

A Plain Language Guide to Personal Financial Planning

A PLAIN LANGUAGE GUIDE TO PERSONAL FINANCIAL PLANNING

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PREFACE

This book on personal finance is designed to equip you with the skills and information you need to create and implement a personal financial plan to achieve your goals. It strives to maintain a balance between academic rigor and practical application. The book is organized into five modules:

- Introduction to financial planning
- Personal financial planning foundation
- Credit and banking
- Financing major purchases
- Investing and retirement planning

Each module contains two to three chapters. Each chapter provides learning objectives to explain what you will learn, exercises and examples to illustrate important concepts, a chapter summary, and end of chapter questions. Some chapters include downloadable spreadsheet templates. An integrated case featuring a young couple demonstrates each step of the financial planning process. At the end of each chapter is a personal financial plan assignment that will help you build your own personal financial plan as you progress through the book.

PART I

MODULE ONE: INTRODUCTION

This module provides an overview of personal financial planning. Chapter 1 explains the process of setting personal financial goals based on your personal values and how to create a personal financial plan to achieve your goals. Chapter 2 discusses career planning and how to finance higher education.

1.

INTRODUCTION TO PERSONAL FINANCIAL PLANNING

Chapter One Learning Objectives

- Identify social, racial, cultural, and economic influences on financial literacy and personal financial decisions.
- Identify life stages and factors affecting your financial planning.
- Explore your personal values and develop your own personal financial goals.
- Recognize common obstacles to achieving financial goals identified in behavioral financial research.

Why Should You Care About Personal Financial Planning?

“A man who does not plan long ahead will find trouble at his door” ~ Confucius

Life as a student can be stressful. You have to meet academic demands, manage social relationships, and plan for your careers. Financial concerns add to these stresses. Research has shown that financial stress is a pervasive issue among students. A survey of about 30,000 undergraduate students found that 74 percent of respondents agreed or strongly agreed that they were stressed out about their personal finances.¹ This financial strain can have a profound impact on mental health. Many studies have shown that financial stress was associated with depression.² The negative impact was more pronounced

Exercise 1.1: Reflection Paper

- Rate your current financial knowledge on a scale of 0 to 10. (0 indicates you feel you know nothing about personal finance.)
- Describe what you hope to get out of this book.
- Reflect on the impact of

your financial decisions on your personal and family life.

- Reflect on the impact of your financial decisions on society.
- Examine how your family and cultural background influence your financial decision making process.
- Explore the impact government economic policies have on your personal and family life.
- Identify financial factors that are within your control.
- Explain how you can prepare for financial factors that are beyond your control.

among vulnerable groups such as unmarried individuals, the unemployed, lower-income households, and renters.³ The detrimental effects of financial stress extend beyond mental health, impacting personal relationships as well. Financial disagreements were the strongest predictor of divorce, highlighting the strain that financial instability can place on partnerships.⁴

Effective financial planning can play a crucial role in mitigating these negative outcomes. By making informed financial decisions and developing sound financial habits, you can reduce financial worries and build a more secure foundation for your future, fostering healthier relationships and overall well-being.

Personal Financial Advice in the Popular Culture

The demand for financial advice is substantial, as shown by the multitude of platforms dedicated to the topic, including podcasts, blogs, videos, websites, books, TV shows, and internet forums. The Schwab Modern Wealth Survey of 2024 found that 38 percent of Gen Zers receive financial information or advice from YouTube, while 33 percent turn to TikTok. However, the quality of these resources is highly

variable, and for those without prior knowledge, it can be challenging to discern reliable information from misleading or inaccurate advice.

Even though popular financial advice frequently diverges from economic theories, these recommendations consistently gain traction among consumers.⁵ Their popularity is due to their simplicity, alignment with real-world constraints, and consideration of human behavioral tendencies. Unfortunately, some of these recommendations may not be financially optimal or applicable to individuals who do not fit the mold of the middle-income mainstream American household.

This book aims to debunk common financial myths and leverage economic theories where applicable, empowering you to become a well-informed consumer of financial advice. By critically evaluating financial information and understanding the underlying economic principles, you can make sound financial decisions that are tailored to your individual circumstances and goals. Remember that financial advice should be personalized and consider your unique situation, rather than relying solely on generic recommendations that may not be suitable for everyone.

How Much Do You Know Now?

Concern about America’s lack of financial literacy has made headlines year after year. The latest result from the personal finance index survey showed that respondents answered only 48 percent of the questions correctly in 2024.⁶ For the past 8 years, this score has hovered around 50 percent, a failing grade. The findings are even more troubling for women, minorities, and the younger generations (Figure 1.1). Financial literacy among women has consistently lagged that of men with a 10-point gender gap in 2024. Scores for White and Asian Americans averaged in the mid-50s while those for Blacks and Hispanics were in the mid-30s, a 20-point gap. Financial wisdom did improve slightly with age. There was a 9-point gap between Boomers and Millennials (Gen Y), and a 17-point gap between Boomers and Gen Zers.

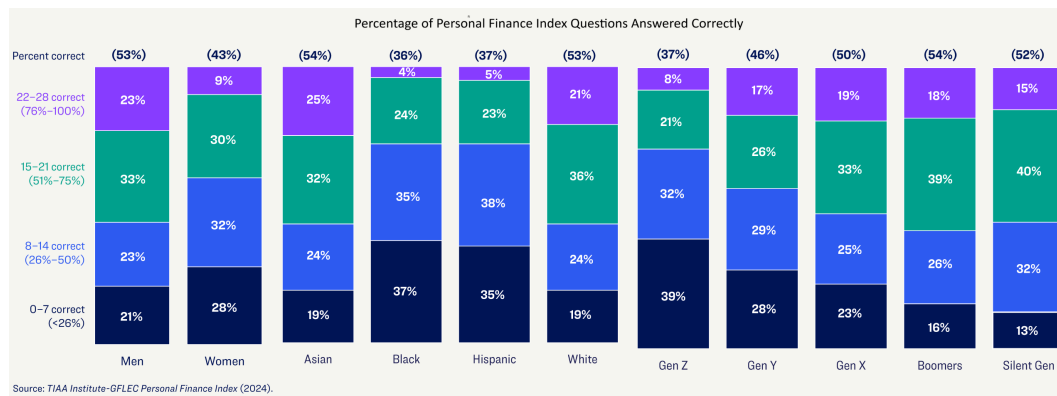


Figure 1.1

The above findings are not unique. Another study examined racial and ethnic disparities in financial literacy using a 5-question quiz and found that Blacks and Hispanics tended to score substantially lower than Whites after controlling for income levels.⁷ For the low income group with annual income less than \$40,000, Blacks and Hispanics scored 1.615 and 1.862 respectively, meaning these groups answered less than 2 questions correctly on average. White respondents averaged 2.709 in the same income group, significantly higher. Scores were higher for higher income groups but the disparity between racial groups persisted.

Financial stress has negative consequences for both health and personal relationships. Although financial knowledge alone is not sufficient to mitigate this stress, it is essential. Financial literacy should be a universal right, independent of wealth, income, gender, or race. My motivation for writing a personal finance book as an open educational resource is to remove obstacles to achieving financial literacy. You may be curious about your current financial knowledge compared to participants in this study. Take the following 5-question quiz to find out for yourself.



An interactive H5P element has been excluded from this version of the text. You can view it



online here:

<https://pressbooks.salemstate.edu/personalfinance/?p=5#h5p-1>

Wealth and Income Gaps in the U.S.

While it may appear logical for higher income earners to be more financially literate, it also creates a vicious cycle – lower income earners make poorer financial decisions, leading to more financial stress, resulting in even less wealth accumulation. How severe is income and wealth inequality in the United States? The St. Louis Fed’s Institute for Economic Equity provides quarterly data on racial, generational and educational wealth inequality based on average U.S. household wealth. Below are results for the second quarter of 2024.⁸

- Wealth gap by household education
 - Families headed by someone with a four-year degree had 3 times more wealth than families headed by someone with just some college education (but no four-year degree).
 - Families headed by someone with a four-year degree had 4 times more wealth than families headed by someone with a high school diploma.
 - Families headed by someone with a four-year degree had 10 times more wealth than families headed by someone with less than a high school diploma.
- Racial wealth gap
 - Black families owned about 23 cents for every \$1 of white family wealth on average. Hispanic families owned about 19 cents for every \$1 of white family wealth on average. In other words, white families were 4 times wealthier than black families and 5 times wealthier than Hispanic families on average.
- Generational wealth gap
 - Millennials and Gen Zers had 30 percent more wealth than Gen Xers and baby boomers did at the same age.

Overall Wealth Gap in the U.S.

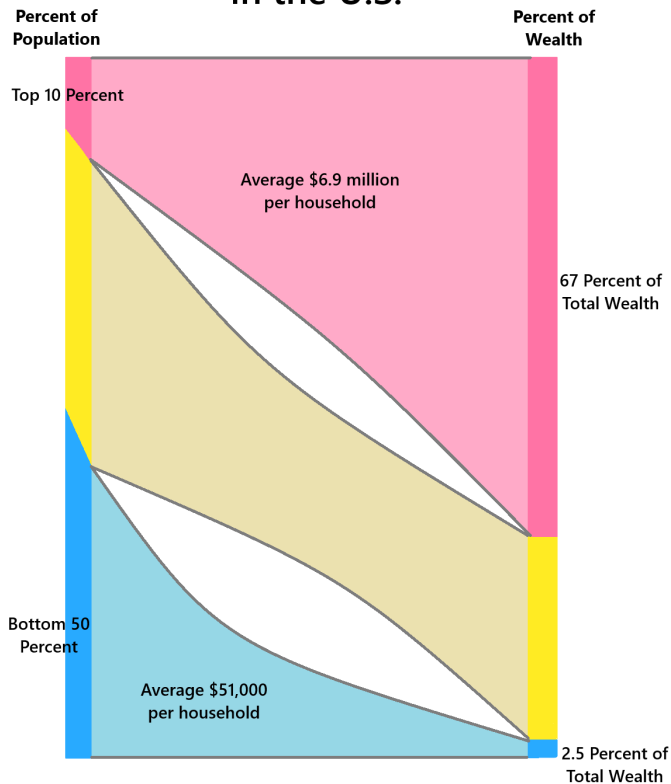


Figure 1.2

matter where you are today.

- Overall wealth gap (See Figure 1.2)
 - The wealthiest 10 percent of households held an average of \$6.9 million per household in wealth and accounted for 67 percent of the total household wealth. In contrast, the bottom 50 percent of households only had \$51,000 on average and represented a mere 2.5 percent of the total household wealth. In other words, the top 50 percent of households owned 97.5 percent of total wealth.

The degree of inequality has increased in the United States since the 1970s.⁹ Why should we care about wealth inequality? Multiple studies found that wealth inequality is associated with reduced economic growth.¹⁰ In other words, this trend of widening wealth inequality harms us all. Tackling structural income and wealth inequality is beyond the scope of this book. However, you will learn important tools to help you improve your own financial situation and start building wealth, no

Factors to Consider When Creating Your Financial Plan

Many existing financial planning textbooks and advice assume a traditional household with two parents, two kids, middle to upper-middle income, and above median wealth. This is not surprising since most professional financial advisors earn their fees as a percentage of money they manage. The needs of those not fitting into the traditional mode are seldom discussed. In this book we will address the diverse financial planning issues of an inclusive demographic.

Age, income, occupation, household size, and number of dependents are important factors to consider when developing your financial plan. In a traditional adult life cycle, many of these factors follow a familiar pattern.

A popularized traditional adult life cycle and corresponding financial needs

Adult life cycle	Age	Household size and dependents	Financial needs
Early adulthood	Late teens to early twenties	Single with no dependent	Purchasing a car, higher education expense
Mid adulthood	Mid twenties to early forties	Married with young children living in the household	Purchasing a house, saving for children's future education, saving for retirement
Mid to late adulthood	Mid forties to mid sixties	Married with grown children not living in the household	Paying off the mortgage, saving for retirement
Post retirement	After 67	Married with grown children not living in the household	Living off social security and retirement savings

Many of us do not fall into this traditional life cycle. Some of us have to help support our family in our early adulthood. Others have grown children or parents living with them throughout their lives. Still more people do not have sufficient retirement savings to stop working after age 67. Instead of focusing on these milestones, a more useful approach is to focus on your own values.

Take homeownership as an example. According to the Organization for Economic Co-operation and Development (OECD) Affordable Housing Database from 2022 (Figure 1.3), the percentage of homeownership varied greatly by country. In the United States, over 60 percent of people owned their own homes but less than 30 percent owned them outright. In contrast, over 60 percent of Italians owned their homes outright and overall homeownership exceeded 70 percent in Italy. In Germany, less than 30 percent of Germans owned their homes outright and almost 60 percent of

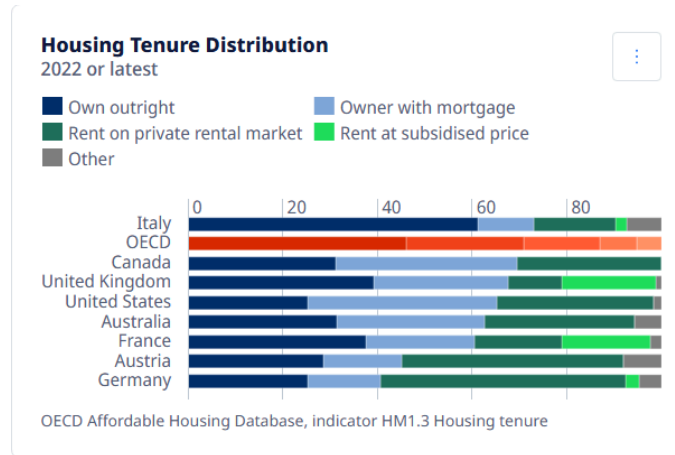


Figure 1.3

The importance of owning your own home depends on your personal values and affects how you prioritize it in your financial plan. In some cultures, homeownership can affect many aspects of your life. According to a survey on the post-1990 generation entering marriageable age in China, two-thirds believed that a house is necessary for marriage and rising housing prices had a negative impact on the marriage rate.¹¹ In America, homeownership is an essential element of the American dream. In a later chapter we will discuss in detail the economic advantages and disadvantages of owning a house. For now, take a moment to reflect on how you feel about homeownership. Does your family of origin affect your view on this issue? Do you believe owning a house is achievable and want to include it in your financial plan? Or do you feel that it is inaccessible? There are no wrong answers. Know that many people face the same challenges and worries.

The essential factors to take into account in your financial plan include: age, your relationship status, number of people living in your household, number of people dependent on you for financial support, and your career. According to research, the most common financial planning mistakes include:

- Unrealistic expectations.
- Emotional decision making.
- Inflexibility.
- Inaction.
- Unclear values and priorities.

The next section lays out a step by step guide to create your financial plan and strategies to avoid these common mistakes.

Steps to Develop a Financial Plan

Personal Financial Planning

Personal financial planning is a step-by-step process to manage your spending, borrowing, and investing to improve your financial situation.

Personal financial planning is simply a step-by-step process to manage your spending, borrowing, and investing to improve your financial situation. Most importantly it is an iterative process, meaning you need to repeat it on a regular basis.

Step 1: Establish Your Financial Goals

Elements of a SMART Goal

SMART goals are **specific** (S), **measurable** (M), **achievable** (A), **relevant** (R), and **time-bound** (T). Stating your financial goals in this format will make implementing, evaluating and making necessary adjustments to your financial plan much

easier.

Start by reflecting on your personal values and life goals. Some examples of personal values include security, independence, knowledge, responsibility. Your life goals should reflect your personal values. Remember to be true to yourself. What is desirable for one person may not be appropriate for you. Take two extreme potential life goals. Some people view their profession as their life mission and retirement is simply not one of their life goals. Instead their goal is continuous contribution to their profession. At the other end of the spectrum are people who value financial independence so much that they join the Financial Independence, Retire Early (FIRE) movement, which is defined by frugality and extreme savings. Most people fall somewhere between these two extremes and would like to retire in their sixties, when they can start to receive Social Security benefits and Medicare insurance coverage. Your personal values may inspire you to contribute to specific causes. Whether consciously or subconsciously, your lifestyle is driven by your personal values. You may want a vacation every year, a grand wedding, or a ten-bedroom house. You may want to have children, with or without a partner. You may want to volunteer full time to charity work. It takes money to support these goals. Financial goals are simply the amount of money needed for each of your life goals. Therefore, they should be relevant (related to your life goals and values) and specific (a concrete dollar amount).

Timing of Goals

Financial goals can be characterized as short-term (over the next 6 to 12 months), intermediate-term (between

two to five years), or long-term (beyond 5 years). For example, a short-term goal may be to put away enough money to establish an emergency fund within the next 6 months. An intermediate-term goal may be to save enough money to purchase a car in three years. A long-term goal may be to save and invest for a house down payment in eight years. Another very common long-term goal is to save for retirement. Remember that setting a specific time is an important element of a SMART goal.

Set Achievable Goals

Your financial goals should be realistic, meaning you have a reasonable chance of achieving them. Whether a goal is realistic depends on your financial situation, your personal situation, your values and personality. Setting unrealistic goals will lead to disappointment and a sense of failure. Instead of improving your well-being, unrealistic goals can add to your stress. For example, you are intrigued by the FIRE movement and are considering retirement by age 35. To do so will require you to rent out rooms in your house, forgo all entertainment and non-essential purchases, and take on a second job, leaving no time to spend with your family and friends. Given how important time with family is for you, you will not be able to follow such a plan for very long because it will harm, rather than improve, your personal relationships. Instead, a goal to retire by age 50 may be much more achievable.

