taxes on withdrawals either, although they must start taking distributions after a time period (they cannot leave the money inside the Roth indefinitely). Inherited traditional deductible IRAs are subject to considerable shrinkage due to taxes, so Roths offer a way to maximize the wealth you can pass on to your loved ones.

Maximum allowable annual contributions to IRAs are scheduled to increase to $5,000 by 2008. This could make a difference in the analysis of which type of IRA to choose. Obviously, those who contribute to a traditional tax deductible IRA would get an even greater annual tax break. However, the Roth has all the advantages mentioned above. The individual would have to decide on a personal basis which IRA would be the better choice.

10. Variable annuities are tax-sheltered investments sold by insurance companies. They are much like an investment in mutual funds, because the variable annuities offer a collection of securities, usually mutual funds managed by the insurance company. You decide how your investment will be allocated among the various choices. The level of risk, as well your return on your variable annuity, will depend on the choices you make. While you cannot direct how the securities will be managed within the various funds, you are usually free to move your assets from one fund to another within the variable annuity and thereby control your level of risk.

11. Annuities make it possible to tax shelter more dollars beyond what you can contribute to retirement accounts. Unlike retirement accounts, there is usually no limit to the amount of dollars you can put into annuities, but contributions are not income tax deductible. Annuities contain an insurance component which guarantees that upon your death your heirs will receive at least the amount you invested, less any withdrawals or charges.
    Annuities typically have high expenses and offer limited liquidity, not only because of the insurance companies' loads but also because of the penalties

imposed on withdrawals made before age 59 ½. The earnings portion of withdrawals is taxed as ordinary income, whereas some of the return on investments in taxable accounts will be long-term capital gains, which are taxed more favorably. And you may be required to start taking distributions from annuities at a certain age (usually later than required by traditional IRAs).

12. It is extremely important to select a highly rated insurance company with an excellent financial position when purchasing an annuity for several reasons. Fixed annuity assets are commingled with the assets of the insurance company and hence are subject to the claims of the company's creditors. You certainly don't want your investment assets used to pay the company's bills. Additionally, an annuity is a long-term purchase. When you annuitize with a company and select a payout option, say payments for the rest of your life, you want a company which invests wisely so that it will have the funds necessary to meet its long-term obligation to you. The promises made to you are only as good as the financial soundness of your insurance company.

    Typically, the assets of variable annuities are in separate accounts and not commingled with company assets and therefore not subject to the claims of the company's creditors. However, during the accumulation phase of your variable annuity, the size to which your investment grows depends on the management of the various funds offered by the annuity. Your principal is not guaranteed (unless you die), so you definitely want to look at the performance track record of the fund managers and steer clear of those who take undue risk.

13. A *defined benefit plan* provides a formula for computing benefits that is stipulated in the plan provisions. This type of plan allows employees to determine before retirement how much their monthly retirement income will be. The formula is frequently based on number of years of service and average annual salary, although other formulas are possible. The employer is responsible for the investment of the plan assets and bears the risk of poor investment performance.

    In contrast, a *defined contribution plan* specifies how much the employer and/or employee are to contribute to the plan but says nothing about what the plan benefits will be. That depends on how much the contributions grow to become, which is determined by the investment choices the employee made. The employee bears the risk of poor investment performance.

    The *cash balance plan* has some of the features of both the defined benefit and the defined contribution plan. Like a defined contribution plan, the employee has a separate account to which contributions are made. The employer then credits that account with an annual contribution, which is usually a fixed percentage of the employee's pay. The growth of the plan balance over time is more predictable, and like the defined benefit plan, the employer is responsible for the investment of the plan assets and bears the risk of poor investment performance. However, the cash balance plan is more portable for employees who change jobs than is the defined benefit plan.

14. Given that Chester is 65 and at full retirement age, having had average career earnings, his monthly benefit would be $1,158, making his annual benefit $13,896. Fortunately, the Senior Citizens' Freedom to Work Act of 2000 removed earnings restrictions for those aged 65-67, so he will not have to forfeit any of his benefit due to earnings from his job.

    If Chester were only 62 and started to take his benefits, he would receive only $1,105 per month, making his annual benefit $13,260. However, because his $18,000 a year part-time job is over the $16,000 limit (2006), he will lose $7,000 in annual benefits ($18,000 – $16,000 = $2,000/2 = $1,000) or $83 per month. This would reduce his $1,105 monthly benefit by $83, leaving him $1,022 per month or $12,264 in annual benefits.

15. Worksheet 14.1

PROJECTING RETIREMENT INCOME AND INVESTMENT NEEDS

Name(s) Linda Bailey Date 3/9/2007

I. Estimated Household Expenditures in Retirement:		
A. Approximate number of years to retirement		15
B. Current level of annual household expenditures, excluding savings	$	50,000
C. Estimated household expenses in retirement as a *percent* of current *expenses*		80 %
D. Estimated annual household expenditures in retirement (B × C)	$	**40,000**
II. Estimated Income in Retirement:		
E. Social security, annual income	$	15,000
F. Company/employer pension plans, annual amounts	$	12,000
G. Other sources, annual amounts	$	0
H. Total annual income (E + F + G)	$	**27,000**
I. Additional required income, or annual shortfall (D − H)	$	**13,000**
III. Inflation Factor:		
J. Expected average annual rate of inflation over the period to retirement		4 %
K. Inflation factor (in Appendix A): Based on 15 years to retirement (A) and an expected average annual rate of inflation (J) of 4 %		1.80
L. Size of inflation-adjusted annual shortfall (I × K)	$	**23,400**
IV. Funding the Shortfall:		
M. Anticipated return on assets held *after* retirement		6 %
N. Amount of retirement funds required—size of nest egg (L ÷ M)	$	**390,000**
O. Expected rate of return on investments *prior* to retirement		9 %
P. Compound interest factor (in Appendix B): Based on 15 years to retirement (A) and an expected rate of return on investments of 9 %		29.4
Q. Annual savings required to fund retirement nest egg (N ÷ P)	$	**13,283**

Note: Parts I and II are prepared in terms of current (today's) dollars.

16. *Fixed-rate annuities* grow at a minimum fixed rate set by the insurance company, which is usually fairly low. Fixed annuity assets are commingled with the assets of the insurance company and hence are subject to the claims of the company's creditors.

    Variable annuities are much like an investment in mutual funds, because the variable annuities offer a collection of securities, usually mutual funds managed by the insurance company. You decide how your investment will be allocated among the various choices, and the return on a variable annuity depends on the investment choices made. Typically, the assets of variable annuities are in separate accounts and not commingled with company assets and therefore not subject to the claims of the company's creditors.

    For someone age 60 and close to retirement, a fixed annuity would probably be the better choice. Even though the variable annuity offers greater growth potential, it could also suffer a loss, something that is more difficult for someone close to retirement to bear. However, for someone who has plenty of other assets to live off of in retirement, the variable annuity might be attractive.

