# Solutions Manual

# Chapter 1

**Understanding Personal Finance**

# Answers to Chapter concept checks

LO1.1

1. There are five fundamental steps to the personal financial planning process: (1) Evaluate your financial condition relative to your education and career choice; (2) define your financial goals; (3) develop a plan of action to achieve your goals; (4) periodically develop and implement spending plans to monitor and control progress toward your goals; and (5) review your financial progress and make changes as appropriate.

2. Financial success is the achievement of financial aspirations that are desired, planned, or attempted. Success is defined by the individual or family that seeks it. Financial success may be defined as being able to actually live according to one’s standard of living. Financial security is that comfortable feeling that you financial resources will be adequate to fulfill any needs you have as well as your wants. Financial happiness is the experience you have when you are satisfied about money matters. People who are happy about their finances will see a spillover into positive feelings about life in general.

3. Several things can be accomplished by studying personal finance. Recognize how to manage the unexpected and unplanned financial events. Pay as little as possible in income taxes to the Internal Revenue Service (IRS). Understand how to effectively comparison shop for vehicles and homes. Protect what you own. Invest wisely. Accumulate and protect wealth that you may choose to spend during your non-working years or donate.

4. The building blocks for achieving financial success include a foundation of regular income that provides the means to support your lifestyle and save for desired goals in the future. The foundation supports a base of various banking accounts, insurance protection, and employee benefits. Then you can establish goals, a recordkeeping system, a budget, and an emergency savings fund. You will also manage various expenses such as for housing and transportation and the payment of taxes. You will also need to handle credit, savings, and educational costs. Finally, you invest in various investment alternatives such as mutual funds, stocks, and bonds, often for retirement. As a result of all of these building blocks, you are more apt to have a financially successful life.

LO1.2

1. The business cycle entails a wavelike pattern of economic activity as measured by the gross domestic product with phases including expansion, peak, contraction, downturn, trough and recovery.

2. Forecasting the state of the economy involves predicting, estimating, or calculating what will happen in advance. You need to be able to forecast the state of the economy, inflation, and interest rates so that you have advance warning of the directions and strength of changes in economic trends since they will affect your personal finances. Two statistics you could watch are the consumer confidence index and the index of leading economic indicators.

3. Inflation reduces the purchasing power of the dollar. This means that your income will not go as far and, thus, in real terms will be lowered by inflation. Because items cost more, you will have to consume less and may cut back on some expenditures in order to be able to afford those with a higher priority.

LO1.3

1. The opportunity cost of a decision is measured as the value of the next-best alternative that must be forgone. If you, for example, put your retirement savings in a regular savings account instead of in a tax-sheltered retirement account, you may be forgoing the tax benefits associated with investing in retirement accounts such as IRAs or 401(k) plans. In another example, if you decide to borrow the maximum student loan amount for which you qualify in order to live a bit more comfortably while in college, you will not be able to live as nicely, save as much for the down payment on a home or save for retirement once you graduate because of the higher loan payments.

2. Marginal analysis focuses on the next increment of usefulness or cost when making financial decisions. Marginal utility is the extra satisfaction derived from having one more incremental unit of a product or service. Marginal cost is the additional cost of that unit. When marginal utility exceeds marginal cost, and we compare the two, we can make better financial decisions. As an example, if you must fly to some destination, is the marginal cost of checking a bag rather using carry-on worth the marginal utility?

3. As your income rises, you will find yourself in higher and higher tax brackets. One type of decision that is affected by income taxes is how you should invest for retirement. You might want to invest through a 401(k) plan instead of keeping your retirement money in a savings account, which is taxable. Since most types of income are taxable, it is important that you understand the impact of income taxes on financial decisions. Of particular importance is the marginal tax rate (the tax rate at which your last dollar earned is taxed). If you are in the 25 percent marginal tax bracket, you will get to keep 75 percent (100 percent minus 25 percent) of your last taxable dollar earned. If the income is tax-free income, on the other hand, you would get to keep 100 percent of it. Therefore, it is important to know your marginal tax rate as well as what types of income are subject to federal income taxes. It is also important to remember the impact of state income taxes and Social Security taxes.

LO1.4

1. The two common questions about money are its future value and present value. Future value is what an investment or series of investments will be at a point in the future. Present value is how much you would need to invest today and/or in a series of future investments in order to provide some particular amount in the future.