Example: Setting financial goals

Jordan is finishing her last semester in college. They know they need to learn more about personal finance before graduating into the real world. They are taking a financial planning class in their senior year and begin to develop their financial plan. The first step is to establish their financial goals. Jordan just turned 24 and has been dating their partner, Alex, for over a year. The couple had planned to move in together next year and if all goes well, get married in the following year. Jordan knows they enjoy helping others and is passionate about the environment and social justice. They dislike debt and want to have a large financial safety net. Jordan learned in the class that they need to build a credit history and are ready to overcome their fear of having a credit card. They already secured a job as a nurse after graduation. Due to the work schedule of nurses, Jordan will need a car. They currently live at home and have a long commute. Jordan would like to move into their own apartment near the hospital with Alex as soon as possible. Eventually they would like to buy a house or condo before having children. In their financial planning class, Jordan learned that it is never too early to start planning for retirement. They also learned that financial planning is an iterative process and they will revise their financial goals. Knowing that the initial goals they put

down are not written in stone makes it easier for them to start. Remembering the key features of SMART goals, they put down the following:

Financial goals	Timing	Specifics (to be filled in with more information)
Short-term goals		
Obtain a credit card	this month	No amount needed.
Buy a car	within the next 6 months	Need to do more research.
Maintain an emergency fund	within the next 12 months	Sufficient money to pay bills for 6 months. The exact amount requires completing a budget.
Intermediate-term goals		
Move into an apartment with Alex	within two years	\$4000 (their half) to cover rent for the first month, the last month, the security deposit and moving expenses.
Get married	within three years	\$5000 (their half) for wedding expenses and honeymoon
Buy a house	within five years	\$15,000 (their half) as down payment.
Long-term goals		
Retire	In 45 years	Sufficient money to maintain their lifestyle.

Step 2: Assess Your Current Financial Position

Maya Angelou said, “You can’t really know where you’re going until you know where you have been.” Therefore, the next step when developing a financial plan is to review your past spending and saving patterns as well as your current debt and assets positions. Chapter Three focuses on personal budgeting. It is useful to identify elements in your budget that you can control versus those you cannot. How much you can spend and

save obviously depends on how much income you earn. For most of us, our main source of income is through our job. Therefore, choosing a career is an important part of your financial plan. We will explore different careers, employment opportunities, and education in Chapter Two.

Your financial position includes both debts and assets. While debt values do not change (except for when we pay them off), the value of assets vary depending on the economy and condition of the assets. Therefore, your financial position will change with the economy. Take house prices as an example. In the United States, though house prices increase in the long run, they can decrease sharply during economic downturns (Figure 1.4). During the 2008 financial crisis, median house price dropped almost \$50,000, approximately 20 percent, between 2007 and 2009. In an earlier section of this chapter, we learn that the majority of American homeowners have mortgages. When the mortgage amount is greater than the value of the house, the homeowners are considered “under water.” This happens when house prices drop greatly. A survey found that the percentage of housing units under water doubled from 8 percent in 2007 to over 16 percent in 2009.¹² On the other hand, median house price increased by over \$100,000, over 33 percent, between 2020 and 2023. You need to consider how different economic conditions will impact your financial position in the future. You cannot control the economy but a sound financial plan can prepare you to weather tough economic times.

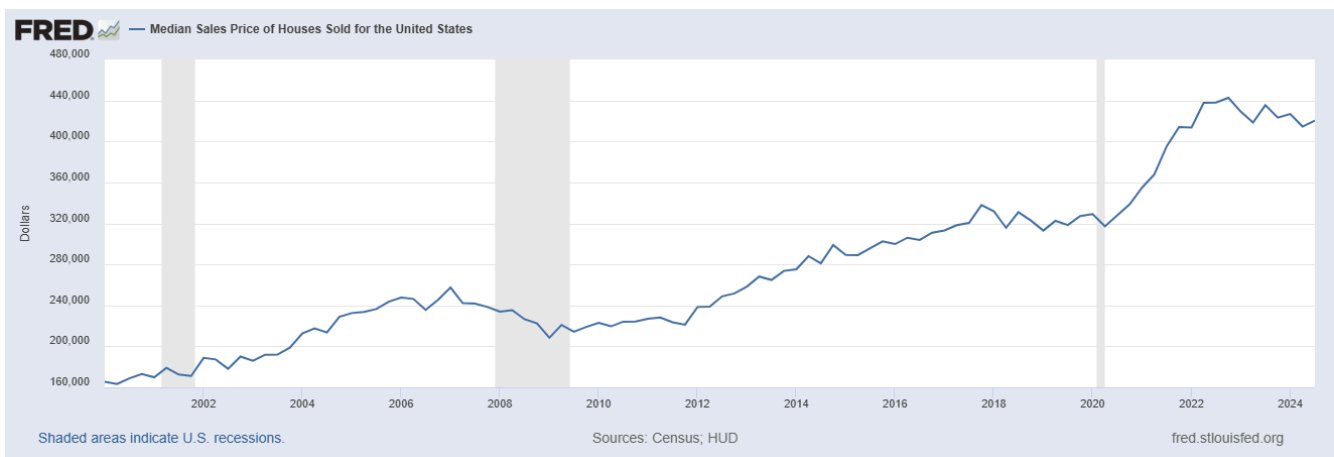


Figure 1.4

Step 3: Identify and Rank Alternative Plans

Once you have established your financial goals and have a clear understanding of your current financial situation, you can determine the necessary steps to achieve those goals. Sometimes, no action is required. For instance, if your estimated monthly budgeted expense is \$2,000 and you aim to have a 6-month emergency fund, you would need \$12,000 (6 months x \$2,000 per month). If you already have \$15,000 in your savings account, you have exceeded your short-term goal, and no further action is needed.

However, it is uncommon to have enough cash to purchase everything outright. Many people need to

borrow money for large purchases like a car or a house. They also need protection against losing these assets in case of accidents or natural disasters. To reduce financial stress, saving for emergencies and retirement is crucial.

A good comprehensive financial plan will enable you to maintain your desired lifestyle, achieve your life goals, and have adequate protection against uncertainties in life and the economy. This plan should include strategies for debt management, investment, insurance, retirement planning, and estate planning.

Elements of a Financial Plan

- Budgeting (Chapter 3)
- Tax planning (Chapter 4)
- Managing your credits (Chapter 6)
- Managing your day-to-day cash flows (Chapter 7)
- Financing major purchases such as auto loans and student loans (Chapter 8)
- Purchasing a house with a mortgage (Chapter 9)
- Investing your money (Chapter 10)
- Retirement planning, estate planning, and protecting your dependents (Chapter 11)

We will discuss how to develop each of these elements in detail in future chapters. When developing each element, the multitude of choices can feel overwhelming. This is a common response. Psychologists refer to this condition as decision paralysis. To overcome this, it is crucial to rank alternatives based on their feasibility and alignment with your personal values and lifestyle. Let us look at an example to illustrate this process.

Example: Car purchase decision

Jordan is a senior in college and they would need a car to commute to their new job after graduation. The first decision is whether to buy a new or used car. While a new car might be appealing, a used car could be more practical and budget-friendly. Next, Jordan needs to choose a specific car model. This decision involves considering factors like fuel efficiency, size, safety features, and reliability. Jordan's personal values, such as environmental consciousness, come into play here. Given their concern for the environment and the long commute, a hybrid car emerges as the best option, combining fuel efficiency with practicality. Finally, Jordan must decide how to finance the car: paying cash, obtaining a car loan, or leasing. Each option has its pros and cons. Paying cash eliminates interest payments but requires a large upfront cost. A car loan spreads the cost over

time but involves interest. Leasing offers lower monthly payments but comes with restrictions, mileage limits, and no car ownership at the end of the lease. Jordan's preference for certainty and aversion to uncertainty might lead them to choose paying cash or obtaining a car loan over leasing.

Jordan's decision-making process demonstrates how personal values and lifestyle can guide financial choices. By prioritizing their values and considering their lifestyle, Jordan can navigate the complexities of car buying and make informed decisions that align with their overall financial goals.

To assess an alternative's feasibility, you examine how it affects your budget. Let us look at the car purchase example again.

Example: Car purchase decision (continued)

Jordan has identified three options: a 10-year-old used car they can buy outright with cash, a 5-year-old used car they can purchase with a car loan, and a new car they can lease or buy with a loan at a special financing rate. Each of these options presents different budgetary considerations.

- **10-Year-Old Used Car (cash purchase):** While this option eliminates the need for loan payments and interest, it would significantly deplete Jordan's emergency fund. This could leave them financially vulnerable in unforeseen circumstances like job loss or medical emergencies.
- **5-Year-Old Used Car (car loan):** This option involves monthly loan payments and interest. However, Jordan's increased salary from their new job should be sufficient to cover these payments without straining their budget.
- **New Car (lease or loan):** The lease payment for the new car is the same as the loan payment for the 5-year-old used car. However, if Jordan chooses to buy the new car, the loan payment would be higher due to the car's higher value. While the new car may be more environmentally friendly due to newer technology, it could significantly impact Jordan's ability to save for a house down payment. To afford the higher loan payment, Jordan might need to adjust their budget by canceling subscription services or reducing other expenses.

Exercises 1.2

Review the car purchase example above. Choosing the best option depends on Jordan's priorities and financial goals. If they prioritize having a new car and are willing to adjust their lifestyle to accommodate the higher loan payment, then the new car might be the right choice. However, if they prioritize saving for a house down payment and maintaining a robust emergency fund, then the 5-year-old used car with a loan might be a more financially responsible option. The 10-year-old used car, while affordable upfront, could jeopardize their financial security in the long run. If you were Jordan, which of these options would you choose? What are your reasons for making this choice?

Remember that financial planning is an ongoing process that requires flexibility and adaptability. It is common to realize during the initial stages of planning that some of your financial goals may not be achievable based on your current financial situation. This is not a sign of failure, but rather a normal part of the financial planning process. It is important to be willing to revise and adjust your financial goals as needed.

There will likely be times when you will need to make trade-offs between different goals. For instance, in the car purchase example mentioned earlier, Jordan might decide to purchase the 5-year-old car instead of the new one. This decision would allow them to maintain their goal of saving enough for a down payment on a house in 6 years without having to make significant changes to their lifestyle. Alternatively, Jordan could choose to buy the new car and delay their home purchase by a couple of years.

The extent of the revisions needed will vary depending on individual circumstances. Some people may only need to make minor adjustments to their financial plan, while others may discover that they need to make major changes to achieve their goals. Regardless of the extent of the revisions, the act of creating a financial plan is a crucial step towards turning your dreams into reality. It provides you with a concrete roadmap and actionable steps, rather than leaving your goals as mere aspirations.

Step 4: Select and Implement the Best Plan

Now that you have a financial plan, you need to take the necessary steps to put it into action. However, making changes and sticking to them can be challenging. Research has shown that a significant percentage of people fail to keep their New Year's resolutions. Financial goals are no exception.¹³

Implementing a financial plan often requires changes in behavior and habits, which can be difficult to maintain. It is common to encounter obstacles and setbacks along the way. This is where insights from psychology can be valuable. Psychologists who study human behavior and decision-making have identified strategies that can help you successfully implement and follow through with your financial plan.

Psychology and Money

A good place to start is to explore your own money beliefs. Psychologists have examined four attitudes towards money: avoidance, worship, status, vigilance.¹⁴ Knowing your attitudes toward money will help you predict which part of implementing the financial plan will be challenging for you and develop strategies to overcome them.

Money avoiders associate fear with money, feel anxious about it, and worry about overspending or financial risks. They tend to be younger, with lower incomes and wealth. While caution is good, avoiding financial planning can make them less prepared for the future. It will take more effort for money avoiders to assess their financial positions because checking on their account balances may be a stressful activity. They may delay retirement planning until it is too late because they do not want to think about anything related to money.

Money worship is the belief that more money will solve all problems. Similar to money avoiders, many people within this category have lower than average income levels and wealth. They are much more likely to accumulate debt by overspending. If you identify with this, consider what truly makes you happy in the long run instead of engaging in “shopping therapy”. Sticking to a budget may be challenging for individuals who have poor spending habits.

Individuals possessing a money status personality perceive money as a symbol of their personal worth and accomplishments. This mindset often leads to excessive spending and a propensity for high-risk financial behaviors. While financial security undoubtedly provides opportunities and enhances one’s quality of life, an unhealthy preoccupation with financial success can have detrimental effects on overall well-being. This is particularly true when individuals engage in risky financial behaviors driven by the desire for rapid wealth accumulation. Following a disciplined investment strategy and avoiding get rich quick schemes like day-trading or cryptocurrencies would be the key to success or failure.

Money vigilance describes individuals who are secretive about their finances and distrustful of common financial management methods. These individuals may be hesitant to share financial information with even their spouse. They avoid overspending and are wary of taking on debt. While saving is generally positive, excessive money vigilance can have drawbacks, such as lower returns by not investing their money and lower credit score by not using any credit card. Financial knowledge may help this group distinguish financial facts from myths and gain confidence in taking on necessary risk so they can achieve their financial goals.

People do not fall exclusively into one category. We are likely to have multiple traits. These false money beliefs serve as useful guideposts to help you identify pitfalls, especially in spending habits.

Let us look at some financial decisions that Jordan and their identical twin, Chris, made in the past few years since high school. Unfortunately, Jordan and Chris did not have good role models for financial planning. Their

parents had poor spending habits and were always in debt, even declaring personal bankruptcy once. But the family had lots of fun on their luxury vacations and lavish holiday gifts.

Example: Financial decisions and consequences

Financial decisions	Jordan	Chris
Selecting a university	Attended a local state university with \$9,000 per year in tuition. Their parents contributed \$5,000 per year.	Attended a private university with similar academic reputation and offerings as the local state university. It charges \$45,000 per year in tuition. Their parents contributed \$5,000 per year.
Selecting a major	Jordan researched several career opportunities before selecting a major. They enjoy helping people and like biology in high school. They decided to major in nursing.	Chris started university without declaring a major. They took random classes with friends. They graduated with a degree without a specified major.
Use of credit card	Jordan was afraid of debt and did not get a credit card. They use cash and a debit card for all their purchases.	Chris used credit cards for all their expenses, including entertainment. They only made the minimum payment each month. They apply for a new card when an existing card is maxed out.
Work during college	Worked full-time during summer and part-time during the school year to avoid taking on too much student loans.	Worked part-time during summer. Did not work during the school year to have time socializing with friends and travel for spring break each year.
Housing during college	Shared a 4-bedroom apartment with 3 housemates and cooked most of the time.	Lived on campus in a single room with meal plans.
Electronics	Used the old mobile phone given to them when they started college.	Upgraded to a new phone every 2 years. Upgraded their laptop and game console when a new model was released.

When comparing Jordan and Chris's financial decisions, we can deduce that Jordan exhibited spending habits of money vigilance whereas Chris exhibited spending habits of the other three personalities. Chris did not look at their credit card balances nor considered how to pay them off. This behavior suggested money avoidance. They prioritized activities with friends and let their financial decisions be influenced by peer pressure. Having the latest electronics was important to their self image. These are traits of money worship and money status. On the other hand, Jordan worked hard and lived frugally to avoid accumulating debt and did not even own a credit card. These twins' financial decisions during college had significant consequences for their futures. Chris graduated with \$200,000 in student loans and \$12,000 in credit card debt. They struggled to

find a job that would sustain their lifestyle. They settled for a job that paid mostly based on commissions and were living paycheck to paycheck while interests continued to pile up on their student loans and credit card debts. They had to move back home with their parents because they could not afford to get an apartment.

It took Jordan an extra year to complete their degree because they were able to take only 12 credits each semester due to the demand of nursing classes and their part-time job. However, they graduated with only \$20,000 in student loans. They got a good paying job right after graduation. Due to their lack of credit history, they needed their parents to cosign the car loan. Fortunately their parents had repaired their own credit history by that time to help them.

Chris and Jordan's financial decisions may be influenced by their parents' experience. Jordan did not like the uncertainty and financial stress of their youth and reacted by being excessively vigilant. Chris focused on the fun vacations and being the cool kid with the latest gadgets. Obviously Jordan's situation was a lot better than Chris's. Jordan was not as independent as they had hoped because they needed their parents to cosign the car loan. Their lack of credit history could hinder other goals. It may be easier for Jordan to overcome their fear and distrust of debt now that they have a good paying job.

Chris had a lot more self reflection to do to see how their decisions led to their current situation. This is not an easy thing to do, especially if they saw their friends continuing the carefree lifestyle. It would be worse if they were to blame luck or take on the victim role. Their options at this point were limited. Chris could learn from their mistakes and start anew. They were young and could get another degree with better career opportunities.

Strategies to Overcome Psychological Barriers

When faced with a multitude of tasks, especially those that are unfamiliar or complex, it is not uncommon to experience a sense of overwhelm. This can lead to task paralysis, a situation where the perceived enormity of the tasks ahead makes it difficult to take action. This inaction is often attributed to the “freeze” response, a psychological reaction to perceived threats.

To overcome this inertia and begin making progress, it is helpful to break down large tasks into smaller, more manageable steps. For example, one of your short-term goals is to have \$12,000 in an emergency fund in 6 months. You currently have \$8,000 in the bank. To reach this goal, you need to save another \$4,000, which may seem daunting. You can break this goal down to \$25 per day. This strategy of combining smaller goals with larger goals has been shown to increase the likelihood of success.¹⁵ Additionally, starting with the easiest or smallest task can help build momentum and confidence, making it easier to tackle more challenging tasks later on.

It is also important to be mindful of planning fallacies, which occur when we underestimate the time and effort required to complete a task. By incorporating buffer time into your plans and being realistic about your capabilities, you can avoid setbacks and stay on track. Remember, progress is often made in small increments. By breaking down your goals, celebrating small wins, and being mindful of potential pitfalls, you can overcome task paralysis and achieve your financial objectives.

By incorporating these strategies and seeking guidance from experts when needed, you can increase your chances of successfully implementing your financial plan and achieving your financial goals. Remember, it is a journey, not a destination. Be patient with yourself, stay committed, and celebrate your progress along the way.