Solutions to Contemporary Case Applications

14.1 Comparing Pension Plan Features: Which Plan Is Best?

1. *United Foods Foods:* The United Foods plan is *contributory,* which means that employees must contribute a portion of each paycheck to the plan. The employee contribution is equal to 5% of his or her wages. The employer contributes an amount equal to each employee's contribution. The employee receives ownership of 100% of the *employer's* contribution (becomes fully vested) after he or she has participated in the plan for 5 years; partial vesting occurs before then. The employee's own contributions vest immediately. Under this plan, it appears that retirement is mandatory at age 60. Because the plan is a *defined contribution* plan, an employee cannot determine the size of his or her retirement benefits until he or she retires. This type of plan specifies only the employee and employer's annual contribution. At retirement, the worker will not get a guaranteed amount but will receive whatever level of monthly benefits those contributions will purchase.

   U.S. Steel and Castings: The U.S. Steel and Castings Plan is *noncontributory*, which means that the company pays the total cost of all benefits. The employee does not have to contribute to this plan. The employer's contributions to this plan vest immediately. Under this plan, an employee can retire at age 60 or can elect to remain with the company for an additional five- or six-year period, at the end of which retirement is mandatory. The plan is a *defined benefit* plan since it provides a formula for computing the benefits provided by the plan. The annual benefits will equal 2% of the employee's final annual salary for each year of service with the company.

2. It is difficult to choose one plan over the other. Although the United Foods plan does not define benefits, it seems likely that it could provide larger benefits than the U.S. Steel and Castings plan because the employee and employer's contributions amount to 10% of the employee's annual salary. It is probable, but certainly not guaranteed, that these amounts properly invested might offer an employee larger retirement benefits than the defined benefits under the U.S. Steel and Castings plan. At the same time, it is important to recognize that the United Foods plan does require the employee to make a contribution.

   The U.S. Steel and Castings plan is funded entirely from employer contributions. Although the United Foods plan does provide for some forced savings, it seems likely that the U.S. Steel and Castings plan is a better deal since the employer contributions are larger and the benefits are known in advance. Also, the vesting feature of the U.S. Steel and Castings plan is more favorable, and the employee can retire at an older age under this plan. The older retirement age should allow those who want to increase their benefits to continue in the firm's employ and, therefore, increase the annual retirement benefit by 5-6% of a probably higher final annual salary. This opportunity is obviously quite appealing. In summary, it would seem that based upon the information presented, the U.S. Steel and Castings plan appears to have more attractive features: noncontributory, older retirement age (if desired) and defined benefits.

3. In either case, the expected and/or defined employer benefits should be added to the projected Social Security benefits to determine the expected monthly (or annual) retirement benefits. These should be compared to the retirement income needed to achieve retirement goals. If the retirement income provided by Social Security and the employer plan(s) is not sufficient to fund future retirement income needs, other sources of retirement income, such as annuities, mutual funds, or other investments, etc., should be developed. If current and projected income is not adequate to fund these additional needs, retirement goals and plans must be made more realistic.

   It is important to recognize that, although employer retirement benefits are an important consideration when evaluating potential employment opportunities, once employed, a person must accept the benefits provided and, in light of them, develop realistic retirement plans. For most people, Social Security and employer retirement benefits must be taken as given. They should act as a basis upon which additional retirement benefits are built to fulfill the retirement income needs that will permit achievement of one's retirement goals.

4. *Annuities* can fill annual retirement income gaps between what is needed to achieve one's retirement goals and what will be provided by Social Security and employer plans. They can play a major role in one's retirement program by providing for the systematic liquidation of one's estate and can effectively protect against insolvency resulting from outliving one's estate. A person can purchase a variety of types of annuities. Sometimes the cash value of one's life insurance can be used to purchase an annuity. In other cases, a person can direct periodic savings into the installment purchase of an annuity. Annuities may be purchased with a single payment or through an installment plan.

The appeal of annuities lies in the fact that they provide a guaranteed future benefit over a specified period of time. Although the returns they provide are considered low by some, they offer a certain stream of future income which many people find preferable to the uncertainties associated with investment in some alternate media, such as bonds, stocks, or mutual funds. Both the guaranteed nature of the income provided (except in the case of variable annuities) and the lack of administrative effort involved make annuities attractive instruments for persons wishing to create guaranteed streams of future income for retirement purposes. Due to the convenience and lack of risk involved, the expected return from an annuity will generally be less than the returns expected from alternative investment outlets.

On the flip side, annuities are not very liquid or flexible because of their loads and typically higher annual expenses, plus the 10% penalty and taxes owed on withdrawals made before 59 ½. Annuities are more attractive for people in higher tax brackets and less so for others. Over a longer time frame, individuals can almost certainly earn more with other investments, enjoy greater flexibility in using their assets, and receive more favorable tax treatment on their long-term capital gains.

The choice between annuity investments and the higher risk–higher return do-it-yourself investments is a matter of personal preference largely dependent upon the individual's retirement goals and general disposition toward risk. Because the installment purchase of a deferred annuity represents a forced savings mechanism that can be used to create needed retirement income, it could be an important part of one's retirement plans.

14.2 Evaluating Lydia Sanchez's Retirement Prospects

1. Required nest egg = annual income needs / expected return on investment
   = $15,000/.06 = $250,000

   (Note: this is basically parts L, M, and N from Worksheet 14.1)

2. *Future value* of $72,600 at 5% rate of return [using Appendix A find Future Value Interest Factor (FVIF)]:
   $72,600 x FVIF (5%, 8 years) = $72,600 x 1.477 = $107,230.20

   Using the financial calculator set on End Mode and 1 payment/year:

72,600+ /-	PV
8	N
5	I/YR
FV	$107,263.27

   Future value of $47,400 at 9% rate of return:
   $47,400 x FVIF (9%, 8 years) = $47,400 x 1.990 = $94,326

47,400+/-	PV
8	N
9	I/YR
FV	$94,447.47

Thus, from these two sources, Lydia will have: $201,556.20 (or 201,710.74).

3. *Future value* of 401(k) contributions at 9% [using Appendix B find Future Value Interest Factor of an Annuity (FVIFA)]): $3,000 x FVIFA (9%, 8 yrs.), = $3,000 x 11.030 = $33,090

3,000+/-	PMT
8	N
9	I/YR
FV	$33,085.42

4. [Note: answers obtained with financial calculator are shown in parentheses.] Lydia needs a nest egg of $250,000; right now she has about $120,000 ($72,600 + $47,400). If she can invest these funds (as per part 3), they will be worth about $201,556.20 (or $201,710.74) when she retires; throw in another $33,090 ($33,085.42) from the future contributions to her 401(k) plan, and she will end up with about $234,646 ($234,796.16) at retirement.