2. Simple interest is money paid on a principal amount for a given number of years. The interest is paid only on the principal. For example, you might put $1000 in a bank savings account at 5 percent interest for one year. You would have accumulated $50 in that year. Compound interest is interest paid on interest and principal. For example, if you leave your $1000 on deposit and don’t withdraw the $50 interest at the end of the year, you will earn interest on both the deposit and the interest earned during the first year. This difference in the types of interest paid is important as compound interest is the basic principle of accumulating wealth. If you invest regularly over time, your money will grow due to the power of compound interest.

3.

a. $2000 at 5 percent for four years would equal $2431 ($2000 × 1.2155).

b. $4500 at 9 percent for eight years would equal $8966.70 ($4500 × 1.9926).

c. $10,000 at 6 percent for 10 years would equal $17,908 ($10,000 × 1.7908).

LO1.5

1. Aflexible spending account (FSA), also called a flexible spending arrangement, is a sum of money that the employee sets up at the start of each year that can then be used during the year to pay for health care- and/or dependent-care related items. Such an account relates to pretax dollars because the money put into the account is sheltered from income taxation because it is not included in one’s taxable income for the year.

2. A high-deductible health plan would lower your health care premiums. To take advantage of this you would want to also set up and fund a health savings account (HSA) where you can place pre-tax dollars to await any deductibles or uncovered health care expenses that might occur later.

3. One example could be depositing $4000 into a 401(k) plan annually. Doing so would reduce your taxes for the year by $1000 if you were in the 25 percent tax bracket ($4000 x 0.25). Thus, in effect, you are only contributing $3000 and the government is providing the other $1000.

4. The first way would be to tax shelter any funds put into the programs. The second would be a sheltering of the income earned over the years from the interest or dividends earned by the assets invested in the plan.

LO1.6

1. A professional financial planner differs from a local lawyer or insurance person in that they are professionally trained and certified in all areas of a client’s financial life and develops plans and strategies that take all areas into account.

2. Financial planners can be compensated solely from the commissions from the sale of financial products. They can be compensated by an up-front fee plus commissions from financial products they might sell. They can be compensated by an annual or hourly fee that might be offset if the client purchases financial products from the planner. Finally, they can be compensated solely from the fee they charge their clients for the services provided.

3. Two professional certification programs for financial planners are the Certified Financial Planner (CFP) and NAPFA Registered Financial Advisor (NRFA) programs. Both require passage of an exam or exams, a minimum number of years of experience, continuing education in the field, and adherence to a code of ethics.

4. Answers may vary, but three of the most important questions are the professional experiences of the planner, how the planner is compensated, and the planner’s qualifications to practice financial planning.

**What Do You Recommend Now?**

1. Jing should participate in her employer’s plan because her contributions reduce her taxable income and will grow tax sheltered until withdrawn at retirement. By doing so, she will qualify for her employer contributions, thereby receiving additional tax-sheltered income that will go directly into her retirement account. If Jing contributed 8 percent of her salary, her employer would match it with 4 percent for a total of 12 percent. Her total contribution would be $9600 based on her salary of $80,000.

2. Jing should use her marginal tax rate to assess how changes in her income and the financial decisions she will make would be affected by taxes. For every extra dollar that she contributes to her retirement plan for example she will save $0.25 in taxes if she is in the 25 percent tax bracket. Also, if she earns an extra dollar it will be taxed at her marginal rate.

3. Jing should stay informed about economic trends as indicated in changes in the gross domestic product, index of leading economic indicators, and consumer price index. She should also keep track of the federal funds rate as an indicator of interest rates in the economy. She should be able to make her own estimate for economic growth, inflation, and interest rates over the next couple of years.

4. Jing could use Appendix A.1 to calculate how much her IRA fund (currently $2000) would grow in 40 years. She would need to assume a rate of return on the funds. An 8 to 10 percent rate would be appropriate given the investment opportunities available to her in her IRA. At 8 percent, her account would be worth about $43,450 (21.7245 x $2000).

5. Jing could use Appendix A.3 to calculate how much her contributions would grow in 40 years. She would need to assume a rate of return on the funds. An 8 percent rate would be appropriate given the investment opportunities available to her in her 401(k). At 8 percent, her account would be worth about $2,486,942 (259.0565 x $9600; $6400 of Jing’s money and $3200 from her employer).