Step 5: Evaluate the Progress of the Chosen Plan

This is the moment when the rubber meets the road. There are many reasons why a financial plan may not be progressing as intended. These can be broadly categorized into factors beyond your control and those within your control.

Factors beyond your control, such as the economy and personal health, can significantly impact your financial plan. For instance, the investments are not earning the predicted returns due to an unexpected downturn in the economy. At the same time the housing and mortgage market may have cooled down, reducing your house payments and property taxes.

There are also factors that are within your control but where you may not have taken the necessary actions. For example, you had budgeted to save \$200 per week. You went out to a fancy restaurant for a first date and impulsively purchased a new outfit for the occasion. Instead of saving \$200, you end up with a \$150 balance on your credit card.

To ensure your financial plan stays on track, periodic reviews are essential. The frequency of these reviews may vary depending on the specific element of the plan. Your budget should ideally be monitored monthly to allow for timely adjustments, while investment results can be reviewed quarterly or semi-annually. Other aspects of your financial plan, such as tax planning, retirement planning, estate planning, and insurance coverage, can typically be reviewed annually. Pick a time that is easy for you to remember, such as your birthday, end of the year, or when you prepare your tax return. Evaluating your financial plan during tax preparation has the advantage that you have already collected much of the financial data.

Step 6: Revise your Financial Goals and Plan

You should review and update your financial goals annually or when a significant life event happens. Examples of significant life events include marriage, divorce, birth or adoption of a child, job changes, and retirement. You may also need to revise your financial goals to make them more achievable if you find that your financial plan is not progressing as expected in step 5. As time passes your financial position will change and you may

want to change your financial goals. After updating your financial goals, repeat steps 2, 3, and 4 to revise each element of your financial plan.

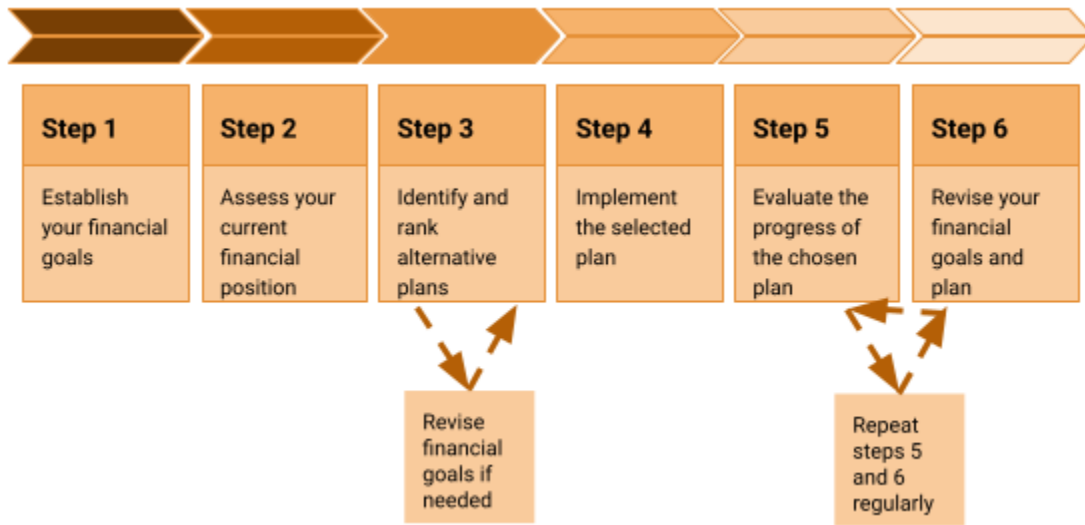


Figure 1.5 – Steps to develop a financial plan

Regular review and adjustment of your financial plan are essential to stay on track and adapt to changing circumstances. Remember, financial planning is a dynamic process. Your goals, income, expenses, and risk tolerance may change over time. By proactively managing your finances and seeking professional guidance when needed, you can build a secure financial future and achieve your long-term aspirations.

Personal Financial Plan Exercise 1

Setting financial goals

Establish your own short-term, intermediate-term, and long-term financial goals. Start by thinking about your personal values. Remember the attributes of SMART goals: Specific, Measurable, Achievable, Relevant, and Time-bound.

Integrated Case 1

Setting Personal Financial Goals

Blake Jackson just finished community college and transferred to State University. She has been responsible for her own expenses since graduating from high school, working around 20 hours per week as a delivery driver. Her take-home pay averages \$360 per week during the school year and more than doubles that over the summer. At the community college she was able to pay for most of tuition and books with her summer earnings and she would use her credit cards to make up the shortfall.

She currently shares an apartment with 3 other roommates, which helps with keeping rent and utilities low, but she would really like to have an apartment of her own. Her car has 120,000 miles and while it still runs relatively well, it will likely need major repairs soon.

Blake has not done any financial planning in the past and when she runs low on cash, she would put purchases on her credit cards. These purchases range from textbooks, car repairs, to holiday shopping. As a result, she has \$3,500 balance on her credit cards, which charges 20 percent APR. Blake qualifies for student loans, which carries a 6 percent APR, but she never took the time to fill out the financial aid forms.

After celebrating her 22-birthday last week, Blake decided it is time for her to get serious about her personal finance. She does not want to always live paycheck to paycheck and rely on credit cards. After she graduates from college, she hopes to eventually own her own home. Seeing her parents struggle with money most of their lives and the stress on the family, she wants to avoid their mistakes and to have a financially secure retirement.

Activities:

1. Identify at least two areas of concern in Blake's current situation.
2. Identify at least one short-term (within 1 to 2 years), one intermediate-term (within 5 years), and one long-term (beyond 5 years) financial goals for Blake.
3. Recommend actions Blake can take to achieve each of these goals.
4. Name two opportunity costs (sacrifices) Blake may want to consider.

Chapter One Summary

This chapter introduces the fundamentals of personal financial planning. It highlights the stress financial issues cause, especially among students and vulnerable groups, and how financial literacy can mitigate these effects. Important factors to consider when developing a financial plan include age, income, occupation, household size, dependents, personal values, and life goals. Recognizing and addressing psychological aspects of money, learning from past decisions, and understanding that financial planning is ongoing, guided by personal values and lifestyle, and requires flexibility, adaptability, and consistent small steps, are crucial for success.

Financial Literacy and Its Importance

- Financial stress is pervasive and impacts mental health and relationships.
- The quality of financial advice varies widely, necessitating critical evaluation.
- Financial literacy levels in the US are low, with disparities across gender, race, and age.
- Wealth and income inequality are significant factors influencing financial outcomes.

Factors Influencing Financial Planning

- Age, income, occupation, household size, and dependents play crucial roles in financial planning.
- Personal values and life goals should drive financial decisions.
- Traditional life cycle models are not applicable to everyone; individual circumstances matter.

Steps to Develop a Financial Plan

1. Establish Financial Goals: Utilize SMART goals (Specific, Measurable, Achievable, Relevant, Time-bound). Goals can be short-, intermediate-, or long-term.
2. Assess Current Financial Position: Review past spending and saving patterns, debts, and assets.
3. Identify and Rank Alternative Plans: Consider various options for managing finances, debt, investments, insurance, and retirement.

4. Implement the Selected Plan: Address psychological barriers like money attitudes and break down large tasks into smaller steps.
5. Evaluate Progress: Regularly review the plan's performance, considering both controllable and uncontrollable factors.
6. Revise Goals and Plan: Adjust the plan as needed based on progress and life changes.

Psychological Aspects of Money

- Recognize different attitudes towards money: avoidance, worship, status, and vigilance.
- Address psychological barriers such as task paralysis and planning fallacies.
- Learn from past financial decisions and avoid repeating mistakes.

Overall Emphasis

- Financial planning is an ongoing, iterative process.
- Personal values and lifestyle should guide financial choices.
- Flexibility and adaptability are crucial for successful financial management.
- Small steps and consistent effort are key to achieving financial goals.

End of Chapter Questions

1. What percentage of undergraduate students reported being stressed about their personal finances in the survey mentioned?
2. What are some negative impacts of financial stress?
3. According to the 2024 TIAA Institute-GFLEC Personal Finance Index, what percentage of questions did respondents answer correctly?
4. What are some demographic disparities in financial literacy scores?
5. What percentage of total household wealth do the wealthiest 10 percent of households hold?
6. What is the relationship between wealth inequality and economic growth?
7. How does education level correlate with household wealth in the U.S.?
8. What are some important factors to consider when developing a personal financial plan?
9. How can personal values influence financial planning decisions?
10. What does the acronym SMART stand for in the context of setting financial goals?

11. What are the three common time frames for financial goals?
12. What should be included when assessing your current financial position?
13. What are the key elements of a comprehensive financial plan?
14. What is decision paralysis and how can it be overcome when developing a financial plan?
15. What are the four attitudes towards money discussed in the chapter?
16. What is task paralysis and how can it be addressed in financial planning?
17. Why is it important to periodically review and evaluate a financial plan?
18. What are some examples of factors beyond your control that can impact a financial plan?
19. What are some examples of significant life events that may require revising financial goals and plans?

Notes

1. McDaniel et al., 2020.
2. Guan et al. 2022
3. Ryu & Fan, 2023
4. Dew et al. (2012)
5. Choi (2022)
6. The 2024 TIAA Institute-GFLEC Personal Finance Index
7. Angrisani, M. et al. (2021).
8. Kent and Ricketts (2024)
9. Saez and Zucman (2020)
10. For examples see Islam and McGillvray, 2020, Bagchi and Svejnar, 2015
11. Hu and Li (2019), Gao, Pang and Zhou (2022)
12. Carter (2012)
13. Oscarsson et al, (2020)
14. Klontz et al (2011)
15. Höchli et al, (2019)

2.

CAREER PLANNING AND FINANCING YOUR EDUCATION

Chapter Two Learning Objectives

- Understand the career decision process.
- Explore your own values, interests, personality traits.
- Research career opportunities.
- Understand Financial Aid Awards.
- Identify different types of federal student loans.
- Understand the impact of accrued versus capitalized interests.
- Compare the differences between various student loan repayment plans.

Popular personal finance advice often emphasizes managing debt and spending. These are important topics and will be explored in detail in future chapters. An equally important factor that contributes to your financial well-being is your sources of income. This chapter concentrates on individuals whose main source of income is derived from their employment. This encompasses a wide range of professions and job types, including salaried and hourly workers in various industries and sectors.

In addition to its financial impact, employment also plays a vital role in your social and emotional well-being, making career choice one of the most important decisions you make in your lifetime¹. It is perhaps not surprising that many young people find choosing a career a daunting task. They should know that they are not alone nor is this a new challenge. Parsons analyzed this problem over 100 years ago². He proposed three key principles for making a career choice: (1) a clear understanding of yourself, (2) knowledge of different potential careers, and (3) how these two are related. One hundred years later, the process of making career decisions is still a popular research topic for vocational psychologists³.

Know Thyself

Understanding yourself includes knowing your values, interests, personality, and skills. Let us take a look at each of these. Psychologists have studied personal values and developed tools to help pinpoint what is truly important to you. One such tool is the “Personal Values Card Sort” exercise⁴ Figure 2.1 shows 83 common personal values identified in a research study. This list is a good place to start. You should add values that are important to you but not on this list. The next step in the exercise is to sort these values into 3 piles: “not important to me”, “important to me”, and “very Important to me”. The objective is to narrow down 5 to 10 values that are most important to you⁵. If you have more than 10 cards in the “very important to me” pile, sort the cards in this pile into 3 piles again. Repeat this step until you have at most 10 cards that are “very important to me.” The “Personal Value Card Sort” exercise is a great way to tease out values that are deeply meaningful to you. Knowing your core values can assist in making decisions and prioritizing actions.

Common Personal Values			
ACCEPTANCE	EXCITEMENT	INNER PEACE	REALISM
ACCURACY	FAITHFULNESS	INTIMACY	RESPONSIBILITY
ACHIEVEMENT	FAME	JUSTICE	RISK
ADVENTURE	FAMILY	KNOWLEDGE	ROMANCE
ATTRACTIVENESS	FITNESS	LEISURE	SAFETY
AUTHORITY	FLEXIBILITY	LOVED	SELF-ACCEPTANCE
AUTONOMY	FORGIVENESS	LOVING	SELF-CONTROL
BEAUTY	FRIENDSHIP	MASTERY	SELF-ESTEEM
CARING	FUN	MINDFULNESS	SELF-KNOWLEDGE
CHALLENGE	GENEROSITY	MODERATION	SERVICE
CHANGE	GENUINENESS	MONOGAMY	SEXUALITY
COMFORT	GOD’S WILL	NON-CONFORMITY	SIMPLICITY
COMMITMENT	GROWTH	NURTURANCE	SOLITUDE
COMPASSION	HEALTH	OPENNESS	SPIRITUALITY
CONTRIBUTION	HELPFULNESS	ORDER	STABILITY
COOPERATION	HONESTY	PASSION	TOLERANCE
COURTESY	HOPE	PLEASURE	TRADITION
CREATIVITY	HUMILITY	POPULARITY	VIRTUE
DEPENDABILITY	HUMOR	POWER	WEALTH
DUTY	INDEPENDENCE	PURPOSE	WORLD PEACE
ECOLOGY	INDUSTRY	RATIONALITY	Add your own

Figure 2.1

Exercise 2.1: Find your values

Print out the Common Personal Values cards from Appendix 2.1. Remember to add your values that are not on the cards. Sort these cards into 3 piles: Not Important, Important, Very Important. If you have more than 10 cards in the 'Very Important' pile, re-evaluate the cards in this pile until you have at most 10 cards that are 'Very Important.'

When considering your interests, review your hobbies, favorite school subjects, past job experiences, books and entertainment themes. Examine which jobs, volunteer roles, or school projects you find most fulfilling. What do you enjoy doing in your free time? Do you have a passion for woodworking, playing music, engaging in sports, or playing computer games? Which classes did you excel in or find most engaging? Taking a variety of classes early in college is a good way to explore your interests and get more insights into a subject area. Your academic strengths and preferences can point you towards fields that align with your natural abilities and interests. Past job experiences can also offer insights into your interests. Think about the tasks and responsibilities you found most fulfilling and those you disliked. Did you enjoy working with people, solving problems, or being creative? Reflecting on your past work experiences can help you identify the type of work environment and job duties that suit you best.

By examining these various aspects of your life, you can start to identify patterns and connections between your interests and values. For instance, if caring and justice are very important values to an individual, they will likely remember fondly their alternative spring break working with Habitat for Humanity. Another person may find hiking the Appalachian Trail a fulfilling activity because adventure and challenge are important to them.

Remember that your interests and values may evolve over time, so it is important to stay open to new experiences and opportunities. Taking courses, attending workshops, or shadowing professionals in different fields can help you explore your interests and gain a deeper understanding of different career paths. Ultimately, the goal is to find work that aligns with your interests, values, and skills. When you are interested in what you do, you are more likely to be successful and fulfilled in your career.

Common Personality Models

You Are Not Ruled by Your Personality

The field of pop psychology attempts to use personality type models to categorize people into different groups based on common traits. There are many popular models, dating back to

Dr. Carl Jung who posited the introvert versus extrovert model in 1923. Later models included the Myers-Briggs indicators, the Enneagram model, and the type A, type B, type C, and type D personality model.⁶ None of these models completely describes a person because each of us is unique. It is more useful to view personality as a spectrum. Most people relate to more than one personality type.

Studies have shown that these types of personality models are not consistent and are not especially useful in predicting how people will respond to specific situations⁷. Nonetheless personality quizzes are very popular. They can be entertaining and they are useful in helping to identify your strengths as well as traits that you can improve on. For instance, if you fit the Extrovert Type A personality, you can be confident that you can persevere through challenges and take on leadership roles. At the same time, you need to work on reigning in your competitiveness and cultivating humility and open-mindedness. Alternatively, if you find that you fit the “Helper” description, you can work on setting boundaries and saying no. Knowing your values, interests, and personality can help you find a starting point to explore career options. However, do not rule out a career simply based on a personality or career quiz. The next section explores resources and strategies to find out information about a career field.

Example: Jordan’s career search journey

It was Jordan’s first semester in college and time flew by quickly. In the blink of an eye, it was time to register for classes for the next semester and their academic advisor suggested that Jordan should think about choosing a major. Their roommates were in the same boat and their dinner talks were consumed with the topic. The task of choosing a major and a career felt overwhelming to them

Classic personality models

- **Type A** personality: intense and sustained drive for achievement, competitive.
- **Type B** personality: relaxed, patient, easy going.
- **Type C** personality: detail-oriented, logical, suppressing emotion.
- **Type D** personality: pessimistic, socially inhibited, prone to worry.
- **Introverts**: enjoy alone time and quiet environment, more reserved in social settings, prefer to solve problems through inner thoughts.
- **Extroverts**: thrive around people and enjoy social setting, prefer to talk through problems.

Myers and Briggs (1976) combined 4 character preferences to form 16 personality types. The 4 character preferences are:

- Extraversion (**E**), Introversion (**I**)
- Sensing (**S**), Intuition (**N**)
- Thinking (**T**), Feeling (**F**)
- Judging (**J**), Perceiving (**P**)

The Enneagram model identified 9 personality types:

- The **Reformer**: Principled, self-controlled, purposeful, but perfectionistic.
- The **Helper**: Caring, generous, and possessive, but can be people pleasing.
- The **Achiever**: Success-oriented and pragmatic, they are adaptable, driven, but image-conscious.
- The **Individualist**: Creative, self-absorbed, dramatic, but temperamental.
- The **Investigator**: Perceptive, innovative, but secretive and isolated.
- The **Loyalist**: Engaging, responsible, but anxious and suspicious.
- The **Enthusiast**: Spontaneous, versatile, but can be distracted and scattered.
- The **Challenger**: Powerful, confident, direct, and decisive, they can be controlling and confrontational.
- The **Peacemaker**: Receptive, reassuring, agreeable, but complacent.

all. Their college's career services offer many resources and they all felt that was a good place to start. They made an appointment to meet with a career coach. Prior to the appointment, Jordan did a personal values card sort exercise and took a personal strength inventory quiz. They discovered that they valued:

- Accuracy
- Caring
- Compassion
- Cooperation
- Dependability
- Health
- Knowledge
- Service

The descriptions of an introvert and a 'Helper' seemed to describe them well. Jordan remembered they enjoyed volunteering at the college's food pantry and they liked going to the gym with friends and watching nature documentaries. Given their values, interests, and personal traits, they think that careers in healthcare, science education, or environmental science may be a good fit. The career coach agreed with Jordan's self assessment and suggested that Jordan research occupations in these fields.