That will leave her only about $15,354 ($15,203.84) short of her target. All things considered, that is really not too bad. But she still has a shortfall to make up; that can be handled in one of three ways:

1. She can reduce her standard of living in retirement—not a very good alternative.

2. She can try to earn a higher rate of return on her money—but that could involve more risk than she wants to take.

3. Or, the most attractive alternative: Lydia can try to save a little bit more each month. If she invested $110 per month in a Roth IRA earning 9% for the next 8 years, she would have $15,354 and could meet her goal. (See calculation below.) The Roth IRA would allow her money to grow on a tax-deferred basis, and she would be able to make tax-free withdrawals. With her children out of college and soon on their own, she should have some extra cash to invest and easily meet her goal of retiring in 8 years.

[Financial calculator set on End Mode and 12 payments/year.]

15,354 +/-	FV
9	I
8 x 12	N
PMT	$109.78

Chapter 15

Preserving Your Estate

Chapter Outline

Learning Goals

I. Principles of Estate Planning

- A. Who Needs Estate Planning?
  - 1. People Planning
  - 2. Asset Planning
- B. Why Does an Estate Break Up?
- C. What Is Your Estate?
- D. The Estate-Planning Process

Concept Check

II. Thy Will Be Done…

- A. Absence of a Valid Will: Intestacy
- B. Preparing the Will
- C. Common Features of the Will
- D. Requirements of a Valid Will
- E. Changing or Revoking the Will: Codicils
  - 1. Changing the Will
  - 2. Revoking the Will
- F. Safeguarding the Will
- G. Letter of Last Instructions
- H. Administration of an Estate
- I. Other Important Estate Planning Documents
  - 1. Power of Attorney
  - 2. Living Will and Durable Power of Attorney for Healthcare
  - 3. Ethical Wills
- J. What about Joint Ownership?
  - 1. Tenancy in Common
  - 2. Community Property

Concept Check

III. Trusts

- A. Why Use a Trust?
  - 1. Income and Estate Tax Savings
  - 2. Management and Conservation of Property
- B. Selecting a Trustee
- C. Common Types and Characteristics of Trusts
  - 1. Living Trust

a. Revocable Living Trust
b. Irrevocable Living Trust
c. Living Trusts and Pour-Over Wills

2. Testamentary Trust
3. Irrevocable Life Insurance Trust

Concept Check

IV. Federal Unified Transfer Taxes

A. Gifts and Taxes
B. Is It Taxable?
C. Reasons for Making Lifetime Gifts

Concept Check

V. Calculating Estate Taxes

A. Computation of the Federal Estate Tax

Concept Check

VI. Estate Planning Techniques

A. Dividing
B. Deferring
C. Life Insurance as an Estate-Planning Tool
D. Future of the Estate Tax

Summary
Financial Planning Exercises
Applying Personal Finance
Prepare Your Will!
Critical Thinking Cases
15.1 A Long Overdue Will for Theo
15.2 Estate Taxes on Philip Colburn's Estate
Money Online

Major Topics

While personal financial planning allows one to achieve personal financial goals and accumulate wealth for a variety of purposes, estate planning is designed to provide for the desired and efficient disposition at death of accumulated wealth to heirs and beneficiaries. If estate planning is properly performed, heirs and beneficiaries will receive the maximum distribution of the deceased's remaining assets in accordance with his or her wishes. It is impossible to understate the importance of estate planning in assuring that a deceased's wealth is distributed in the desired manner. The major topics covered in this chapter include:

1. The role of estate planning in the accumulation, preservation, and distribution of an estate in a manner that most effectively achieves an estate owner's personal goals.
2. Guidelines for preparing a will and summary of common features.

3. Requirements of a valid will, procedures for changing, revoking, and safeguarding a will, and estate administration.
4. The need for a power of attorney, living will, and durable power of attorney for healthcare.
5. Forms of joint ownership and their impact on estate planning.
6. The purposes, common types, and characteristics of trusts used in estate planning to provide for the transfer of property from one party to another for the benefit of a third party.
7. Discussion of gift taxes, including determination of the amount of a taxable gift and reasons for making a lifetime gift.
8. Procedures for computing federal estate taxes, and the role of state death taxes in this process.
9. Popular estate planning techniques: dividing, deferring, and using life insurance.

Key Concepts

The overriding objective of estate planning is to insure the orderly transfer of as much of one's estate as possible to heirs and/or designated beneficiaries. Most estate planning tools and techniques are legally based and, as a result, the use of an attorney in estate planning is essential. The estate planning process frequently involves a number of areas: wills, trusts, gift taxation, and estate taxation. The following phrases summarize the key concepts stressed in this chapter.

1. Causes of estate break up
2. Probate estate and gross estate
3. Absence of a valid will: intestacy
4. Preparation of a will
5. Requirements for and common features of a will
6. Changing or revoking a will
7. Codicils
8. Letter of last instructions
9. Estate administration
10. Power of attorney
11. Living will and durable power of attorney for healthcare
12. Ethical wills
13. Forms of joint ownership
14. Trust relationships and purposes
15. Types and characteristics of trusts
16. Gift tax determination and gifting motives
17. Estate tax computations
18. Estate planning tools and techniques

Answers to Concept Check Questions

15-1. *Estate planning* is important because it allows for the transfer of the maximum estate assets after taxes to the deceased's heirs and beneficiaries. Without an estate plan that directs the ultimate disposition of one's accumulated wealth, there is the chance that too little or even none of an estate will be left for one's heirs and

beneficiaries to enjoy. By developing and implementing plans during one's lifetime, his or her wealth, or estate, can be accumulated, preserved, and upon death, distributed in the desired fashion. The *goal* of estate planning is therefore to accumulate, conserve, and distribute an estate in the manner that most effectively accomplishes the estate owner's objectives. The emphasis of estate planning is on achieving personal objectives and meeting the needs and desires of those involved.

There are numerous forces which, if unchecked, tend to shrink an estate, reduce the usefulness of its assets, and frustrate the objectives of the person who built it. These include: death-related costs, such as debt repayment, taxes, and administrative expenses; inflationary effects; improper management of assets; lack of liquidity resulting in insufficient cash to pay death costs and other estate obligations; incorrect use of vehicles of transfer causing property to pass to unintended beneficiaries or to the proper beneficiaries in an improper manner or at an incorrect time; and disabilities to the wage earner—often called a "living death"—that result in a massive financial drain.

The *gross estate* includes all the property subject to federal estate tax at a person's death, both probate and nonprobate property. *Nonprobate property* passes automatically without having to go through the probate process (the legal process of administering the estate of a decedent). Examples of nonprobate property include property held in trusts (the trust holds the legal title to the property), property titled in joint tenancy (the title of the property causes it to pass by operation of law), and life insurance benefits (passes by contract). The *probate estate* consists of all the other real and personal property that a person owns in his or her name at the time of death for which there is no other mechanism of transfer. The probate property is distributed according to the terms of the decedent's will or by the state laws of *intestate succession* if there is no valid will.

15-2. The steps in the estate planning process include:

1. Assessing your family situation, evaluating its strengths and weaknesses, and setting estate planning goals.
2. Gathering comprehensive and accurate data on all aspects of the family.
3. Taking inventory of your assets and determining the value of your estate.
4. Designating beneficiaries of your estate's assets.
5. Estimating estate transfer costs.
6. Formulating and implementing your plan.
7. Reviewing your estate plan every 3 years and revising as circumstances dictate.