## Let’s Talk About It

1. Answers will vary depending on the student’s own financial situation. Tax cuts may help students in the lower tax brackets. Efforts to revive the economy will help students keep or obtain jobs. Education related credits will help college students. Efforts to help people buy their first home will help students who might be so interested.

2. The economy is in a period of slow growth at the time this edition was published. The gross domestic product is edging up and inflation is low. Interest rates are low but credit is not so easy to obtain for persons with a poor credit history. The unemployment rate is declining slightly. Many people are concerned that many of the newly created jobs are low wage or part-time.

3. Eleven mistakes that people make in personal finance are failing to (1) engage in long-term personal financial planning, (2) engage in long-term budgeting, (3) engage in short-term budgeting, (4) establish a cash reserve in case of emergencies, (5) save at a rate that is sufficiently high, (6) establish adequate insurance protection, (7) manage income tax liabilities advantageously, (8) limit credit card debt, (9) manage expenditures so as to prevent unexpected expenditures on a credit card, (10) engage in investment planning, and (11) engage in retirement and estate planning. All eleven mistakes are important. The three most important mistakes are saving at a rate that is too low, and inadequate retirement and estate planning. Americans generally save at a rate that is very low. If you save just 1 percent more of your pay, you will reap a high return at retirement. Also, if you withdraw money from your tax-sheltered retirement plan before retirement, you will have a substantial shortfall when it comes time to retire.

4. This is a potential “*Do It In Class*” exercise related to page 12 in the text.

The Federal Reserve Board might be persuaded to lower interest rates if the economy is in a downturn, a trough or even in the early stages of a recovery. The goal would be to make borrowing easier and provide a boost to the economy.

5. Students examples of decisions in personal finance that have opportunity costs will vary. Each should focus not on the direct cost of the decision but the lost opportunity that resulted from making the decision.

6. Students options will vary by their financial circumstances. Common options might include paying off debt, paying future schooling costs or beginning a retirement savings program.

## Do The Math

1. This is a potential “*Do It In Class*” exercise related to page 12 in the text.

Joshua received a $1800 raise. As a percentage of his pre-raise income that was a raise of 4.1 percent ($1,800/$44,000 x 100). His real inflation adjusted income after the raise is $45,552 ($45,800/1.028). As a percentage his real raise was 1.3 percent (4.1% - 2.8%)

2. This is a potential “*Do It In Class*” exercise related to page 19 in the text.

Assuming an average inflation rate of 3 percent and an equal cost-of-living raise, Chun’s salary in 10 years will be $72,570 ($54,000 × 1.3439). In 20 years she could anticipate earning $97,529 ($54,000 × 1.8061). To make real economic progress, Chun must receive raises greater than each year’s rate of inflation. Otherwise, Chub is essentially standing still because his raises will be required to compensate for the inflationary increase in the cost of living.

3.

a. Assuming a 4 percent increase over the next 3 years, Megan’s tuition, fees, and books will cost $24,748 ($22,000 x 1.1249).

b. Assuming an inflation rate of 3 percent, the scholarship is really worth $4854 in today’s dollars ($5000 × 0.9709).

c. With an annual contribution of $2400 and an expected return of 4 percent, in 3 years Megan’s savings will total $7492 ($2400 × 3.1216).

d. Assuming a 2 percent interest rate, the stream of payments from Megan’s aunt is presently worth $2884 ($1000 × 2.8839).

4. This is a potential “*Do It In Class*” exercise related to page 19 in the text.

a. The future value of $4000 in 4 years, assuming a 5 percent rate of return, would be $4862 ($4000 × 1.2155).

b. Assuming a 6 percent return, $1500 saved each year for 3 years would be $4775 ($1500 × 3.1836).

c. The $1200 would grow to $5020 ($1200 x 4.1836) after four years at 3 percent and $5096 ($1200 x 4.2465) at 4 percent. The difference is $76.

d. One would need to invest $1727 now in order to have $2000 in 3 years, assuming a 5 percent return ($2000 x 0.8638).