Researching Careers

Even if wealth is not a top priority for you, the economic reality is that your future earnings are a critical part of your financial plan. However, you should not choose your career based on earnings alone. If you faint at the sight of blood, pursuing a career as a surgeon is not a good fit even if the pay is excellent and the occupation saves lives. You should choose a career that will be enjoyable and pays well enough for you to achieve your

financial goals in the long run. If you like your job, you are more likely to perform well and advance in your career. The Bureau of Labor Statistics (BLS) and job placement websites are good places to gather information about different vocations. The BLS Occupational Outlook Handbook website provides detailed information on job opening forecasts, pay, education and certifications requirements, duties and responsibilities, work environment, and how to get into a specific vocation. For example, the work environment page covers job locations, typical work schedules, and even risks of injuries and illnesses. You can evaluate an occupation based on your personal values, opportunities for growth, and family situation. Some useful factors to consider include:

- Entry level education requirements
- Licenses, certifications, registrations requirements
- Work experience requirements
- Continuing education requirements
- Work environment and work hours
- Job outlook
- Salary range

In addition to information on individual vocations, the BLS compiles a wide range of employment data. Figure 2.2 shows the occupations with the largest expected number of job openings over the next 10 years. The first column contains the number of projected job openings and the second column contains the annual median earnings of these occupations in 2023. Median earnings means that half of workers in that occupation earn less than the median amount and half earn more than the median amount. It is likely that someone with less experience working in a smaller firm may earn less than the median amount. For example, the national median pay for software developers was \$132,270 in 2023 but the bottom 10 percent earned only around \$80,000. Geographic location is also an important factor. In 2023 the median earnings for software developers was \$147,000 in Massachusetts and \$128,000 in New Hampshire, a neighboring state. Therefore, when researching career information, take into account your own preferences on geographic location and corporate (organizational) environment. This will help you set a more realistic expectation.

Occupation Outlook

Occupations	Projected number of new jobs over the 2023-2033 period	Annual median pay in 2023
Home health and personal care aides	820,500	\$33,530
Software developers	303,700	\$132,270
Cooks, restaurant	244,500	\$35,780
Fast food and counter workers	212,500	\$29,540
General and operations managers	210,400	\$101,280
Registered nurses	197,200	\$86,070
Stockers and order fillers	168,600	\$36,390
Medical and health services managers	160,600	\$110,680
Financial managers	138,300	\$156,100
Nurse practitioners	135,500	\$126,260
Laborers and freight, stock, and material movers	125,700	\$37,660
Medical assistants	118,000	\$42,000
Construction laborers	115,400	\$45,300
Management analysts	107,900	\$99,410
Computer and information systems managers	106,900	\$169,510
Heavy and tractor-trailer truck drivers	102,000	\$54,320
Light truck drivers	96,300	\$42,470
Accountants and auditors	91,400	\$79,880
Substance abuse, behavioral disorder, and mental health counselors	84,500	\$53,710
Electricians	84,300	\$61,590
Maintenance and repair workers, general	81,800	\$46,700
First-line supervisors of food preparation and serving workers	76,800	\$38,520
Janitors and cleaners, except maids and housekeeping cleaners	75,800	\$35,020
Market research analysts and marketing specialists	74,900	\$74,680
Human resources specialists	74,200	\$67,650
Industrial machinery mechanics	73,800	\$61,420
Managers, all other	73,700	\$133,560
Data scientists	73,100	\$108,020
Project management specialists	69,900	\$98,580
Bartenders	64,500	\$31,510

Source: U.S. Bureau of Labor Statistics, 2025

Figure 2.2

Exercise 2.2: Research career fields

Go to the Bureau of Labor Statistics website, <http://www.bls.gov>. Navigate to the Occupational Outlook Handbook. (Hint: you can find it easily by using the search term “occupation finder” in the search bar on the BLS website.) Review two careers in the Occupational Outlook Handbook that interest you. Collect the following information:

- Job title (occupation)
- Entry level education requirements
- License, certification, registration requirements
- Work experience requirements
- Continuing education requirements
- Brief description of work environment and work hours
- Brief description of how to enter the career
- Job outlook
- Salary range in your geographic area

Job descriptions alone do not provide a complete picture of what the actual working life will be like. Part-time jobs and internships in the industry are the best ways to gain valuable hands-on experiences. For instance, if you are interested in becoming a pharmacist, you can get a front row seat by working in a drug store or a hospital. Some professions, such as accounting, offer internships to first and second year college students. Explore career options as early as possible. Do not wait until you need an internship or a job.

Use your network of friends and family, school alumni, and professors to connect with someone currently working in the field. Join student clubs and attend career events at your school. Another good resource is professional organizations, which often have student chapters. For instance, if you are interested in financial planning as a career, the Financial Planning Association (FPA) and the Chartered Financial Analysts (CFA) Institute both have student chapters and events designed to introduce students to the profession. People are often happy to talk about their career paths. Request an informational interview to learn more about the field. Here are some tips you can use to get the most out of such an interview.

Talking to Someone Working in a Field (An Informational Interview)

An informational interview is an informal conversation with someone working in a profession that interests you. It is not a job interview. Through an informational interview, you can gain advice about how to prepare for and enter the field, find out about career paths, learn what the workday and work environment is like, and expand your professional network. Keep the interview short, between 15 to 30 minutes. You can ask to meet in person or via video chat.

Before contacting someone, find out basic information about the field. Develop a short introduction about yourself (20-30 seconds). Practice your introduction. Write down 5 to 10 open-ended questions to ask. Below are some sample questions you can use as reference.

Sample Informational Interview Questions

- What is a typical day (or week) like for you?
- What excites you about your work?
- What aspects of your work are you less excited about?
- How does your position fit within the organization (or industry)?
- How does your job affect your general lifestyle?
- What is your work-life balance like?
- What are some current issues and trends in the field?
- What are some common career paths in this field?
- What kinds of accomplishments tend to be valued and rewarded in this field?
- What related fields do you think I should consider looking into?
- How did you become interested in this field?
- How did you begin your career?
- How do most people get into this field? What are common entry-level jobs?
- What kind of education, training, or background does your job require?
- What skills, abilities, and personal attributes are essential to succeed in your job?
- What are the most effective strategies for seeking a position in this field?
- What advice would you give someone who is considering this type of job (or field)?

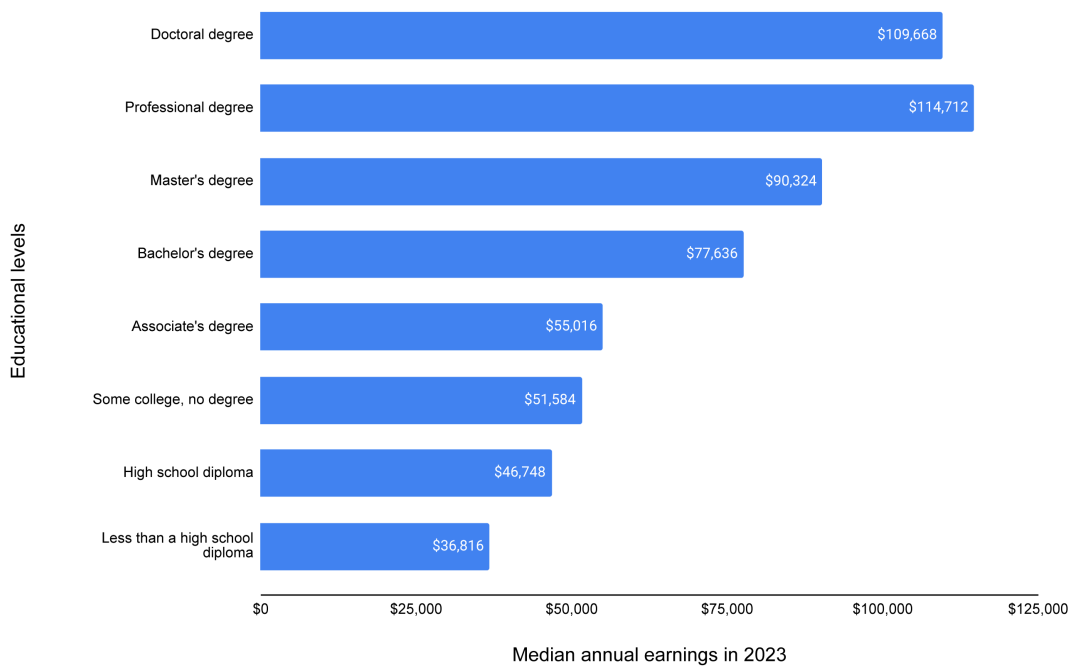
Contact the person by email or phone call. Explain how you found their name and emphasize that you are looking for information about the field, not about getting a job. Ask for a 15 to 30 minute appointment for a chat at a time that is convenient to them. If the request is by email, list times that you are available. If you call the person, be ready with your questions if they say it is a good time to talk now.

When conducting the interview, have the written questions with you. Listen and take notes. Respect the other person's time. Remember that they are doing you a favor. Start and end the interview on time. Follow up with a thank you note (email) to express appreciation for the information and their time.

After researching occupation options, you may discover that your current skills or education are not sufficient to pursue your career and financial goals. In general, the more education you have, the higher your earnings will likely be. Figure 2.3 shows that the median income for people with a bachelor's degree is much higher than for those without. Those with a professional degree such as doctors, dentists, lawyers, or those with a doctorate degree earn even more.

Comparison of median annual earnings among educational levels

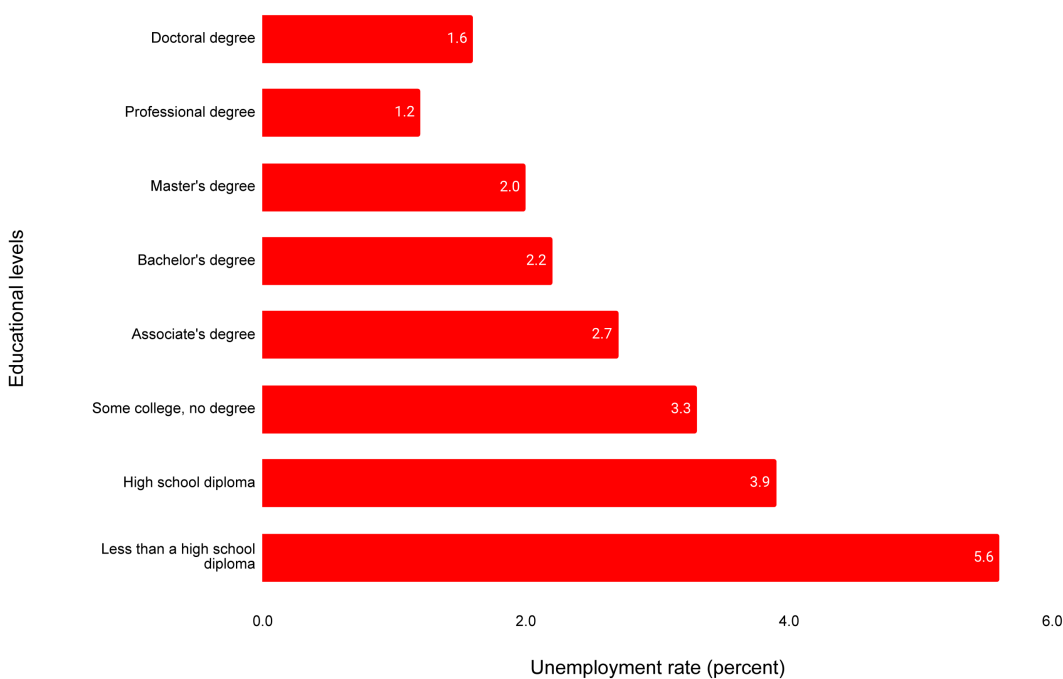
Figure 2.3



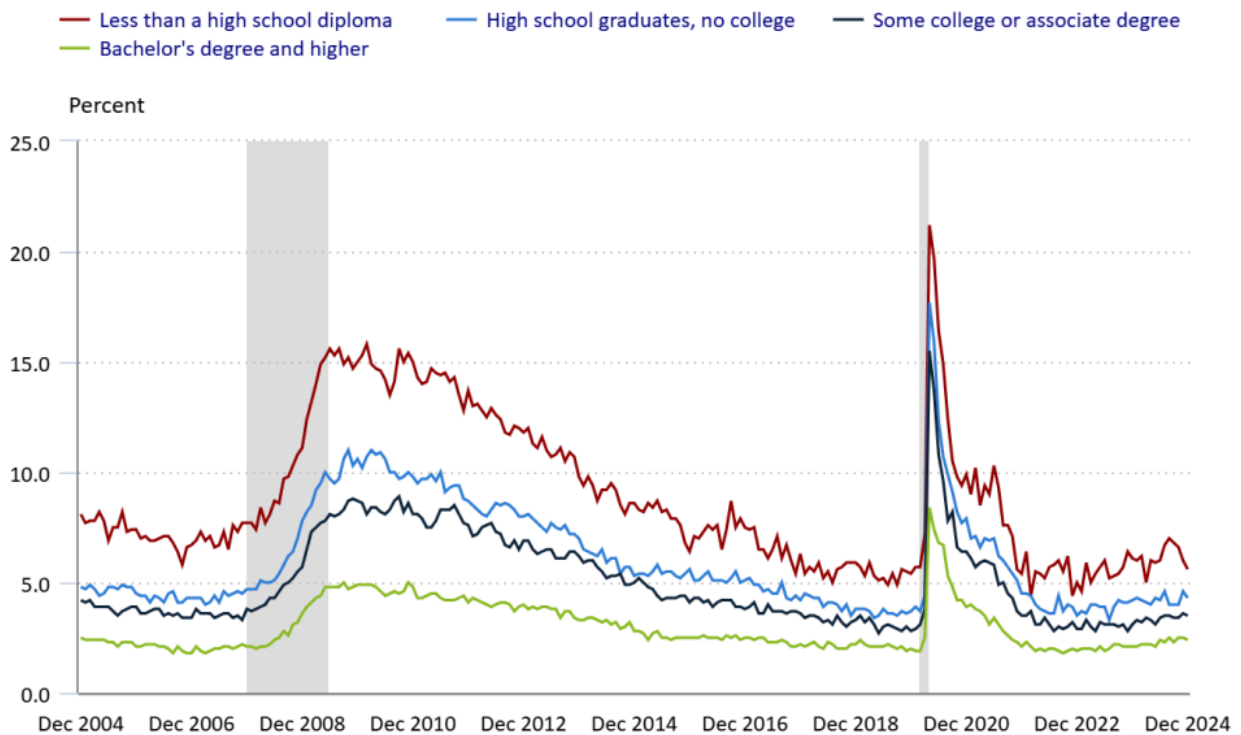
In addition to higher earnings, education also increases employment opportunities. Figure 2.4 shows that the unemployment rate for those with a bachelor’s degree is much lower than those without one. The advantage of having a bachelor’s or higher degree remain stable over the past two decades and is especially pronounced during economic downturns (Figure 2.5).

Comparison of unemployment rates (percent) among educational levels

Figure 2.4



Unemployment rates for persons 25 years and older by educational attainment, seasonally adjusted



Source: U.S. Bureau of Labor Statistics 2025

Figure 2.5

Even though choosing a career is one of the most important life decisions, you may find that you need to reevaluate your career choice later in life. In fact, many people change their career over time. Changing technology and economic conditions will affect the demand for different occupations, creating new jobs and eliminating others. The recent advances of generative artificial intelligence (AI) created many speculations about its impact on the future of work. Disruption to the labor market due to technology has happened many times before. Research has found that while technological breakthroughs often occurred quickly, new technology got adopted gradually and the disruption of labor markets took decades⁸. Early evidence suggested that low-skilled and middle-skilled jobs had declined in recent years (2016 to 2022) while high-skilled occupations increased. Entry-level roles are especially at risk according to the 2025 World Economic Forum Future of Jobs Report. The report projected that 170 million new jobs will be created while 92 million jobs will be displaced this decade. Life-long learning, training, and reskilling are as important as choosing a particular career. The next section addresses the costs of and methods to finance additional education.

Financing Your Education

The costs of higher education vary greatly depending on your choice of school. Figure 2.6 shows the estimated national average costs to attend 2-year and 4-year colleges. In general, 2-year community colleges have the lowest tuition and fees. A number of states have special programs that make community colleges free to qualified students. Many community colleges have curriculum and majors specifically designed for transferring to 4-year universities. If you live in a state with a strong community college and public university system, they are good options to consider. When budgeting for college, keep in mind the total costs, which include books, supplies, housing, and food. These non-tuition costs are similar across different institutions. Of course, cost is not the only criteria for selecting a college. Your preferred field of study and options to explore other fields should be the focus. It is quite common for students to change their majors so having options is important. Academics is part of the overall college experience. Learning to live independently on your own among your peers is very valuable. On campus housing is one item community colleges often lack. Another important thing to consider is that the tuition and fees in Figure 2.6 do not take into account scholarships, grants, and aid that do not need to be repaid. Evaluate your college costs based on your individual acceptance letter and financial aid package, not just the published amounts. Beware of for-profit colleges. Many of them may have lower tuition and fees but studies have found that they have a long history of manipulative behavior and deceptive marketing.⁹ Evidence showed that for-profit colleges yield higher debts and poorer job placement outcomes for students. In 2009 for-profit colleges only enrolled 10 percent of students in the U.S. but they accounted for half of all student-loan defaults over the next five years.