The objective of the estate plan, of course, is to maximize the usefulness of one's assets during life and to achieve one's personal objectives after death. Once the estate plan has been implemented, one must keep in mind that it is good only for as long as it fits the needs, desires, and circumstances of the parties involved. As these elements change, the estate plan must also be modified.

15-3. A *will* is a written, legally enforceable expression or declaration of a person's wishes concerning the disposition of his or her property upon death. A valid will is important because without one, an estate will be distributed in a fashion consistent with certain state statutes, not necessarily according to the wishes of the deceased.

When a person dies *intestate—*without a valid will—the state laws typically "draw the will the decedent failed to make." State law would therefore determine the disposition of the decedent's probate property. Generally, the decedent's spouse is favored, followed by the children, and then other descendants. The statutes typically delineate the order in which descendants receive estate assets. If the deceased leaves no spouse, children, or other descendants, the decedent's parents, brothers, and sisters will receive a share of the estate. Aside from having lost control of the disposition of property to individuals or charities, the person who dies intestate also forfeits the privileges of naming a personal representative to guide the disposition of the estate, naming a guardian for persons and property, and specifying which beneficiaries are to bear certain tax burdens. In addition, estate shrinkage will probably not be minimized due to the loss of certain tax deductions and exclusions.

15-4. The eight basic clauses normally included as part of a will are listed and briefly described below:

1. *Introductory clause*—states the testator's place of residence and nullifies old and forgotten wills and codicils (legally binding modifications of an existing will).

2. *Direction of payments clause*—directs the estate with respect to certain payments of expenses.

3. *Disposition of property—*directs the disposition of personal effects, the passing of money to a specified party, and/or the distribution of residual assets after specific gifts have been made.

4. *Appointment clause*—used to appoint executors, guardians, and trustees, as well as their successors.

5. *Tax clause*—allocates the burden of taxes among the beneficiaries. In the absence of this clause, apportionment statutes of the testator's state will allocate the taxes among beneficiaries.

6. *Simultaneous death clause*—protects the testator in the case of the simultaneous death of his or her spouse. It is designed to avoid double probate of the same assets. The surviving spouse must live for a certain period of time beyond the death of the other spouse in order to be a beneficiary under the will.

7. *Execution and attestation clause*—provides for the testator's signature as a precaution against fraud. Many attorneys suggest initialing each page after the

last line and including a signature in the left-hand margin of each page, which of course should be numbered.

8. *Witness clause*—contains the signatures of witnesses (whose minimum number is determined by state law) who sign in the presence of each other (and note their addresses on the will) to affirm that the will in question is actually that of the testator.

To be valid, a will must be the product of a person with a sound mind; there must have been no undue influence (influence that would remove the testator's freedom of choice); the will itself must have been properly executed according to the laws of the state; and its execution must be free from fraud. Certain conditions are established for judging whether or not a testator is *mentally competent.* Generally, such capacity is assumed. Types of *undue influence* include threats, misrepresentations, inordinate flattery, or some physical or mental coercion employed to destroy the testator's freedom of choice. Most state statutes spell out requirements for *proper execution* of wills in a Will's Act or its equivalent. An ability to demonstrate that a will is that of the testator is also necessary for proper execution.

15-5. In order to change an existing will, a *codicil,* a simple and convenient, legal means of modifying an existing will, is drawn up. It is used when the will needs only minor modifications and is often a single-page document that reaffirms all the existing provisions of the will except the one to be changed. Where substantial changes are required, the preparation of a new will is usually preferable to a codicil.

A will can be *revoked* either by the testator himself/herself, or in some cases, the law will revoke or modify it automatically. The *testator* can revoke a will by (1) making a later will that expressly revokes prior wills, (2) making a codicil that expressly revokes any wills, (3) making a later will that is inconsistent with a former will, and (4) physically mutilating, burning, tearing, or defacing the will with the intention of revoking it. Common situations in which the *law,* under certain circumstances, revokes or modifies a will are (a) divorce, (b) marriage, (c) birth or adoption, and (d) murder.

15-6. a. *Intestacy* describes the situation that exists when a person dies without a valid will. Some intestacy laws "draw the will the person failed to make" to determine the disposition of the probate property at his or her death.

b. The *testator* is the person making the will, a written document expressing this person's wishes concerning how his or her property is to be distributed at death.

c. A *codicil* is a simple and convenient legal means of modifying an existing will. It is used when a will needs only minor modifications and is often a single-page document that reaffirms all the existing provisions in the will except the one to be changed.

d. A *letter of last instructions* is an informal memorandum separate from a will and expresses thoughts the testator wants to convey and instructions he/she wishes to have carried out that cannot properly be included in his/her will. A variety of directions related to such things as location of the will and other documents, funeral and burial instructions, and explanations of actions taken in the will might be included in the letter.

15-7. The *probate process* is the legal process of administering the estate of a decedent and distributes all the property that does not pass by some other mechanism (i.e., operation of law or legal contract—see number 15-1 above). The property in the probate estate is distributed according to the terms in the decedent's will or by the state's laws of intestate succession if no valid will can be found. The will is brought before the proper governmental unit, often the county court, and the validity of the will is determined. Before property can be distributed, debts, taxes, and claims against the estate must first be satisfied. Property remaining is then distributed according to the terms of the will (if possible—some of the property may have gone toward satisfying debts and/or taxes).

If the decedent named a personal representative to manage the probate process in the will *and* if the court appoints this person so nominated in the will, this person is called the *executor*. If the decedent did not name a personal representative, died intestate, or the court does not choose to use the person so named in the will, then the court appoints an *administrator* to represent the estate. Reasons the court may not choose the person named in the will as the representative include: the person may have predeceased the testator, may be physically or mentally incapacitated, or may be deemed unfit (such as serving time in prison).

The executor (or administrator) has the responsibility of representing the estate and seeing the probate process through to the end. The executor must collect the assets of the decedent, pay debts and taxes or provide for the payment of debts and taxes that are not currently due, distribute any remaining assets to the persons entitled to them by will or by the intestate law of the appropriate state, and must make an accounting to the court at various times during the probate process. Executors should not only be familiar with a testator's affairs, but they should also exhibit good administrative skills.