5.

a. One would need to invest $44,160 now in order to withdraw $6000 per year for 10 years, assuming a 6 percent return ($6000 x 7.3602).

b. $8,000 in 5 years is the better choice because the future value of $5000 in 5 years, assuming an 8 percent return, is $7347 ($5000 x 1.4693).

c. One would need to invest $2376 now in order to have $3000 in 4 years, assuming a 7 percent return ($3000 x 0.7921).

d. The $50,000 investment will last approximately 12 years if it earns 6 percent and $6000 is withdrawn annually ($50,000/$6000 = 8.33—look for the factor 8.33 in the 6 percent column of the present value of a stream of equal payments table; Appendix A-4).

6. This is a potential “*Do It In Class*” exercise related to page 12 in the text.

The 3.5 percent inflation resulted in a $1820 reduction in purchasing power for Laureen (1.035 x $52,000) minus $52,000. The 1 percent deflation would result in $420 increase in purchasing power for Lauren (0.01 x $52,000 = $520.

7. This is a potential “*Do It In Class*” exercise related to page 23 in the text.

Ramon will save $570 ($3000 x 0.19) if he is in the 15 percent federal income tax bracket and with a state income tax of 4 percent. He would save $870 ($2000 x 0.29) if he was in the 25 percent federal income tax bracket. Note that there are no savings related to the Social Security payroll taxes when one tax-shelters income.

8. To calculate the years until an investment would double, divide the rate into 72. For 2 percent it would be 36 years, 4 percent would be 18 years, 6 percent would be 12 years, 8 percent would be 9 years, and 10 percent would be 7.2 years.

## 9. This is a potential “*Do It In Class*” exercise related to page 21 in the text.

## The investment would double in about 10.3 years (72/7). It would take about 15 years for the investment to triple. For this tripling time use Appendix A-1 and in the 7 percent column look for the year that most closely approximates a factor of 3.

## Financial Planning Cases

CASE 1: Harry and Belinda Johnson Consider Inflation and Children

1. $2232 = $3000 x 0.7441.
2. $374,630 = $16,000 x 23.4144.

CASE 2: Victor and Maria Hernandez Look at Future Income

a) $132,264 = $4000 x 33.0660.

b) $151,518 = $85,000 x 1.8061

CASE 3: Julia Price Thinks about the Economy

The response to this question will vary depending upon the state of the economy when the students respond to this question. The student’s response should include valid rationale, such as recent changes in the inflation rate, rising/lowering gross domestic product data, increasing/decreasing unemployment rate, and changes in the consumer confidence index.

CASE 4: Reasons to Study Personal Finance

Samantha will benefit from acquiring financial knowledge because this knowledge will enable her to make more intelligent decisions about how to spend or invest money and help her to eventually acquire some degree of personal wealth. Samantha will learn about recordkeeping and budgeting, banking and credit use, saving and borrowing, protecting her income and assets, and planning for retirement and estate transfer.

CASE 5: A Closer Look at Financial Success

Financial success is defined by the individual or family that seeks it. Success is the achievement of financial aspirations that are desired, planned, or attempted. Financial happiness is the experience you have when you are satisfied about money matters. People who are happy about their finances will see a spillover into positive feelings about life in general.

A speaker could discuss the financial building blocks as including a foundation of a regular income to support your lifestyle and save for desired goals in the future. The foundation supports a base of various banking accounts, insurance protection, and employee benefits. Then you can establish goals, a recordkeeping system, a budget, and an emergency savings fund. You will also manage various expenses such as for housing and transportation and the payment of taxes. You will also need to handle credit, savings, and educational costs. Finally, you invest in various investment alternatives such as mutual funds, stocks, and bonds, often for retirement. As a result of all of these building blocks, you are more apt to have a financially successful life.

**ACTION INVOLVEMENT PROJECTS**

1. Student should prepare a summary of the interview with a financial planner. Expect responses to at least 5 of the questions listed on page 25. Should provide contact information about the planner and his/her business card.
2. Responses are likely to be lacking in detail because workers are more likely to recall that they are enrolled in certain benefits at work rather than the amount of dollars involved. Students should report responses of each person interviewed.
3. A written paragraph about each person should include their thoughts about both opportunity costs (could have spent the money on XYZ?) and marginal costs (for X dollars I obtained Y options on the vehicle).
4. Show table of responses but since people are not likely to know the meaning of each of the 5 terms utilized the summary may be a bit muddled with misconceptions about the terms.