Average Estimated Full-Time Undergraduate Budgets, 2024-25

Types of institution	Tuition and fees	Books and supplies	Housing, food, and other expenses	Total Budget
2-year public community college (in-district)	\$4,050	\$1,520	\$15,000	\$20,570
4-year public university (in-state)	\$11,610	\$1,290	\$17,010	\$29,910
4-year public university (out-of-state)	\$30,780	\$1,290	\$17,010	\$49,080
4-year nonprofit private university	\$43,350	\$1,290	\$18,350	\$62,990

Figure 2.6

Source: College Board's Trends in College Pricing and Student Aid Report 2024

When you apply for college, you will need to fill out the college application form and FAFSA (Free Application for Federal Student Aid). If you need help with these forms, your high school counselors and the financial aid counselors at your target colleges are good resources. When you are accepted by a college, you will receive a letter of acceptance and the financial aid award letter. This letter will include a list of the financial aid that you have been offered and the dollar amount. There are four common types of aid: need-based grants, merit-based scholarships, student loans, and work study. Need-based grants include federal grants such as Pell Grants and Federal Educational Opportunity Grants (FSEOG) and private grants from the college. These grants do not need to be repaid and the amount awarded depends on the financial information reported on your FAFSA. Merit-based scholarships are awarded by the college and private organizations and also do not need to be repaid.

Work study is different from other types of aid in that it is not guaranteed. You need to find a work study job and apply for it. Wages from work study are paid directly to the student instead of reducing the balance on your school bill. Most work study jobs are on campus and the work hours are structured with students' academic schedule in mind. Work study jobs still take time but are usually easier to juggle than off-campus jobs unrelated to your field of study. You do not need to accept every aid offered in the award letter. You can choose to accept/reject part or all of each aid individually. Since need-based grants and merit-based scholarships do not need to be repaid, they are a great way to help you finance your education. We will discuss federal student loans in detail in the next section to help you make an informed decision on how much, if any, to borrow.

Example: Jordan's Financial Aid Awards

After researching career options and interviewing three professionals, Jordan decided to pursue a degree in nursing. They applied to several universities and were accepted by all but one. Jordan was very excited about going to college. They started reviewing the acceptance letters and financial aid awards. Figure 2.7 shows the financial aid award from their top choice school.

First time college student scholarship	\$8,000	Estimated Tuition and Fees	\$9,000
Merit student scholarship	\$10,000	Average Books and supplies	\$1,300
Federal Pell Grant	\$0	Average Health Insurance	\$2,500
Total Grants and Scholarships	\$18,000	Average Room and Board	\$18,000
Federal Direct Student Sub Loan	\$3,500	Average Transportation	\$800
Federal Direct Student Unsub Loan	\$2,000	Average Personal Expenses	\$1,400
Total Federal Loans	\$5,500	Estimated Total Costs	\$33,000
Federal Work Study Eligibility	\$5,000		

Figure 2.7

Estimating Direct Net Costs

Estimated Total Costs	\$33,000
Minus Total Grants and Scholarships	\$18,000
Estimated Net Costs without Loans	\$15,000
Minus Total Federal Loans	\$5,500
Estimated Balance Due	\$9,500

Jordan was very happy about the \$18,000 in grants and scholarships. These were money they would not have to pay back. This meant Jordan's estimated net costs without loans was \$15,000.

Jordan's parents offered to pay \$5,000 per year, meaning Jordan needed to come up with the remaining \$10,000. Jordan did not like debt and wanted to borrow as little as possible. They decided to take the work study option which would provide another \$5,000. Since interest on Federal Direct Sub Loan does not start until a student graduates, it is a better option than the Federal Direct Unsub Loan. The financial aid award offered \$2,000 in Unsub Loan but Jordan did not have to accept the entire amount. In Jordan's case, they only needed \$1,500 in Unsub Loan. Jordan accepted \$3,500 in Sub Loan and \$1,500 in Unsub Loan.

Student Loans

Understanding the different types of student loans and how interests on them are calculated will help you decide how to finance your college education. In general, federal student loans have lower interest rates than private student loans and have more flexible repayment plans. This section focuses on federal student loans. Chapter 6 will discuss other types of loans, consumer credits, and credit scores. The federal student loan website (www.studentaid.gov) is a useful resource and has information on the latest laws governing federal student loans. Direct Subsidized (Sub) Loan is a need-based federal loan for undergraduate students with demonstrated financial need. Direct Unsubsidized (Unsub) Loan is for undergraduate, graduate, and professional students. Professional institutions include law schools, medical schools, etc. Direct PLUS loan is for parents borrowing money for their dependent children in undergraduate programs. Grad PLUS loan is for graduate or professional students. The different loan programs differ in interest rates, fees, maximum loan amount allowed, and how interest amounts are computed. Interest rates on all federal student loans are set by Congress each spring for the next academic year and interest rate is fixed at the time the loan is given out (disbursed). Interest rates can fluctuate quite a bit from year to year. Loan fees and the maximum loan amounts are also set by Congress. The actual loan amount offered depends on each student's financial situation reported in their FAFSA. Figure 2.8 shows the loan fees and interest rates for the academic year (AY) 2021-22 through 2025-26.

	Direct Subsidized	Direct Unsubsidized Undergraduate	Direct Unsubsidized Graduate	Direct PLUS	Grad PLUS
Loan Fee	1.057%	1.057%	1.057%	4.228%	4.228%
Interest Rates					
AY 2025-26	6.39%	6.39%	7.94%	8.94%	8.94%
AY 2024-25	6.53%	6.53%	8.08%	9.08%	9.08%
AY 2023-24	5.50%	5.50%	7.05%	8.05%	8.05%
AY 2022-23	4.99%	4.99%	6.54%	7.54%	7.54%
AY 2021-22	3.73%	3.73%	5.28%	6.28%	6.28%

Figure 2.8

How Loan Fees and Interests Affect Your Student Loan Payments

When you borrow money, you need to pay them back plus interest in the future. For federal student loans, repayment is postponed (deferred) until the student graduates, leaves schools, or drops below half-time based on their chosen program of study, plus a grace period. The current grace period is 6 months, meaning repayment starts 6 months after graduation. The method for computing interest before repayment starts differs depending on the loan type. For Direct Subsidized Undergraduate loan, no interest is accrued while the student is in school, up to 1.5 times the published length of the academic program. If the published length is 4 years, the students can be in school up to 6 years plus the grace period with no interest on the Direct Sub loan.

For all other federal unsubsidized loans, including Direct Unsub, Direct Plus and GRAD Plus, interest is computed (accrues) as soon as the loan is given out (disbursed). Federal student loans are “daily interest” loans. This means that interest accrues every day. You can compute the interest amount using the following formulas:

$$\text{Daily Interest Amount} = \text{Outstanding balance} \times (\text{Interest rate per year} / \text{number of days in the year})$$

$$\text{Accrued Interest Amount} = \text{Daily Interest Amount} \times \text{number of days in the accrual period}$$

Figure 2.9 shows an example of a student taking out federal unsubsidized loans over 4 years. Notice that the loan taken out each year is treated as a separate loan with its own interest rate. The \$10,000 loan taken out in year one has a daily interest amount of \$2.19 ($\$10,000 \times 0.08 / 365$). Over 4 years, the total accrued interest on this loan will be \$3,200 ($\$2.19 \times 365 \text{ days} \times 4 \text{ years}$). If this student does not make any payment while in school, the outstanding balance at graduation will be \$52,540, the loan amounts plus accrued interest ($\$44,000 + \$8,540$).

	Loan Amount	Interest rate	Daily interest	Years till graduation	Accrued interest till graduation
Year 1	\$10,000	8.00%	\$2.19	4	\$3,200
Year 2	\$10,000	9.00%	\$2.47	3	\$2,700
Year 3	\$12,000	7.00%	\$2.30	2	\$1,680
Year 4	\$12,000	8.00%	\$2.63	1	\$960
Total	\$44,000				\$8,540

Figure 2.9

Once the repayment period starts, all federal loan interest is capitalized. Capitalized interest means that unpaid interests are added to the outstanding balance, increasing the interest amount for the next period. Let us look at a simple illustration in Figure 2.10. The initial outstanding balance for this loan was \$10,000 with a 10 percent

per year interest rate. The interest due at the end of the year was \$1,000 ($\$10,000 \times 0.1$). When this interest amount is not paid, it is added to the outstanding balance, increasing it to \$11,000 ($\$10,000 + \$1,000$). The interest due next year will be \$1,100 ($\$11,000 \times 0.1$).

Interest rate per year	10%
Beginning outstanding balance	\$10,000
Unpaid interest amount	\$1,000
New outstanding balance	\$11,000
New interest amount	\$1,100

Figure 2.10

Capitalized interest is also called compounding. Chapter 5 will explain in detail how compounding works, the concept of time value of money, and tools to simplify their calculations. The key takeaway here is that if your payment is less than the interest due, the outstanding balance will keep increasing at a faster and faster rate. If your payment is greater than the interest due, you will pay down the loan balance over time. Since Direct Sub loan does not accrue interest during the deferment and grace period, the outstanding balance when the student leaves school is just the loan amount. For all other Direct Unsub loans, the outstanding balance when the student leaves school is the loan amount plus accrued interest. Therefore, Direct Sub loans are cheaper than Unsub loans. Another factor that affects your loan cost is loan fees.

Loan fees, also called origination fees, are a type of costs of borrowing. Loan fees are subtracted before money is given out to students. For example, if a student borrows \$5,000 in Direct Unsub loan, the loan fee will be \$52.85 ($\$5,000 \times 0.01057$) and the student will receive only \$4,947.15 ($\$5,000 - \52.85). However, the student must pay interest on the entire \$5,000. Therefore, the loan fee will accumulate interest, even though the student does not get to use that money. Assuming a standard repayment term of 10 years, the loan fee of \$52.85 may accumulate \$73 of interest, adding over \$125 to the student's cost of borrowing. Federal student loan origination fees are not a trivial burden on students. In AY 2023-24 these fees totaled \$1.7 billion, not including any interest.

Repayment Options

The billing, record keeping, and customer services for all federal student loans are handled by a “loan servicer.” There are several private companies contracted by the federal government to act as loan servicers. You can find out who your loan servicer is on the Federal Student Aid website (www.studentaid.gov).

The types of repayment plans for federal student loans are approved by Congress. Currently there are four main types: standard, graduated, extended, and income-driven repayment (IDR) plans. If you do not make a

choice, the default is the 10-year standard plan. This plan requires a fixed monthly payment amount and the entire loan balance plus interest will be paid off by the end of 10 years. Remember that each loan you take out is treated individually. You can choose which loan to pay off first instead of the default. Take the example in Figure 2.9. The monthly payment of a standard 10-year plan on the \$52,540 outstanding balance will be around \$637. The default is to allow the loan servicer to allocate this amount across the four loans. Instead of the default, you can choose to apply the entire payment toward the loan with the highest interest rate first. By doing so, you can shorten the time needed to pay off all the loans and lower the overall interest costs. In this particular example, you can reduce the time by 3 months and the total amount paid from \$76,453 to \$74,433, a saving of over \$2,000. If you are financially able, you can also make additional payments to pay off your loans faster. The key is to communicate with the loan servicer and be very clear about how you want your payments to be applied.

The graduated repayment plan starts with a lower monthly payment and increases every two years, usually for a term of 10 years to pay off the entire balance. This option will increase your overall interest costs but may be a good option for careers that have low initial pay but high potential for substantial increases. There is a risk that your future income does not increase and you will not be able to make the higher payments. Using the example from Figure 2.9, the initial monthly payment can be lowered to less than \$500 but the later monthly payments can be greater than \$1,200.

The extended repayment plan has fixed monthly payment amounts and allows for a longer loan term, 12 to 30 years instead of 10 years. The longer term results in smaller monthly payments but higher overall interest paid. Applying an extended repayment plan of 20 years to the Figure 2.9 example will lower the monthly payment to \$439 (instead of \$637) but increase the total amount paid to \$105,393 (instead of \$76,453), significantly higher.

There are several income-driven repayment (IDR) plans and their availability is currently under debate in Congress. In essence, these plans set the monthly payment amount as a percentage of your discretionary income. The risk is that the payment amount may be lower than the accrued interest for the month. If that is the case, the outstanding balance will continue to grow even though you are making monthly payments. The original design of these plans allows the loan balance to be forgiven after the borrower has made 10, 20, or 25 years of payments. These forgiveness options may no longer be available. If the loan forgiveness options are revoked and the monthly payments are lower than the monthly accrued interest, these loans will never be paid off.

When choosing how much student loans to borrow, take into account the repayment options and how future loan payments will impact your life-style. Borrowing money to invest in your future is a good use of the loan. Do not let fear of debt limit your career opportunity. At the same time, be prudent about how much you borrow. The tools you will learn in the next chapter (Chapter 3) will help you budget and optimize your spending.

Personal Financial Plan Exercise 2

Conduct an informational interview

1. Research a career field you are interested in.
2. Identify someone working in the field.
3. Develop a short introduction about yourself (20-30 seconds).
4. Develop 5 to 10 interview questions. (You can use the sample questions from this chapter as references.)
5. Request and conduct an informational interview (15-30 minutes).
6. Follow up with a thank you note.
7. Review results from the interview and your research.
8. Evaluate your findings against your personal values, financial goals, and family needs.
9. Write a brief reflection on whether you want to pursue a career in this field and your information interview experience.

Integrated Case 2

Choosing a Major and a Career Path

Blake Jackson will be a first generation college student. Her parents did not have the opportunity to continue education past high school. They encourage Blake to pursue higher education but they lack experience to give her specific guidance. Blake maintains a relatively high GPA and did well on the SAT in her junior year of high school. Some of her friends spent the summer before senior year visiting colleges and some decided against college and switched to the vocational program. Blake is undecided but leaning towards going to college. She met with her high school counselor who encouraged her to do a personal inventory.

Personal values:

- Acceptance
- Achievement
- Autonomy
- Creativity
- Dependability
- Fun
- Justice
- Safety

Interests:

- Computer gaming
- Guitar
- Drawing
- Cars
- Woodworking

Positive Experiences:

- Mentoring a grade school robotics team
- Working at an oil change place
- Building a 3D printer
- Playing in a high school band
- Creating a platform game for a computer class

Education options:

- Go to a vocational school for automotive repair
- Go to a community college
- Go to a 4-year university

Career options:

- Mechanics
- Musicians
- Software developers

Activities:

1. Relate Blake's values, interests, and experiences to each career option.
2. Recommend actions Blake can take to learn more about each career.
3. Recommend an education option for Blake. Explain your decision.

Chapter Two Summary

This chapter introduces resources and strategies for career planning, financial aid, and student loan management. It emphasizes the interconnectedness of self-understanding, career research, and financial prudence in achieving long-term well-being.

I. Understanding the Career Decision Process

Informed career choice requires understanding your own personal values, interests, skills, and requirements of potential careers. Tools like the "Personal Values Card Sort" help identify 5-10 core personal values. Examining what you find enjoyment in hobbies, school subjects, and past jobs will reveal your interests and current skills.

II. Researching Career Opportunities

After self-assessment, the next step is researching career fields. Key Resources include the Bureau of Labor Statistics (BLS) Occupational Outlook Handbook, career office and counselors in your school, job search sites, and industry groups. Factors to consider include:

- Entry level education requirements
- Licenses, certifications, registrations requirements
- Work experience requirements
- Continuing education requirements
- Work environment and work hours
- Job outlook
- Salary range

To gain more real world insights, get a part-time job or internship in the career fields you are interested in. Use your network to connect with professionals in the field. Conduct informational interviews.

III. Financing Your Education

A. Costs of higher education and its impact

- Costs of higher education vary greatly. Take into account scholarships and grants when comparing costs.
- More education generally leads to higher earnings and lower unemployment rates, especially during economic downturns.
- Life-long learning, training, and reskilling are as important as choosing a particular career due to changing technology.
- Beware of for-profit colleges which have a long history of manipulative behavior and yield higher debts and poorer job placement outcomes.

B. Types of Financial Aid

- Need-Based Grants: Do not need repayment.
- Merit-Based Scholarships: Do not need repayment and are based on achievements.
- Student Loans: Must be repaid with interest.
- Work-Study: Paid directly to the student. Job availability is not guaranteed.

C. Federal Student Loans:

Federal loans offer lower interest rates and more flexible repayment plans than private loans.

Types of Federal Student Loans

- Direct Subsidized (Sub) Loan: Need-based, no interest accrues in school/grace period.
- Direct Unsubsidized (Unsub) Loan: Interest accrues from disbursement.
- Direct PLUS Loan: For parents; interest accrues from disbursement.
- Grad PLUS Loan: For graduate students; interest accrues from disbursement.

Repayment Options for Federal Student Loans

- Standard Repayment Plan: fixed monthly payments over a 10-year term.

- Graduated Repayment Plan: Lower initial payments that increase every two years.
- Extended Repayment Plan: Fixed payments over 12-30 years, smaller monthly payments but higher overall interest paid.
- Income-Driven Repayment (IDR) Plans: Payments are a percentage of discretionary income. A potential downside is that if payment does not cover interest, loan balance will increase.