15-8. a. A *power of attorney* is a document naming the person you wish to act as your agent in managing your financial affairs. Powers of attorney can be either durable or nondurable, and state laws vary concerning these powers. In general, a *nondurable power of attorney* becomes legally invalid when the person issuing the power of attorney becomes incapacitated and is not a practical alternative for caring for the property of the ill or the elderly. An instance of when a nondurable power of attorney would be appropriate would be when someone is leaving the country and wants someone else to manage his financial affairs for him. A *durable power of attorney for property* (as distinguished from the durable power of attorney for healthcare described below) does allow the person named to act as your agent even if you do become incapacitated. It is a very powerful instrument and much thought should go into selecting someone very honest, trustworthy, and financially astute. A durable power of attorney is appropriate for someone who is

ill or elderly and wishes to have someone to handle financial matters on his or her behalf should he or she become incapacitated.

b. A *living will* describes in detail the medical treatments you wish to receive—or not receive—if you become terminally ill. It is very important that you discuss these plans with your physician, write the living will in very specific terms, and comply with state regulations.
c. The *durable power of attorney for health care* also deals with medical care. It authorizes a particular person to make health care decisions if you cannot. Many financial planning experts recommend that you have both a living will and a durable power of attorney for health care.

d. An *ethical will* or legacy statement is an informal document that can be added to the written will and read at the same time. It can take various forms, such as handwritten letters or journals, personal essays written on a computer, or even as video or audiotapes. The ethical will allows the maker a way to share his or her morals, business ethics, life experiences, wit and wisdom with family and friends.

15-9. *Joint tenancy with right of survivorship* is a type of ownership by two or more parties who share equal rights in and control of the property, with the survivor(s) continuing to hold all such rights on the death of one or more of the tenants. Each joint tenant can unilaterally sever the tenancy. A *tenancy by the entirety* is a form of ownership between husband and wife recognized in certain states in which the rights of the deceased spouse automatically pass to the survivor. A joint tenancy by the entirety can be severed (while both are alive) only by mutual agreement or terminated by divorce or conveyance by both spouses to a third party. This form of ownership is generally not recognized in community property states, and a few of the common law states no longer recognize it as well.

The *advantage* of joint tenancy, the more common form of joint ownership, is that it offers a sense of family security, quick and easy transfer to the spouse at death, exemption of jointly owned property from the claims of the deceased's creditors, and avoidance of delays and publicity in the estate settlement process. The key *disadvantage* of joint tenancy is that the jointly owned property cannot be controlled by a will and therefore does not permit the first joint owner to die to control the property's disposition and management upon his or her death. Another disadvantage is that potential tax costs may be incurred in both the creation and the severance of a joint tenancy when the title is not held between spouses (for example, a father and daughter).

Tenancy in common gives each co-owner the right to dispose of his or her share of the property as he or she wishes, without consulting the other partner(s). Unlike joint tenancy, in which the parties share equal rights and have rights of survivorship, tenancy in common may involve unequal shares and carries no rights of survivorship. Property titled in this manner likely will be part of the probate estate and pass according to the decedent's will or the state's laws of intestate succession in the absence of a valid will.

15-10. The *right of survivorship* is when the property which is held jointly passes directly to the surviving tenant(s) upon the death of the other. This passing happens automatically by operation of law and is free from the claims of the decedent's creditors, heirs, or personal representatives.

Community property refers to all property acquired by the effort of either or both spouses during marriage while they make their primary residence in a community property state. Separate property is that which is owned by one spouse only. Property acquired prior to marriage or through gift or inheritance is considered separate property of the acquiring spouse. A written agreement is required to change community property to separate property, and vice versa.

Unlike joint tenancy with right of survivorship, each spouse can leave his or her half of the community property to whomever he or she chooses. There is no right of survivorship inherent in this form of ownership. Therefore, without proper planning, a surviving spouse could find him or herself in the position of having to share ownership of property with someone else upon the death of the spouse.

15-11. A *trust* is a relationship created when one party, the *grantor* (also called the settler or creator) transfers property to a second party, the *trustee,* for the benefit of third parties, *beneficiaries,* who may or may not include the grantor. The trustee holds the legal title to the property in the trust and must use the property and any income it produces solely for the benefit of trust beneficiaries. The trust generally is created by a written document. The grantor spells out the substantive provisions as well as certain administrative provisions. A trust may be living or testamentary and/or revocable or irrevocable. Trusts are created for many reasons, with the most common motives being to attain income and estate tax savings and to manage and conserve the property over a long period of time.

A *trustee* must (1) possess sound business knowledge and judgment, (2) have an intimate knowledge of the beneficiary's needs and financial situation, (3) be skilled in investment and trust management, (4) be available to beneficiaries (specifically, this means the trustee should be young enough to survive the trust term), and (5) be able to make decisions impartially.

15-12. A *living (inter vivos) trust* is one created during the grantor's lifetime. It can be either revocable or irrevocable and can last for a limited period or continue long after the grantor's death.

A *revocable living trust* is a living trust in which the grantor reserves the right to regain the trust property. The trust property is still in the grantor's estate because the assets are not a completed gift, and the income off the trust is taxable to the grantor. An *irrevocable living trust* is one in which the grantor relinquishes title to the property placed in the trust as well as the right to revoke or terminate the trust. Depending on how the irrevocable living trust is set up, the trust assets may no longer be considered a part of the grantor's estate and thus not subject to estate taxes. However, initially placing the property in the trust may trigger gift taxes, and if the income off the trust is not taxable to the grantor, it will be income taxable to either the trust itself or the beneficiaries. [Trusts and estates have their

own schedule for income tax rates, and very little income is required to place these entities in the highest tax bracket.] Many types of trusts exist with various gift, income, and estate tax ramifications, and competent legal advice is needed prior to setting up a trust.

15-13. a. The *grantor* is a party in a trust relationship who transfers property to a second party, the trustee, for the benefit of third parties, the beneficiaries, who may or may not include the first party.

b. A *trustee* is an organization or individual hired by the grantor to manage and conserve his or her property placed in a trust for the benefit of beneficiaries.

c. The *beneficiary* is an individual who receives benefits—income or property—from a trust or from the estate of a decedent.

d. A *pour-over will* is a provision in a will that provides for estate assets—after debts, expenses, taxes, and specific bequests—to "pour over" into a previously established revocable or irrevocable living trust. The pour-over will assures that property left out of the living trust, either inadvertently or deliberately, will make its way into the trust and thus be administered according to the terms of the trust.

e. A *testamentary trust* is a trust created in a decedent's will. This type of trust does not provide any tax savings for the grantor, because he or she continues to own the property until his or her death.

f. The major asset of an *irrevocable life insurance trust* is life insurance on the grantor; this type of trust is used to keep the proceeds of the life insurance policy out of an estate. The trustee can use the proceeds to pay for estate taxes and/or for the care of the deceased's spouse or children.

15-14. *Gifts* are generally defined with reference to the consideration received. A transfer for less than adequate and full consideration in money or money's worth is viewed as a gift. If some amount of consideration was received, but less than full consideration, the transfer would be considered a partial gift. A gift is usually considered to be made when the donor relinquishes dominion and control over the property or property interest transferred.

a. For gift tax purposes, certain transfers or "gift equivalents" are not counted. The *annual exclusion* permits tax-free gifts of $12,000 (as of 2006) per donor to any number of donees each year. It is available only for gifts of a present interest in property that the donee has the immediate and unrestricted right to use, possess, and enjoy upon receipt.

b. *Gift splitting* is a method of reducing gift taxes whereby a gift given by one spouse, with the consent of his or her spouse, can be treated as if each had made one half of it. Therefore, with the consent of your spouse, even if it’s all your money or assets, up to $24,000 (as of 2006) can be given to any number of donees during the year. This feature allows married persons in common-law states to

receive the same gift tax treatment as married taxpayers domiciled in community-property states.

c. *Charitable deductions,* which are gifts given to a qualified charity (one to which deductible gifts can be made for income tax purposes), are not subject to any gift or estate taxes and have no limits on the amount given. However, there is a limit to the amount of the deduction which can be claimed in any given year on one's income tax return, depending on the taxpayer's adjusted gross income and the type of charitable organization. The excess contribution can be carried forward on one's income tax return.

d. An unlimited deduction for gift or estate tax purposes for property given by one spouse to another is called the *marital deduction.* An individual conceivably could give everything to his or her spouse during life or at death without gift or estate tax cost, provided the spouse is a U.S. citizen.

15-15. When a gift is given, control of the property is relinquished and the property from that point forward is no longer a part of the donor's estate. Property which is no longer in the estate is not subject to estate taxes at death. True, the size of the estate is smaller by the amount of the gift, but because of the gift, the property is already in the hands of the intended recipient. Gift giving allows the donor to minimize estate shrinkage by reducing estate taxes, thereby allowing the donor to maximize the amount of property passed to his/her heirs.

Several tax-oriented reasons cause estate planners to recommend making lifetime gifts. These include:

Gift Exclusion: Single individuals can give any number of donees up to $12,000 (as of 2006) each year entirely gift tax free. If the donor is married and the donor's spouse consents, the gift tax-free limit is increased to $24,000 (as of 2006) even if the entire gift is made from the donor's assets. If a taxable gift is made, i.e., a gift over the exclusion amount, only the excess portion is subject to gift taxes.

Gift Tax Exclusion: Regardless of the size of a gift—and even if it is made less than three years before the donor's death—it typically will not be treated as part of the donor's gross estate. The *taxable* portion of lifetime gifts (gifts over the exclusion amount) does push up the rate at which the donor's estate will be taxed. Fortunately, when cash or other property qualifies for the annual exclusion, it is not taxable and therefore is both gift and estate tax free in all respects.

Appreciation in Value: Appreciation in the value of a gift from the time it is made will not be included in the donor's estate, unless the gift is deemed not to have been a gift because the giftor failed to relinquish control of the property.

Credit Limit: Beginning in 2002, tax laws created a $1 million lifetime gift tax exclusion. This amount applies to gifts in excess of $12,000 (as of 2006) a year per recipient ($24,000 for married donors as of 2006). Gifts in excess of the lifetime exclusion will be subject to gift taxes.

Impact of Marital and Charitable Deduction: Because of the gift tax marital and charitable deductions, it is possible to give a spouse (who is a U.S. citizen) or a qualified charity an unlimited amount of money or other property entirely gift or estate tax free.

15-16. The Economic Growth and Tax Relief Reconciliation Act of 2001 gradually eliminates estate taxes until the year 2010. Unless further legislation is enacted, this law will expire on December 31, 2010, and the estate tax laws that were in effect prior to its enactment will once again apply.

Regarding the *general nature of the estate tax,* the federal estate tax is levied on the transfer of property at death. The tax is determined according to the value of the property that the deceased transfers (or is deemed to transfer) to others.

The *unified tax credit* reduces the amount of estate taxes owed. A certain amount of a deceased person's estate, called the exclusion amount, is excluded from estate taxes. The unified tax credit is the amount of estate taxes that would have been due on the excluded amount. Estate taxes are first calculated on the entire estate, and then the unified tax credit amount is subtracted off the total.

15-17. The Economic Growth and Tax Relief Reconciliation Act of 2001 gradually eliminates estate taxes until the year 2010. Unless further legislation is enacted, this law will expire on December 31, 2010, and the estate tax laws that were in effect prior to its enactment will once again apply.

a. *General nature of the estate tax:* The federal estate tax is levied on the transfer of property at death. The tax is determined according to the value of the property that the deceased transfers (or is deemed to transfer) to others.

b. *Computation of the federal estate tax due:* The six stages involved in the computation of the federal estate tax are (1) determining the *gross estate, (2)* determining the *adjusted gross estate,* (3) calculating the *taxable estate,* (4) computing the *estate tax base*, (5) determining the *total death taxes*, and (6) determining the *federal estate tax due.*

c. *State inheritance tax* is a tax on the beneficiary's right to receive a decedent's property. The amount of the tax depends on the value of the property received and one's relationship to the deceased. Inheritance taxes are imposed only by state governments, and not every state levies an inheritance tax.

d. *State estate tax* is imposed on the deceased's right to transfer property and is measured by the value of the property transferred. Most states will have either an inheritance tax or an estate tax, with the trend being away from inheritance taxes; however, a few states have both taxes.

e. The *amount of exemptions and deductions* affects the amount of property subject to taxation. Generally, states exempt property transferred to the United States, to the state itself, and to certain charitable organizations. Most states also exempt property passing to a surviving spouse and certain life insurance proceeds.

All states allow deductions for certain costs relating to the administration and disposition of the estate.

f. *Multiple estate taxation* occurs in certain instances where individuals have summer and winter homes or land and other property in states other than where they live. In certain situations, an estate or its beneficiaries may be liable for the taxes of more than one state.

15-18. The "3 Ds" of estate planning are:

Dividing: Each time a new tax-paying entity can be created, income taxes will be saved and estate accumulation stimulated. A variety of techniques, such as giving income-producing property to children, establishing a corporation, and fully qualifying for the federal estate tax marital deduction, exist for dividing one's estate to reduce taxes.

Deferring: Because progressive tax rates penalize taxpayers whose maximum earnings (or estates) reach high levels, persons should attempt to minimize the total tax burden by spreading income over more than one tax year or deferring the tax to a later period. Deferring the tax to a later period gives the taxpayer an opportunity to invest the tax money for a longer period of time, and of course there's always the possibility that the tax laws may change favorably. In addition, one's financial situation may change such that yearly income may drop and the accumulated assets are used up during life and hence no longer in the estate.
Discounting: After everything has been done to accumulate an estate and reduce the income and estate tax burdens on it, there may still be a tax payable. If done properly, the proceeds on life insurance (which was purchased at a discount to face value while alive and allowed to grow and accumulate interest) can be used at death to pay death-related costs and taxes.

Financial Planning Exercises

1. Student lists will vary depending on family circumstances. The general objective should be to maximize the amount of the estate that passes to heirs. Some possible categories of personal objectives are: providing financial security for spouse and children (adequate funds to maintain lifestyle, for college education, etc.), arranging for professional management of assets if necessary, naming guardians for minor children, arranging for transfer of business ownership interests, providing for dependent parents or other relatives, and disposing of assets equitably.