End of Chapter Questions

1. Beyond financial impact, what other vital roles does employment play in an individual's well-being?
2. Explain the "Know Thyself" component of career planning. List the four main aspects it includes.
3. What key factors beyond salary should individuals consider when researching career information?
4. Name the primary online resource recommended by the chapter for gathering detailed information on different vocations. List five types of information it provides.
5. What are the best ways to gain valuable hands-on experiences and real-world insights into a specific industry beyond just reading job descriptions?
6. Define an informational interview. What is its primary purpose, and what is it not?
7. List five types of open-ended questions you might ask during an informational interview to gather insights about a career field.
8. Describe the crucial steps to prepare for and conduct an informational interview.
9. How does higher education generally impact an individual's earnings and employment opportunities?
10. Explain the concept of lifelong learning in the context of career planning, especially in reference to the impact of technological advancements on the labor market.
11. What are the significant differences in estimated total costs for attending various types of higher education institutions (e.g., 2-year public, 4-year public in-state/out-of-state, 4-year nonprofit private university)?
12. Why is it important to evaluate college costs based on your individual financial aid package

rather than just the published amounts?

13. Name the four common types of financial aid discussed in the chapter and briefly explain whether each needs to be repaid.
14. Compare and contrast the two main types of federal student loans: Direct Subsidized (Sub) Loan and Direct Unsubsidized (Unsub) Loan, specifically regarding interest accrual while in school.
15. What are loan fees (origination fees) for federal student loans, and how do they impact the actual amount of money a student receives versus the amount they owe interest on?
16. Explain the difference between “accrued interest” and “capitalized interest” for student loans, and how does capitalization impact the total cost of borrowing? Provide an example of how interest capitalization works.
17. Describe the “Standard Repayment Plan” for federal student loans. What is the default monthly payment allocation, and how can a borrower potentially save money on overall interest by communicating with their loan servicer?
18. Briefly explain the “Graduated Repayment Plan” and the “Extended Repayment Plan.” How do they differ from the standard plan, and what are the potential pros and cons of each?
19. What is the main risk associated with “Income-Driven Repayment (IDR) Plans” for federal student loans, especially if loan forgiveness options are subject to change or revoked?

Appendix 2.1

Common Personal Values	Descriptions
ACCEPTANCE	to be accepted as I am
ACCURACY	to be accurate in my opinions and beliefs
ACHIEVEMENT	to have important accomplishments
ADVENTURE	to have new and exciting experiences
ATTRACTIVENESS	to be physically attractive
AUTHORITY	to be in charge of and responsible for others
AUTONOMY	to be self-determined and independent
BEAUTY	to appreciate beauty around me
CARING	to take care of others
CHALLENGE	to take on difficult tasks and problems
CHANGE	to have a life full of change and variety
COMFORT	to have a pleasant and comfortable life
COMMITMENT	to make enduring, meaningful commitments
COMPASSION	to feel and act on concern for others
CONTRIBUTION	to make a lasting contribution in the world
COOPERATION	to work collaboratively with others
COURTESY	to be considerate and polite toward others
CREATIVITY	to have new and original ideas
DEPENDABILITY	to be reliable and trustworthy
DUTY	to carry out my duties and obligations
ECOLOGY	to live in harmony with the environment
EXCITEMENT	to have a life full of thrills and stimulation
FAITHFULNESS	to be loyal and true in relationships
FAME	to be known and recognized
FAMILY	to have a happy, loving family
FITNESS	to be physically fit and strong
FLEXIBILITY	to adjust to new circumstances easily
FORGIVENESS	to be forgiving of others

FRIENDSHIP	to have close, supportive friends
FUN	to play and have fun
GENEROSITY	to give what I have to others
GENUINENESS	to act in a manner that is true to who I am
GOD'S WILL	to seek and obey the will of God
GROWTH	to keep changing and growing
HEALTH	to be physically well and healthy
HELPFULNESS	to be helpful to others
HONESTY	to be honest and truthful
HOPE	to maintain a positive and optimistic outlook
HUMILITY	to be modest and unassuming
HUMOR	to see the humorous side of myself and the world
INDEPENDENCE	to be free from dependence on others
INDUSTRY	to work hard and well at my life tasks
INNER PEACE	to experience personal peace
INTIMACY	to share my innermost experiences with others
JUSTICE	to promote fair and equal treatment for all
KNOWLEDGE	to learn and contribute valuable knowledge
LEISURE	to take time to relax and enjoy
LOVED	to be loved by those close to me
LOVING	to give love to others
MASTERY	to be competent in my everyday activities
MINDFULNESS	to live conscious and mindful of the present moment
MODERATION	to avoid excesses and find a middle ground
MONOGAMY	to have one close, loving relationship
NON-CONFORMITY	to question and challenge authority and norms
NURTURANCE	to take care of and nurture others
OPENNESS	to be open to new experiences, ideas, and options
ORDER	to have a life that is well-ordered and organized
PASSION	to have deep feelings about ideas, activities, or people

PLEASURE	to feel good
POPULARITY	to be well-liked by many people
POWER	to have control over others
PURPOSE	to have meaning and direction in my life
RATIONALITY	to be guided by reason and logic
REALISM	to see and act realistically and practically
RESPONSIBILITY	to make and carry out responsible decisions
RISK	to take risks and chances
ROMANCE	to have intense, exciting love in my life
SAFETY	to be safe and secure
SELF-ACCEPTANCE	to accept myself as I am
SELF-CONTROL	to be disciplined in my own actions
SELF-ESTEEM	to feel good about myself
SELF-KNOWLEDGE	to have a deep and honest understanding of myself
SERVICE	to be of service to others
SEXUALITY	to have an active and satisfying sex life
SIMPLICITY	to live life simply, with minimal needs
SOLITUDE	to have time and space where I can be apart from others
SPIRITUALITY	to grow and mature spiritually
STABILITY	to have a life that stays fairly consistent
TOLERANCE	to accept and respect those who differ from me
TRADITION	to follow respected patterns of the past
VIRTUE	to live a morally pure and excellent life
WEALTH	to have plenty of money
WORLD PEACE	to work to promote peace in the world

Appendix 2.2

Link to printable personal values cards: [personal-values-card-sort](#)

Notes

1. Hartung (2011)
2. Parsons (1909)
3. Gati and Kulcsar (2021)
4. Miller et al. (2001)
5. Appendix 2.1 provides a brief explanation for each value. Appendix 2.2 contains printable cards with these values that you can use as an exercise.
6. Myers (1976) introduced the Myers-Briggs indicators. Hook et al. (2020) proposed the Enneagram model. Friedman and Rosenman (1956) identified the type A, type B, type C, and type D personalities
7. Costa et al (2002)
8. Deming, Ong, and Summers (2025)
9. Shiro and Reeves (2021)

PART II

MODULE TWO: PERSONAL FINANCIAL PLANNING FOUNDATION

The tools and concepts in module two form the foundation for future modules. Chapter 3 explains the budgeting process. Chapter 4 explains the U.S. tax system and how taxes affect personal financial planning. Chapter 5 introduces the concept of time value of money and the tools needed to evaluate investments, estimate future financial needs, and determine the impact of inflation. This module should not be skipped before moving onto other modules.

3.

BUDGETING AND PERSONAL FINANCIAL STATEMENTS

Chapter Three Learning Objectives

- Create a personal statement of net worth.
- Create a personal cash flow statement.
- Develop and implement a personal budget.
- Connect these activities with reaching your personal financial goals.

Why Budgeting and Personal Financial Statements Matter

Understanding your current financial situation is the first step in financial planning. The path to your financial goals is akin to embarking on a journey – you can't get where you want to go without knowing where you are!

To gain a comprehensive understanding of your finances, you need to take a detailed inventory of your income, expenses, assets, and debts. By understanding your current financial situation, you can identify areas where you may be overspending, pinpoint opportunities to save, and develop a realistic budget that aligns with your financial goals. Remember, knowledge is power, and when it comes to your finances, understanding your starting point is the first step towards achieving financial success.

You also need a road map for your financial journey so you do not get lost along the way. Therefore, the second step is to create a budget, which serves as a tracking tool to monitor your progress and determine if you are on track to meet your financial objectives. By adhering to your budget and regularly reviewing your financial situation, you can make informed decisions about your spending habits and investment options.

Common Emotional Barriers

We introduced how psychology and money are interlinked in Chapter 1. Many people find budgeting a stressful activity. This stress can stem from a variety of reasons, with four primary factors standing out.

- **Fear:** Some people associate fear with money and feel anxious about it. This fear may stem from their family of origin where money was the cause of disharmony. Research has found that financial disagreements were the strongest predictor of divorce¹. Media and news stories on personal financial tragedies may also contribute to this anxiety.
- **Guilt:** Budgeting requires individuals to closely examine their income and expenses, which can be an uncomfortable experience. It may expose overspending habits and debt accumulation. This confrontation with reality can be a source of stress and anxiety.
- **Unwillingness to recognize financial constraints:** Budgeting can be perceived as restrictive, limiting one's ability to spend freely. This can lead to feelings of deprivation and anxiety about insufficient income to meet desired lifestyle choices.
- **Feeling overwhelmed:** Financial matters can seem complex and daunting, especially for those unfamiliar with financial management. Tracking expenses, categorizing spending, and making adjustments can be perceived as time-consuming and complicated.

These four main factors can contribute significantly to the stress associated with creating a personal budget. However, it is important to remember that budgeting can also be a powerful tool for achieving financial goals and gaining control over one's financial life. With the right approach and support, it is possible to overcome these challenges and make budgeting a less stressful and empowering experience.

First, accept the truth that facts do not change even if you do not look at them. Avoidance will only make a bad situation worse. If the word budget causes anxiety, use a different name, e.g. wealth building plan or financial stress reduction tool. Second, you now have the tools provided in this book to guide you through the budgeting process step-by-step. You do not need to tackle everything all at once. Break down the tasks into smaller, manageable steps. Take one step at a time. You will gain confidence as you complete each step. Reward yourself for your accomplishments. Many people find having a supporting community helpful. If you are taking a course in financial planning, collaborate with your classmates. There are many online communities and forums devoted to personal financial planning. You should not disclose details about your finances online but you will find support to help you take positive steps.

Example: Maya West and Isis Khan

Maya West and Isis Khan are in their early 30's. They have been married for 5 years. Maya has a master's degree in social work and works as a licensed therapist. Isis is a middle school math teacher. Together they earned approximately \$126,000 per year in gross income. They just purchased a house and own one car that they purchased 5 years ago. Owning their own house is one of their dreams and they have no regrets that they have to use up most of their savings as down payment and closing costs. Thus far they have enjoyed a DINK (double income no kid) lifestyle without accumulating credit card debts and making reasonable payments on their student loans. But they have not contributed anything to their retirement accounts. Now with a home mortgage and their parents' recent retirement, they decide it is time to be more serious about their financial planning. Their short-term goal is to rebuild their emergency funds. Their intermediate goal is to renovate the kitchen in their new home and their long-term goal is to retire by age 70. They met with their financial planner who suggested their first step is to organize their financial records and prepare a statement of net worth and a statement of cash flows.

Understanding Cash Flows

A cash flow statement tracks the money coming in (cash inflows) and the money going out (cash outflows) over a period of time. Comparing your cash inflows and outflows enables you to track your spending and determine how much you can allocate toward savings or other purposes. The personal cash flow statement also serves as the foundation for building a personal budget.

Types of Cash Flows and Their Impact on Financial Stability

Essential (non-discretionary) Cash Outflows: These are essential expenses that are necessary for maintaining a basic standard of living and meeting legal obligations. They typically occur on a regular schedule and are relatively fixed in amount, making them easier to budget for but also harder to adjust quickly in response to sudden financial challenges.

- Examples:

- Housing: Rent or mortgage payments, property taxes, homeowner's insurance, and home maintenance.
- Utilities: Electricity, water, heating, phone, and internet services.
- Transportation: Car payments, auto insurance, gas, vehicle maintenance, and public transportation fares.
- Groceries: Food and essential household supplies.
- Healthcare: Health insurance premiums, prescription medications, and necessary medical treatments.
- Debt Repayment: Student loans, credit card payments, and other loan obligations.
- Taxes: Income taxes, property taxes, and other government levies.
- Impact on Financial Stability: Essential cash outflows are crucial for maintaining basic needs and fulfilling legal obligations. However, high levels of essential expenses can significantly limit financial flexibility and make it difficult to save or invest for the future. It is of utmost importance to manage these expenses carefully and prioritize needs over wants to ensure financial stability.

Optional (discretionary) Cash Outflows: These are expenses that are not essential for survival or meeting legal obligations but are incurred for personal enjoyment, convenience, or lifestyle choices. They are typically more flexible and can be adjusted based on income and financial goals.

- Examples:
 - Leisure and Entertainment: Movies, concerts, sporting events, streaming services, and hobbies.
 - Dining Out: Restaurants, take-outs, and food delivery services.
 - Travel: Vacations and weekend getaways.
 - Personal Care: Haircuts, salon services, and cosmetics.
 - Clothing and Accessories: New clothes, shoes, and jewelry.
 - Electronics and Gadgets: Smartphones, computers, and other devices.
 - Gifts: Presents for birthdays, holidays, and other occasions.
 - Charitable Donations: Contributions to non-profit organizations and causes.
- Impact on Financial Stability: Discretionary cash outflows can enhance quality of life and provide enjoyment. However, excessive spending on optional items can lead to financial instability, debt accumulation, and difficulty achieving long-term financial goals. It is crucial to strike a balance between spending and saving to ensure financial well-being.

Recurring Cash Inflows: This is income that is received regularly and consistently, often on a weekly, bi-weekly, or monthly basis. It is predictable and can be relied upon for budgeting and financial planning.

- Examples:

- Salary and wages: Compensation for employment, usually paid on a regular schedule.
- Investment Income: Dividends from stocks and mutual funds, interests from bonds and savings accounts, and rents from rental properties.
- Pensions or social security benefits: Retirement income from employers or the government.
- Impact on Financial Stability: Recurring cash inflows provide a stable support for essential expenses and optional expenses. Having sufficient recurring cash inflows is critical to long-term financial stability.

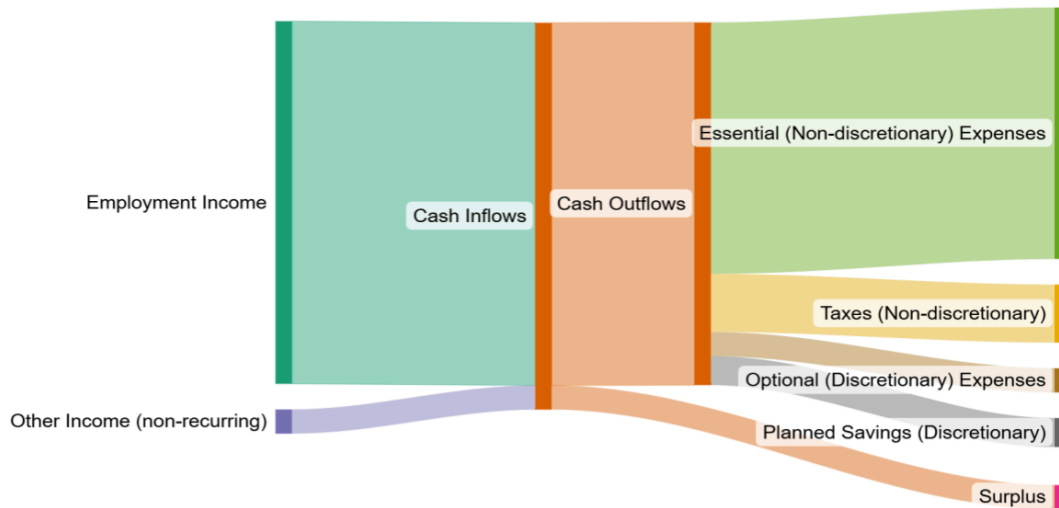
Non-recurring Cash Inflows: This is income that is received irregularly and unpredictably, making it difficult to anticipate and incorporate into long-term financial planning.

- Examples:
 - Bonuses: Performance-based payments from an employer, often awarded annually or quarterly.
 - Commissions: Sales-based earnings, typically paid as a percentage of sales revenue.
 - Gifts: Cash or other valuable items received from family, friends, or others.
 - Tax Refunds: Money returned by the government due to overpayment of taxes.
- Impact on Financial Stability: Non-recurring cash inflows can provide a temporary boost to finances but should not be solely relied upon for long-term financial stability. They can be used to pay off debt, make investments, or occasional optional expenses

Cash surplus or deficit: When your cash inflows exceed your cash outflows, you will have a cash surplus, i.e. you have money left at the end of the month. When your cash outflows exceed your cash inflows, you will have a cash deficit, which means drawing on your savings, unpaid credit card balance, or the need to borrow money on short notice. Obviously it is better to have a surplus. Developing and adhering to a budget will significantly reduce the likelihood of not having enough money to pay all your essential bills. Figure 3.1a shows the relationship between cash inflows and cash outflows when there is a surplus and Figure 3.1b shows the relationship when there is a deficit.

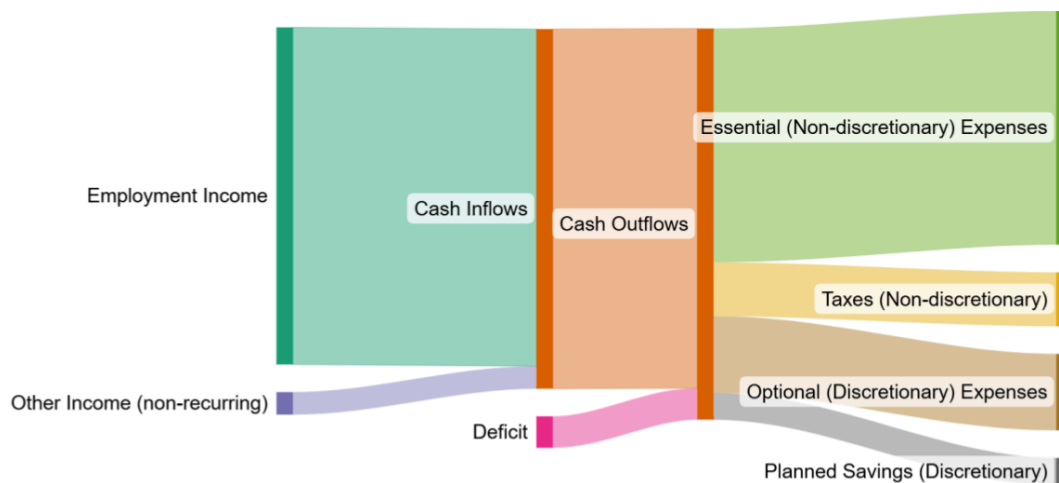
Cash Inflows and Cash Outflows (Surplus)

Figure 3.1a



Cash Inflows and Cash Outflows (Deficit)

Figure 3.1b



Creating a Personal Cash Flow Statement

A personal cash flow statement is a historic record of your cash inflows and cash outflows. The first step in creating a personal cash flow statement is to collect data on incomes and spending. Using data over an entire year will smooth out seasonal variations. The primary source of data include bank statements, credit card statements, and mobile payment records. Almost all these financial services companies provide a way to download historical transactions.