2. Both Renee and Steve should have wills, with the main reason being they need to name the guardian for their children in the event they die in a common accident. Further, Renee should also have a will to protect the family when she dies. True, if Steve predeceases her, the house passes to her through joint tenancy and the insurance proceeds pass to her by contract (supposing that she is the named beneficiary), but then she needs to plan for the disposition of assets at her death. If she and Steve were to die as a result of the same accident and it was

determined that Steve died first, she would inherit the life insurance proceeds and all other assets. But since she also dies, then the state laws will determine how the property will pass and the courts will appoint guardians for the children and for the property going to the children (minors have a limited right to receive property outright). With a will, she can express her wishes in these matters as well as specify who should receive any personal property. Both Steve and Renee should review their wills on a regular basis to make sure they continue to reflect their wishes. [They should also consider more life insurance, particularly on Renee. They both work, and in the absence of one of their incomes, the survivor's earnings may be insufficient to support their mortgage payments, provide a college education for the children, and possibly pay for some additional child care costs while the children are young.]

3. Student wills should include the clauses described in the text. The letter of last instructions should cover the location of the will and other important documents, funeral preferences, the names of professional advisors, and any other information that will assist the executor to carry out his or her wishes when administering the estate.

4. Before accepting the executor's role, you should be willing to assume responsibility for estate administration. This includes inventorying assets, determining their value, paying all debts and taxes, and disposing of assets in accordance with the deceased's wishes. While it helps to be comfortable with personal financial planning matters, the executor can hire legal and financial professionals to help with these duties.

5. Currently, each person can leave an estate of $1.5 million (in 2004 and 2005) with no estate taxes being due. This exclusion amount is scheduled to increase until the year 2010, at which time there will be a complete repeal of estate taxes. However, unless further legislation is passed, in 2011 the laws governing estate taxes will revert to the laws in place prior to the passage of the Economic Growth and Tax Relief Reconciliation Act of 2001. This makes estate planning complicated.

   Joe and Amy's combined estate is $1.4 million, so it will be possible for them to pass on the entire amount with no estate taxes due (each person currently has a $1.5 million exclusion, so together they have $3 million). However, they most assuredly need to consult an attorney concerning the best way to handle their estate.

   Trusts can be used to pass on their estate. Also, Joe and Amy can establish trusts for their children from prior marriages, not only to assure that each receives the assets which should be rightfully theirs, but also that each child is properly provided for should their parents die. If the children are minors, trusts are a good way to manage and conserve the assets. The parents can also specify how the trust assets are to be used.

   Joe and Amy should also make sure their property is titled in the most appropriate way, depending on if they live in a community property or common

law state. It is entirely possible that they can avoid setting up trusts, which can be costly, if their assets are properly titled so as to pass as they wish for them to pass. Also, Joe and Amy will want to specify clearly in their wills the disposition of personal property that they wish to leave to the children (Amy's family antiques, the jewelry from Joe's late wife, etc.). They also need to name guardians for their children if they are still minors and executors for their respective estates.

6. Worksheet 15.2 appears on the following page. The net federal estate tax due is $622,440.

Problem 6—Worksheet 15.2

Computing Federal Estate Tax Due

Name: Estate of Jim Levitt   Date: August 15, 2007

Line	Computation	Item	Amount	Total Amount
1		*Gross estate*		$ 3,650,000
2	Subtract sum of:	(a) Funeral expenses	$ 6,800	
		(b) Administrative expenses	75,000	
		(c) Debts	115,000	
		(d) Other expenses		
		Total		(196,800)
3	Result:	*Adjusted gross estate*		3,453,200
4	Subtract sum of:	(a) Marital deduction	0	
		(b) Charitable deduction	70,000	
		Total		(70,000)
5	Result:	*Taxable estate*		3,383,200
6	Add:	*Adjusted taxable gifts (post-1976)*		0
7	Result:	*Estate tax base*		3,383,200
8	Compute:	*Tentative tax on estate tax base*[a]		1,403,240
9	Subtract sum of:	(a) Gift tax payable on post-1976 gifts	0	
		(b) Unified tax credit[b]	780,800	
		Total		(780,800)
10	Result:	*Federal estate tax due*		$ 622,440

[a]Use Exhibit 15.7 for the calculation of the tentative tax: 780,800 + [.45 x (3,383,200 – 2,000,000)] = 780,800 + 622,440 = 1,403,240.

[b]Use Exhibit 15.8—The appropriate unified credit for 2007 is 780,800.

7. Answers to this question will vary, depending on recent changes to estate tax laws. Even if estate taxes are eliminated entirely, individuals will still need to do estate planning for a variety of reasons, some of which are listed below:

   a. When minor children are involved, guardians need to be named in the event that both parents die. Otherwise, the state will decide the guardian for the children.

b. Trusts need to be established to take care of certain special needs children for the remainder of their lives.

c. Trusts may also need to be established to care for the surviving spouse, particularly as they become elderly and/or incapacitated.

d. Assets need to be divided up in an equitable manner among the heirs.

e. Insurance planning needs to be done to provide for the surviving spouse and/or children and/or to take care of debts, final expenses, and transfer costs.

Solutions to Contemporary Case Applications

15.1 A Long Overdue Will for Theo

1. Yes, Theo really needs a will. Without a valid will, the statutes of the state of Florida would govern the disposition of his sizable estate. This situation would not provide for minimum estate shrinkage, nor would it result in the transfer of assets to those whom Theo would choose. If Veronica is not the mother of his two sons, a battle could ensue over property, and as the sons are still in high school, they are probably not yet "of age," so their guardian needs to be named. Because Theo owns property in several states, the states could possibly fight over which is his state of domicile—something which could be avoided with a valid will.

2. His will should contain eight distinct parts:

   (1) *Introductory Clause*—stating his place of residence and nullifying old and forgotten wills and codicils (legally binding modifications of an existing will).

   (2) *Direction of Payments*—directing his estate with respect to certain payments of expenses.

   (3) *Disposition of Property*—disposing of his personal effects, passing money to specified parties, or distributing his residual assets after specific gifts have been made.

   (4) *Appointment Clause*—appointing his executors, guardians, and trustees, as well as their successors.

   (5) *Tax Clause*—allocating his burden of taxes among his beneficiaries. Otherwise, apportionment statutes of his state will allocate the taxes among beneficiaries.

   (6) *Simultaneous Death Clause*—protecting his estate against a common disaster or simultaneous death of his spouse. This clause attempts to avoid double probate of the same assets.

(7) *Execution and Attestation Clause*—providing his signature as a precaution against fraud. Many attorneys suggest initialing each page after the last line and including a signature on the left-hand margin of each page, which of course should be numbered.

(8) *Witness Clause*—containing the signatures of the required number of witnesses, who sign in the presence of each other (with their addresses noted on the will) in order to affirm that the will in question is actually his.

3. The living trust would be an appropriate estate planning technique for Theo. With such a large estate, he should be looking for ways to minimize estate taxes so that more of his assets go to beneficiaries. He may wish to set up several trusts for his wife and sons, so that they will have assistance in managing the large amounts they will inherit. Trusts can also provide management continuity if he should become unable to administer the property. If he establishes irrevocable living trusts, he will reduce estate taxes because he would relinquish control of the property involved. He may wish to transfer some of his assets into this form of trust. Because he wants to allocate a certain amount of money for his sons' education, he can set up trusts that will ensure that the funds can only be used for this purpose.

   By using trusts, Theo's will would probably be shorter, because some assets would already be designated to trusts. There would be no time gap in the management of these assets because a living trust is already in existence at the time of death, whereas probate assets will not be managed until the court appoints a personal representative sometime after death. Living trust assets would avoid probate, which can be expensive (however, the costs of establishing and administering trusts can also be high). Trusts provide a measure of privacy, whereas probating the will is a public process. However, creditors have a much shorter time (typically 4 months) in which to make a claim against the assets going through probate; trust assets can often be subject to such claims for a period of 1-3 years.

4. If Theo later decides to change or revoke his will, he has a few options. To change the will, he could use a *codicil,* which is a legal means of modifying an existing will. It is usually used when the will needs only minor modifications and is often a single-page document that reaffirms all the existing provisions in the will except the one to be changed. If substantial changes are to be made, a new will is usually preferable to a codicil. A will may be *revoked* by (a) making a later will that expressly revokes prior wills, (b) making a codicil that expressly revokes all wills earlier than the one being modified, (c) making a later will that is inconsistent with a former will, and (d) physically mutilating, burning, tearing, or defacing the will with the intention of revoking it. The law automatically revokes or modifies a will under certain circumstances, which vary from state to state but generally revolve around divorce, marriage, birth or adoption, and murder.

Living trusts are normally simpler to revise than wills because an amendment to a living trust needs no formalities or witnesses and must be in the trustor's handwriting anyway. However, remember that in an irrevocable trust, control of the assets has been severed.

5. As coexecutors of Theo's estate, Leonard Wiseman, his close friend and attorney, and Plato Jones, his cousin, will share the duties of estate administration. Upon Theo's death, they must inventory and value his assets, pay his debts or provide for payment of debts that are not yet due, and distribute any remaining assets to the persons entitled to them as specified in Theo's will. Their responsibility will, therefore, be to carry out Theo's wishes as specified in his will once all legal obligations related to the probate process have been satisfied.

15.2 Estate Taxes on Philip Colburn's Estate

Philip's estate taxes are computed on Worksheet 15.2 which follows.

1. The probate estate consists of the gross estate less non-probate assets. The gross estate amount of $2,970,000 is calculated in #2 which follows. Philip's non-probate assets consist of his life insurance policy ($500,000) and his pension fund ($645,000) which will pass by contract to his son Mark, his named beneficiary. Therefore, the amount of his probate estate is $1,825,000 [$2,970,000 – ($500,000 + $645,000)].

2. Philip's gross estate consists of all his assets at the time of his death.

Home	$ 650,000
Cabin	285,000
Investments	890,000
Pension	645,000
Life Insurance	500,000
Gross Estate	$2,970,000

3. The total allowable deductions are $85,000 ($60,000 to his church and $25,000 to his high school).

4. In calculating the estate tax base, adjusted taxable gifts made after 1976 must be added back in. Prior to his death in 2007, he made a gift of $170,000 in stock to Mark and Alice. At that time, $10,000 was the maximum yearly gift exclusion amount per person. Therefore $20,000 was excluded from taxation; the remaining $150,000 was a taxable gift which when added back to the taxable estate of $2,790,000 makes an estate tax base of $2,940,000.

5. In calculating the tentative tax, refer to Exhibit 15.7. For Philip's estate, the tax on first $2,000,000 is $780,800, and the excess over $2,000,000 is taxed at 46%, making his tentative tax $780,800 + ($940,000 x .46) or $1,213,200.

6. Exhibit 15.8 shows that the unified tax credit for 2007 is $780,800 (this is the amount of tax that would have been due on the first $2,000,000). This unified tax

credit is then subtracted from the estate tax base to arrive at the total death taxes of $432,400 ($1,213,200 – $780,800).

Case 15.2—Worksheet 15.2

Computing Federal Estate Tax Due

Name: Estate of Philip Colburn Date: February 19, 2007

Line	Computation	Item	Amount	Total Amount
1		*Gross estate*		$ 2,970,000
2	Subtract sum of:	(a) Funeral expenses	$ 5,000	
		(b) Administrative expenses		
		(c) Debts	90,000	
		(d) Other expenses		
		Total		(95,000)
3	Result:	*Adjusted gross estate*		2,875,000
4	Subtract sum of:	(a) Marital deduction	0	
		(b) Charitable deduction	85,000	
		Total		(85,000)
5	Result:	*Taxable estate*		2,790,000
6	Add:	*Adjusted taxable gifts (post-1976)*		150,000
7	Result:	*Estate tax base*		2,940,000
8	Compute:	*Tentative tax on estate tax base*[a]		1,213,200
9	Subtract sum of:	(a) Gift tax payable on post-1976 gifts	0	
		(b) Unified tax credit[b]	780,800	
		Total		(780,800)
10	Result:	*Federal estate tax due*		$ 432,400

[a]Use Exhibit 15.7 for the calculation of the tentative tax: 780,800 + [.46 x (2,940,000 – 2,000,000)] = 780,800 + 432,400 = 1,213,200.

[b]Use Exhibit 15.8 to determine the appropriate unified credit: 780,800 in 2007.

7. Philip left a sizable estate, but handing over $423,000 amounts to forfeiting about 14% of the estate. Some things that could have been done before his death to minimize the shrinkage of his estate include:

- Philip could have given the ownership of the life insurance policy to his son or established a life insurance trust with it in order to remove its value from his

estate. We are not told whether the policy was a term or whole life policy with cash value, but the value for gift tax purposes while still alive is usually much less than the value for estate tax purposes after death.

- Before his wife's death, their wills could have established a credit shelter (or family or bypass) trust in order to preserve the available unified credit of the first to die (the exclusion amount when his wife passed away less the portion of the taxable gift attributed to her). These trusts can be set up such that the assets pass to the children but the surviving spouse gets the income off these assets or possibly can use part of these assets while still alive. When one spouse leaves everything to the other spouse, if the estate's value is over the exclusion amount, then the amount of the unified credit available to the first to die is wasted. A credit shelter trust preserves the exclusion amount available to the first to die.
- After his wife's death, Philip should have realized that the estate taxes would be a problem for his family, and he could have started giving $10,000 (or $12,000 after the gift exclusion amount was raised) a year to his son, daughter-in-law, and four grandchildren, thereby excluding $60,000–$66,000 every year. He could also have increased charitable gifts during his life.
- Philip could have sold his home and moved into something smaller and less expensive. The remainder of the dollars from the sale could have been used for gifts as mentioned above. He also had a cabin at the lake he could have sold or given to his children with only a small amount of gift taxes due. While there can be great sentimental attachment to property, many times people reach a point in life where they no longer wish to continue the upkeep of property.
- Philip could have established a charitable trust or gifted property to a charitable foundation such that he could have received the income from the property for life, and then at his death the property would go to the charitable organization.

Test Bank

Personal Financial Planning, 11e

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