The second step is to determine the categories of cash flows. The last section provided examples for different types of cash flows. You can use them as inspiration. The appropriate number of categories depend on your personal need and your willingness to devote time to this process. A larger number of categories will provide a more detailed picture of your spending habits. For example, you may want to separate eating out from other entertainment and leisure activities to better keep track of where your money goes. On the other hand, too

many categories will make the information harder to interpret and you will lose sight of the forest for the trees. For those new to personal financial planning, fewer categories may make the process easier to get started. As they gain experience and as their finances become more complex, they can increase the number of categories to meet their needs. Figure 3.2 shows two sample systems of classifying cash flows. Income related cash flows are colored in blue. Essential expenses are colored in red, and optional expenses are colored in red.

Two Sample Cash Flow Categories

Cash Inflows

Gross income
Deductions (Taxes)
Other income

Cash Inflows

Gross income
Deductions (Taxes)
Gift and other Income
Investment Income

Cash Outflows

Housing
Transportation
Groceries
Medical expenses
Optional expenses

Cash Outflows

Housing (rent or mortgage and insurance)
Car - loan
Student loan repayment
Utilities (heat, electricity, phone, internet)
Car - gas
Car - maintenance, insurance, repairs
Food, grocery, and household supplies
Medical expenses (drugs, doctor's visits, insurance)
Restaurant (eating out)
Leisure (movies, games, travel, streaming)
Clothing, household items
Donations and gifts to others
Other expenses

Figure 3.2

Exercise 3.1: Determine Cash Flow Categories

List the categories you will use to construct your own statement of cash flows.

Once you have decided on the categories, assign each transaction to a category. Compute the total for each category and enter them into the personal cash flow statement. To better illustrate this process, let us look at the example of Maya and Isis.

Example: Maya and Isis – Downloading and Classifying Transactions

Figure 3.3 shows the downloaded transactions for one of Maya and Isis's credit cards for the billing period from July 12 to August 12. The first four columns were from the credit card company. Maya and Isis classified these transactions into their chosen categories in column five.

After classifying the transactions into their categories, Maya and Isis computed the subtotal for each category.

Financial Transactions For Maya West and Isis Khan

Transaction Date	Post Date	Description	Amount	Category
13-Aug	13-Aug	Payment	1084.02	
12-Aug	13-Aug	Nature Channels	-4.99	Leisure
11-Aug	12-Aug	GrocerMart	-13.71	Groceries
8-Aug	9-Aug	GrocerMart	-139.00	Groceries
6-Aug	7-Aug	Gas r' Us	-32.13	Gas
5-Aug	5-Aug	GrocerMart	-23.69	Groceries
3-Aug	4-Aug	Xfinity	-59.95	Utilities
30-Jul	31-Jul	Netflix	-7.99	Leisure
28-Jul	29-Jul	GrocerMart	-26.96	Groceries
28-Jul	29-Jul	GrocerMart	-20.95	Groceries
25-Jul	28-Jul	Precision Auto	-123.62	Car
26-Jul	26-Jul	DressSmart	-121.52	Clothing
23-Jul	24-Jul	Gas r' Us	-30.52	Gas
22-Jul	23-Jul	Quality Hotel	-399.00	Leisure
22-Jul	23-Jul	General Hospital	-75.00	Medical
12-Jul	14-Jul	Anime Channels	-4.99	Leisure
				Subtotals
			Leisure	-416.97
			Groceries	-224.31
			Gas	-62.65
			Car	-123.62
			Utilities	-59.95
			Medical	-75.00
			Clothing	-121.52

Figure 3.3

The personal cash flow statement has three main sections. The first section contains cash inflows. It includes take-home pay, which equals gross income from salary and wages minus deductions, and all other income such as bonuses, gifts, and interest income. The second section includes cash outflows. It is useful to divide the second section into two subsections: essential expenses and optional expenses. Total cash outflows equal the sum of total essential expenses and optional expenses. The last section computes the cash surplus or deficit, which is the difference between cash inflows and cash outflows.

- Net (take-home) income = Gross income – deductions
- Total cash inflows = Net (take-home) income + Gifts and other income + Investment income
- Total essential expenses = sum of all essential expenses
- Total optional expenses = sum of all optional expenses
- Total cash outflows = Total essential expenses + Total optional expenses

- Cash surplus (or deficit) = Total cash inflows – Total cash outflows

Example: Maya and Isis Personal Cash Flow Statement

Maya and Isis downloaded and classified all their credit card, bank, and mobile payment transactions for the entire year. They entered the annual total for each category into their personal cash flow statement (Figure 3.4).

Personal Cash Flow Statement For Maya West and Isis Khan

Figure 3.4

	Annual Total
Cash Inflows	
Gross income	126,000
Less: deductions (Taxes)	31,500
Net take-home pay	94,500
Gift and other Income	0
Investment Income	0
<i>Total Cash Inflows</i>	94,500
Cash Outflows	
<u>Essential Expenses</u>	
Housing (rent or mortgage and insurance)	31,694
Car - loan	5,832
Student loan repayment	3,600
Utilities (heat, electricity, phone, internet)	5,484
Car - gas	2,926
Car - maintenance, insurance, repairs	2,494
Food, grocery, and household supplies	11,678
Medical expenses (drugs, doctor's visits, insurance)	3,263
<i>Total Essential Expenses</i>	66,971
<u>Optional Expenses</u>	
Restaurant (eating out)	6,812
Leisure (movies, games, travel, streaming)	15,423
Clothing, household items	3,698
Donations and gifts to others	1,096
Other expenses	290
<i>Total Optional Expenses</i>	27,319
<i>Total Cash Outflows</i>	94,290
Cash surplus (or deficit)	211

Exercise 3.2: Analyze Spending Habits and Download Financial Transactions

Analyze your spending habits for the past year. Choose one credit card or debit card or mobile payment that you use most often to pay for daily purchases.

1. Download last year’s transactions.
2. Classify these transactions into the categories you have identified in Exercise 3.1.
3. Compute subtotals for each category.
4. Rank the categories by the amount of spending with the top category being the one with the highest spending.

Challenge task: Compute the percentage represented by each category: $\text{Percentage} = \frac{\text{subtotal for each category}}{\text{total spending}}$.

Tools for Keeping Track of Incomes and Expenses

Cash inflows are relatively easy to track. Employers routinely provide earning statements (paychecks) with information on gross pay and deductions. Figure 3.5 shows a sample earning statement. The Year-To-Date (YTD) values of the last paycheck in December will contain the annual gross income and total deductions. Common deductions include federal and state income taxes, Medicare and Social Security taxes. Your entire gross income is subject to federal and state income taxes and Medicare taxes. There is a maximum amount of income subject to Social security. We will discuss tax planning and tax calculation in detail in the Chapter 4. Other deductions may include health insurance and

ACME Company
123 Main Street
Port City, AA 01234

EARNINGS STATEMENT

EMPLOYEE NAME / ADDRESS		SSN	REPORTING PERIOD	PAY DATE	# 8154		
Avery Jones 999 Hight Street Port City, AA		XXX-XX-1234	02/07 - 02/13	02/14	Employee # 7859		
01234-INCOME	RATE	HOURS	CURRENT PAY	DEDUCTIONS	TOTAL	YTD TOTAL	
GROSS EARNINGS	\$10	40	\$400.00	FICA-MEDICARE FICA SOCIAL SECURITY FEDERAL TAX HEALTH INSURANCE	\$5.80 \$24.80 \$44.40 \$20.00	\$40.60 \$173.60 \$310.80 \$140.00	
YTD GROSS			YTD DEDUCTIONS	YTD NET PAY	TOTAL	DEDUCTIONS	NET PAY
\$2,800.00			\$665.00	\$2,135.00	\$400.00	\$95.00	\$305.00

Figure 3.5

Other deductions may include health insurance and

contributions to retirement accounts such as 401k. Dividends and interest incomes are provided by banks, brokerage, and financial services firms.

Collecting and categorizing cash outflows are more time consuming. There are three main approaches to collecting and keeping track of expenses:

1. A do-it-yourself (DIY) spreadsheet,
2. Tools from banks, credit cards, and mobile payment services,
3. Third party apps.

The factors to consider when choosing a particular approach include ease of use, privacy, security, reliability, and costs. A DIY spreadsheet is free and as long as you adopt good cybersecurity practices, offers the most privacy, security, and reliability. It requires more effort, especially when setting it up for the first time. Using a DIY spreadsheet requires you to download transactions from multiple sources, including banks, credit cards and other payment services. You have to assign each transaction to a category manually and create subtotals for each category. Once you have set up the spreadsheet, future updates can be done on a monthly basis and the task becomes very manageable.

Good Cybersecurity Practices

- **Strong passwords:** Use unique, strong passwords for all accounts. Passwords are the first line of defense against cybercriminals. Regularly update your passwords.
- **Multi-factor authentication:** Enable multi-factor authentication for online accounts to prevent unauthorized access. Never give security code from MFA to anyone.
- **Backups:** Create a backup strategy to recover data in case of a cyberattack. Store backups offline.
- **Firewall and antivirus software:** Be sure to enable firewall and antivirus software such as Microsoft Defender for Windows and XProtect for Mac to protect against cyber attacks.
- **Beware of public Wi-Fi networks without protections:** Many public networks are poorly secured and hackers can exploit them to intercept your data. Use a Virtual Private Network (VPN) that protects your data when using public networks.
- **Update computer system consistently:** Install system updates on your computer regularly.
- **Be cautious with emails and texts:** Do not click links or open attachments from

unsolicited emails or texts even if they look from a trusted source.

Another option is to use free spending analysis tools offered by banks, credit cards, and other financial services. Usually these tools automatically assign pre-specified categories to transactions and provide monthly, yearly, or year-to-date (YTD) summaries. For example, Chase offers the Chase Spending Planner which classifies spending into 17 categories and American Express generates year-end summaries with 9 categories. One advantage of these tools is their relative ease of use because you do not have to manually assign each transaction to a category. The drawback is that you cannot customize categories to your own needs and you do not have control if the company decides to change categories or discontinue the service. You still need to combine information from multiple sources to get a complete picture of your spending. Financial services companies such as banks usually have strict cybersecurity and privacy practices, especially those with a long history. After all, these companies already possess sensitive information such as account numbers and your personal data that you need to protect. They are also likely to be reliable because bank failure is a significant event. We will discuss factors to consider when choosing a financial services firm in a later chapter.

If the above two options do not meet your needs, you can consider a third party financial management app. The biggest advantage of these apps is that they are designed to be user-friendly and have a large number of features. These apps can collect data automatically from your banks, credit cards, and other financial services and generate a complete spending report. However, you will need to provide them with your login information to your banks and credit card companies and allow them access to your financial accounts. The cybersecurity and privacy practices of these apps vary and are not always transparent. Many of these apps are start-up companies and the products may disappear if they do not have enough funding to keep the business going. Some of these apps are free and some charge a monthly fee. Security, privacy, and reliability can be a concern, especially for free apps.

The most important consideration is to choose a tool that you will use. If you prefer a DIY spreadsheet but find that keeping track of 15 categories is too overwhelming, reduce the number so it is manageable for you. You could use 5 categories of essential expenses: debt, housing, utilities, transportation, groceries, and medical and group all other expenses as optional. You could enter total deductions instead of recording each one as a separate category. That way you only need to keep track of 5 types of expenses.

Factors to Consider When Choosing How to Keep Track of Expenses

Spending Tracking Tools	Ease of use	Security	Privacy	Reliability	Cost
DIY spreadsheet *Up to you to maintain security, privacy and reliability.	Low	High*	High*	High*	Free
Tools from financial services	Medium	High	High	High	Free
Third party apps	High	Unknown	Unknown	Low	Vary

Exercise 3.3: Choosing a Spending Analysis Tool

Research two online or mobile apps for collecting and keeping track of expenses from a financial service or a third-party. Identify each app's advantages and disadvantages in terms of (1) ease of use, (2) security, (3) privacy, (4) reliability, and (5) costs. Would you recommend these apps? Why or why not.

Understanding Assets, Debts, Net Worth, and Personal Statement of Net Worth (Personal Balance Sheet, Personal Statement of Financial Positions)

A personal statement of financial positions is also known as a personal balance sheet or a personal statement of net worth. It provides a snapshot of your financial health at a specific point in time. It lists all assets and debts (liabilities) and computes the net worth, which is determined by subtracting debts from assets.

$$\text{Net Worth} = \text{Total Assets} - \text{Total Debts}$$

A positive net worth means the total value of assets is greater than the total value of debts. A negative net worth

means a person owes more than they own and selling off all their assets will not be sufficient to pay off all their debts.

A personal statement of financial positions is an important element of a financial plan. Updating the statement on a regular basis enables you to monitor how your financial health improves or deteriorates over time and whether you are on track to achieve your financial goals. A personal statement of financial positions is required in some financial or legal activities such as applying for a mortgage or a car loan, or establishing a prenuptial agreement.

Types of Assets and Liabilities

It is useful to classify assets and liabilities based on their liquidity or duration. For assets, liquidity refers to how quickly and easily it can be sold for cash without significant loss of value. Cash is the most liquid asset, while real estate or collectibles are considered least liquid. For liabilities, short-term liabilities are debts that are due within one year and require cash available to pay them off. Credit card balance is the most common form of short-term liability. Each month when the credit card company sends out the monthly statement, you must pay off the entire balance. Otherwise you will be charged interests and sometimes late fees. It is important to view the entire balance as your obligated payment, not the minimum payment amount. Long-term liabilities are debts that will be paid over a period beyond one year. Interests will be charged on the outstanding balance until the entire loan is paid off. Common examples of long-term liabilities include student loans, car loans, and mortgages.

Understanding the liquidity of assets and liabilities allows individuals to manage their cash flow effectively, ensure they have enough cash to meet their short-term obligations, and make informed investment decisions. Another important concept is market value versus historical value. Market value is how much you can sell an asset for today. Historical value is how much you paid when you purchased the asset. Many assets depreciate in value over time. Automobiles are a prime example. A new car loses value the moment you drive off the dealer's lot. Personal items, such as clothing, lose so much value once used that banks do not consider them valuable assets to be included at all. When creating a personal statement of financial positions, you should use market values. Lastly, it is useful to distinguish between real assets and financial assets. Real assets include items that have a physical form, such as houses, cars, boats, phones, artworks, or appliances. Financial assets do not have actual use except to be converted into cash when needed. These include cash, bank accounts, stocks, bonds, mutual funds, investment accounts, or retirement accounts. We will discuss financial assets in detail in later chapters.

- Assets:
 - Highly Liquid Assets: These can be converted to cash quickly and easily, typically within a day or two. Examples include cash, checking accounts, savings accounts, and money market funds.
 - Moderately Liquid Assets: These take longer to convert to cash and may incur some transaction

costs or loss of value. Examples include stocks, bonds, and mutual funds.

- Illiquid Assets: These are difficult and time-consuming to convert to cash and often involve significant transaction costs or loss of value. Examples include real estate, collectibles, art, and retirement accounts.
- Liabilities:
 - Short-Term Liabilities: The entire balance of these debts is due within a year and requires cash to be available in the short term. Examples include credit card debt and short-term loans.
 - Long-Term Liabilities: The balance of these debts are due in more than a year and they usually require regular monthly payments. Examples include mortgages, student loans, and auto loans.

Relationship Between Cash Flows, Economic Conditions, and Net Worth

A key characteristic of a personal statement of financial position is that it provides a snapshot of an individual's assets, liabilities, and net worth on a given date. It offers a static picture that is only valid at that particular point in time. Information provided in a personal statement of financial position changes with the passage of time and changes in economic conditions.

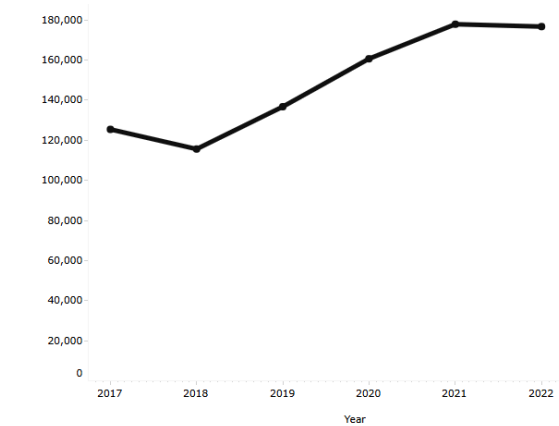
A cash surplus occurs when cash inflows are greater than cash outflows during a specific time period. This surplus can be used to purchase additional assets or pay off existing debt, leading to an increase in net worth over time. Conversely, a cash deficit may necessitate the sale of assets, taking on new loans, or the accumulation of interest due to non-payment, resulting in a decrease in net worth. Effective budgeting and financial planning can help to increase net worth and build wealth over time.

The worth of some assets depends on their age and conditions. For example, the value of a car goes down as it accumulates mileage and years in use, leading to lower net worth. Other assets, such as real estate and financial investments like stocks, bonds, and mutual funds, fluctuate in value due to changing economic conditions. These economic factors include changes in interest rates, inflation, economic growth or recession, consumer confidence, and global events.

During periods of strong economic growth, increase in asset values tends to outpace increase in debts, resulting in higher net worth for many people. The opposite is true in times of recession when asset values decrease, resulting in lower net worth. Figure 3.6 shows the median net worth for U.S. households from 2017 to 2022.

Figure 3.6

Median Net Worth for All U.S. Households (In dollars)



Creating a Personal Statement of Financial Positions (Personal Balance Sheet, Personal Statement of Net Worth)

Similar to creating a personal cash flow statement, the first step when creating a personal statement of financial position is to collect relevant data. Market values for financial assets and liabilities are the current balances in the respective accounts and can be obtained from the financial services firms' websites or paper statements. Actual market values for real assets are not usually available and must be estimated. Online resources are available for estimating market values of common real assets such as houses and cars. For houses, recent selling prices of similar houses in nearby neighborhoods provide a reasonable estimate. Real estate websites such as [Zillow](https://www.zillow.com) are a good place to start. The market values of cars can be obtained from local used car dealers or websites such as [kbb.com](https://www.kbb.com). Unique items such as artworks or collectibles require appraisers with expertise to assess their values, which can be costly.

Both assets and liabilities are listed in order of their liquidity on the personal statement of financial positions, beginning with the most liquid asset, cash. Figure 3.7 shows the personal statement of financial positions for Maya and Isis as an example.

Example: Maya and Isis Personal Balance Sheet

Personal Balance Sheet For Maya West and Isis Khan

Figure 3.7

ASSETS		LIABILITIES	
<i>Cash Accounts</i>		<i>Short-term</i>	
Checking accounting	200	Credit card balances	50
Money market account	800	Other consumer loans	0
<i>Total cash accounts</i>	1,000	<i>Total short-term liabilities</i>	50
<i>Investment Accounts</i>		<i>Long-term</i>	
Certificate of Deposits	0	Auto loan	5,000
Stocks	0	Real estate mortgage	492,000
Bonds	0	Other loans	20,000
Mutual Funds	5,200	<i>Total long-term liabilities</i>	517,000
IRA/Roth IRA	8,500	TOTAL LIABILITIES	517,050
Retirement 401(k)	6,000		
<i>Total investment accounts</i>	19,700	NET WORTH	40,650
<i>Other Assets</i>			
Car(s)	12,000		
Personal property	5,000		
Real Estate	520,000		
<i>Total other assets</i>	537,000		
TOTAL ASSETS	557,700		

Using Personal Financial Statements to Evaluate Your Financial Health

The personal cash flow statement and statement of net worth provide valuable information about your financial situation. You can use them to analyze your spending habits and financial readiness, assess whether you are on track to meet your financial goals, and create a sustainable budget.

Analyze Spending Habits

In general it is easier to change your spending habits than to change your income in the short run. Increasing your income usually requires looking for another job or changing your career completely. Chapter 2 discusses career planning and factors to consider when deciding on a career or changing careers. This section focuses on spending habits. The personal cash flow statement contains a complete picture of historical spending. One useful approach is to convert the dollar values in the cash flow statement into percentages, either as a percentage of gross income, take-home pay, or total expenses. Expressing debt obligations as a percentage of gross income is a common measurement used by banks to evaluate potential borrowers. Translating expenses into a percentage of take-home pay shows where the paycheck goes, including both spending and savings. Using total expense as the basis of the percentage highlights spending patterns. The following example illustrates the process of converting expenses into a percentage of take-home pay.

Example: Maya and Isis – Analyzing Spending Habit

To determine where their money went, Maya and Isis computed each spending category as a percentage of take-home pay by dividing each category by take-home pay. To demonstrate, let us review Maya and Isis's personal cash flow statement in Figure 3.3. Their take-home pay was \$126,000 for the year and they spent \$31,694 in housing expenses, which represented 34 percent ($0.34 = \$31,694 / \$126,000$). Similarly, they spent \$15,423 on leisure activities, which equaled 16 percent ($0.16 = \$15,423 / \$126,000$) of take-home pay. Figure 3.8 shows each spending category as a percentage of take-home pay.

Personal Cash Flow Statement For Maya West and Isis Khan

Figure 3.8

	<u>Annual Total</u>	
Cash Inflows		
Gross income	126,000	
Less: deductions (Taxes)	31,500	
Net take-home pay	94,500	
Gift and other Income	0	
Investment Income	0	
Total Cash Inflows	94,500	
Cash Outflows		
		As a percent of take-home pay
<u>Essential Expenses</u>		
Housing (rent or mortgage and insurance)	31,694	34%
Car - loan	5,832	6%
Student loan repayment	3,600	4%
Utilities (heat, electricity, phone, internet)	5,484	6%
Car - gas	2,926	3%
Car - maintenance, insurance, repairs	2,494	3%
Food, grocery, and household supplies	11,678	12%
Medical expenses (drugs, doctor's visits, insurance)	3,263	3%
Total Essential Expenses	66,971	71%
<u>Optional Expenses</u>		
Restaurant (eating out)	6,812	7%
Leisure (movies, games, travel, streaming)	15,423	16%
Clothing, household items	3,698	4%
Donations and gifts to others	1,096	1%
Other expenses	290	0%
Total Optional Expenses	27,319	29%
Total Cash Outflows	94,290	100%
Cash surplus (or deficit)	211	0%

By computing percentages, you can get a clearer picture of where your money goes and be able to focus on areas of concern. For Maya and Isis, housing was their largest expenditure, which was common for many people. According to the U.S. Department of Housing and Urban Development (HUD), households are considered

cost-burdened when they spend more than 30 percent of their income on rent or mortgage payment. In 2023 nearly half of renters in the U.S. spent more than 30 percent of their income on rent (U.S. Census 2024). The housing burden for Maya and Isis was 34 percent, leaving them with less money for other things. Housing and groceries represented a large percentage of their income and were essential expenses, therefore difficult to adjust in the short run.

The areas an individual has the most control over are optional expenses. Let us look at the example of Maya and Isis again. Their second highest spending category by percentage was leisure activities such as movies, games, travel, and streaming services. Last year they spent 16 percent of their take-home pay in this category. They also ate out quite a bit, spending 7 percent on restaurants. In addition to looking at spending as a percentage of income, it is also useful to convert the annual total to a monthly amount (divide the annual amount by 12). The average monthly total is also a good starting point for creating a budget. As shown in Figure 3.9, Maya and Isis spent \$6,812 last year on eating out, which equals to \$568 per month, or over \$140 per week. These two areas would be easier to cut back if necessary compared to essential expenses.

Example: Maya and Isis – Monthly Personal Cash Flow Statement

Personal Cash Flow Statement For Maya West and Isis Khan

Figure 3.9

	Annual Total	Average Monthly Total
Cash Inflows		
Gross income	126,000	10,500
Less: deductions (Taxes)	31,500	2,625
Net take-home pay	94,500	7,875
Gift and other Income	0	0
Investment Income	0	0
<i>Total Cash Inflows</i>	94,500	7,875
Cash Outflows		
<u>Essential Expenses</u>		
Housing (rent or mortgage and insurance)	31,694	2,641
Car - loan	5,832	486
Student loan repayment	3,600	300
Utilities (heat, electricity, phone, internet)	5,484	457
Car - gas	2,926	244
Car - maintenance, insurance, repairs	2,494	208
Food, grocery, and household supplies	11,678	973
Medical expenses (drugs, doctor's visits, insurance)	3,263	272
<i>Total Essential Expenses</i>	66,971	5,581
<u>Optional Expenses</u>		
Restaurant (eating out)	6,812	568
Leisure (movies, games, travel, streaming)	15,423	1,285
Clothing, household items	3,698	308
Donations and gifts to others	1,096	91
Other expenses	290	24
<i>Total Optional Expenses</i>	27,319	2,277
<i>Total Cash Outflows</i>	94,290	7,857
Cash surplus (or deficit)	211	18

How do you know if you need to change your spending habits? An obvious red flag is low cash surplus or

cash deficit – a situation a good financial plan seeks to avoid. Instead of waiting until a financial disaster hits, a proactive financial planning process includes analyzing an individual’s financial readiness and identifying necessary changes. Lastly, when comparing your current financial positions and your financial goals you may realize changes to spending and/or income are needed to meet your goals. We will discuss these two topics next.

Analyze Financial Readiness and Gaps to Financial Goals

Financial readiness refers to your ability to meet unexpected changes in your personal circumstance or to the overall economy. For instance, you or a family member could become ill unexpectedly and you are unable to work, or your car suddenly breaks down and needs major repairs. Having an emergency fund is a good way to prepare for unforeseen events. The rule of thumb is to have three to six months’ worth of essential expenses in a readily accessible account.

Example: Maya and Isis – Emergency Fund

- Figure 3.9 showed that essential expenses for Maya and Isis totaled \$66,971 per year, or \$5,581 per month.
- Emergency funds for 3 months of essential expenses would be approximately \$17,000 ($\$5,581 \times 3 = \$16,745$).
- Emergency funds for 6 months of essential expenses would be approximately \$34,000 ($\$5,581 \times 6 = \$33,485$).
- Maya and Isis decided they wanted \$25,000 in their emergency fund.

Another useful indicator of financial health and readiness is the debt-to-income (DTI) ratio, which is computed as monthly debt payments divided by gross monthly income. In general, a DTI ratio below 30 to 35 percent is considered good. Keeping borrowing in check is important not just for the individuals but also for the overall economy. Excessive borrowing by consumers was one of the causes of the 2008 financial crisis, which led to losses of billions of dollars and millions of jobs (Born, 2011). A large number of consumers who borrowed excessively (i.e. beyond their ability to pay back using their income) were victims of predatory lenders. These predatory lenders intentionally misled consumers into taking out loans they could not afford. The Consumer Financial Protection Bureau (CFPB), which was created after the 2008 financial crisis to correct some of the mistakes, established standards for lenders to avoid excessively risky loans. One of these

standards requires the borrower's DTI ratio to be 43 percent or less (CFPB 2020). If your DTI ratio is too high, you will not be able to borrow from conventional lenders to meet unexpected financial needs.

Example: Maya and Isis – Debt-to-Income (DTI) Ratio

- Figure 3.9 showed monthly loan payments (mortgage, auto loan, student loan) totaled \$3427 ($\$2641 + \$486 + \$300 = \3427).
- Gross monthly income is \$10,500.
- The DTI ratio for Maya and Isis = $3427/10500 = 0.33 = 33$ percent

The DTI ratio for Maya and Isis is just within the acceptable range. They will not be able to borrow much more.

If you discover that you do not have sufficient emergency funds or have too high a DTI ratio, you will need to consider changes to your spending habits to put your finances back on the right track. In addition to financial readiness, you also need to determine whether continuing on your current course will achieve your financial goals. To assess if there are gaps, compare current financial positions shown on the personal statement of net worth to the financial goals. If you find significant gaps, you may need to change spending habits or to revise your financial goals or both.

Example: Maya and Isis – Financial Gap Analysis

	Financial Goals	Current financial positions	Actions needed
Short-term goal	Emergency fund target: \$25,000	Current checking and money account balance: \$1,000	Save \$24,000 within the next 12 months
Intermediate-term goal	Renovate kitchen: \$15,000	Current mutual fund balance: \$5,200	Save \$10,000 over the next 5 years
Long-term goal	Retire at age 70: need to contribute 10 to 15 percent of gross income to retirement accounts	Current IRA and 401K balance: \$14,500. No scheduled contributions.	Contribute 15 percent of gross income to retirement accounts.

Since the personal cash flow statement showed that Maya and Isis had virtually no cash surplus, they would not be able to achieve any of their financial goals without making significant changes. The good news is that even though their housing burden was relatively high, they maintained a good DTI ratio and some of their biggest expenses were optional. If they could reign in their spending, they had a good chance of reaching their financial goals.

By analyzing the personal cash flow statement and the personal statement of net worth, you can gain valuable insights into your spending habits, savings progress, and debt management. This information can empower you to make informed decisions about your finances, set realistic goals, and take control of your financial future. Chapter 1 suggested regular review and adjustment of your financial plan to adapt to changing circumstances. Remember, financial planning is a dynamic process.

Budgeting

A budget is part of a financial plan that helps you manage your income and expenses, achieve your financial goals, and build healthy financial habits. If you are someone who does not like budgeting there is some great news. By completing a personal cash flow statement you have tackled the majority of the work involved in creating a budget. There are only a few steps left.

Creating and Maintaining a Budget

The personal statement of cash flows you created can be used to project your future income and expenses. There are a few key factors to remember. First, analyze your spending patterns from the past 12 months

to account for seasonal variations in your expenses. Second, convert annual income and expense values into monthly figures for easier budgeting. Third, round income and expense figures to the nearest 10s or 100s to simplify calculations and make the budget easier to work with. For example, round \$1,358 to \$1,400. This revised monthly version of the statement of cash flows is the foundation of the budget.

The next step is to update the budget to incorporate any new information that may impact income or expenses. This includes changes in income sources and new essential expenses.

The most important step is to make necessary changes to make the budget work, which means having sufficient cash inflows to pay all budgeted expenses and allocate cash surplus towards short-term and long-term financial goals. This could involve reducing optional spending, increasing income by working more hours or taking on a side hustle, or exploring new borrowing options. Creating a workable budget often requires multiple rounds of adjustments. Be realistic when you make adjustments. Extreme changes may backfire if you cannot adhere to the budget. Remember that while frivolous spending due to unhealthy psychological triggers are harmful to your financial and emotional health, appropriate optional spending to maintain healthy friendships, social bonds, and personal wellness are important parts of life. In some cases, you may need to make changes to both spending habits and financial goals. Perhaps instead of renovating the kitchen in 5 years, it will take 7 years to reach that goal.

The biggest challenge to budgeting is perhaps adhering to a budget. Chapter 1 describes some psychological triggers such as peer pressure, fear of missing out (FOMO), or retail therapy, that often lead to impulsive spending. Consider setting up automatic transfers at the beginning of each month to move surplus cash into designated investment and savings accounts before temptation to spend beyond the budget can take place.

Method of payment may also affect spending habits. Studies found that consumers were willing to pay a higher price and more likely to spend when using credit cards, debit cards, or mobile payment compared to paying with cash². Using cash only is one potential strategy to help someone adhere to a budget. It is sometimes called “envelope budgeting”. At the beginning of each month, put the amount of cash budgeted for each category into separate envelopes. When an envelope is empty, stop spending in that category. There are a number of advantages to this method. Cash is tangible and provides a visual cue to alert you when an envelope is getting thin. Seeing cash leftover at the end of the month feels great. If you stick to what you withdrew, you cannot overdraw your bank account or build up credit card debt. In today’s world of online banking, credit cards, and mobile payment, it is unrealistic to use the envelope method for all spending categories. However, it can be very effective for just one or two categories, such as eating out, that an individual finds especially challenging to stick to the budget. You can also use a prepaid debit card in place of a cash envelope to limit spending in specific categories.

Instead of an envelope you can use online tools or mobile apps offered by credit card companies, banks, and mobile payment services to set spending alerts and monitor transactions. This allows for quick identification of any areas where spending is exceeding the budget. These alerts may not be as effective as the cash envelope method because it is easier to dismiss alerts. Setting up alerts is better than doing nothing. A more recent study found that the effect of higher willingness to pay has reduced overtime, perhaps due to increased popularity

of credit cards and mobile payment³. Unfortunately, a new form of payment option, Buy Now Pay Later (BNPL), has been shown to entice consumers to purchase more than they usually do⁴.

To avoid impulse buying, use a list before going shopping and stick to it so you will not be tempted by “sales”. Many retailers have recurring or annual sales and you can plan your purchases to take advantage of them for things that you need. Do not let payment options such as BNPL affect your purchase decisions. Would you still purchase the item if you were paying cash? If the answer is no, then do not buy it. Shopping and resisting buying can be stressful. A very powerful tool is the ability to pause and create space for you to make decisions. Use a 72-hour or a 7-day rule. Before making a non-essential purchase, wait 72 hours or 7 days. If you still want the item after the waiting period and it fits into your budget, go ahead and enjoy the purchase.

It is important to regularly review the budget, spending, and saving patterns on a consistent basis, such as monthly or quarterly. Compare the budgeted amount versus actual spending. This helps to ensure that the budget remains aligned with financial goals and allows for adjustments as needed. Regular reviews also provide an opportunity to identify and address any potential financial problems early on. Remember, personal finance is a journey, not a destination. By understanding your financial situation, creating a budget, and tracking your progress, you can take control of your finances and build a secure future.

Key Steps in The Budgeting Process

1. **Estimate future income and expenses:** Use a personal statement of cash flows for the past 12 months to project your future income and expenses. Convert annual income and expense values into monthly figures for easier budgeting.
 1. **Simplify numbers:** Round your income and expense figures to the nearest 10s or 100s. Incorporate new information: Update your budget to reflect any new information that may impact your income or expenses.
 2. **Make necessary adjustments:** If your expenses exceed your income, make the necessary changes to balance your budget. This could involve reducing your spending, increasing your income by working more hours, or taking out a loan.
2. **Allocate cash surpluses:** If your income exceeds your expenses, allocate the surplus funds to achieve your financial goals. This could involve saving for retirement, paying off debt, or investing for other financial goals.
3. **Track Your Progress:** Keep track of your actual income and expenses throughout the month. Compare these figures to your budgeted amounts. Use tools offered by credit card

companies and mobile payment services to set spending alerts.

4. **Regularly Review Your Budget:** This will help you stay on track with your budget and make any necessary adjustments.

Example: Maya and Isis – Budgeting

After completing their personal cash flow statement and personal balance sheet and identifying actions needed to reach their financial goals, Maya and Isis began the budgeting process. They expected their income to increase by 5 percent next year based on the new union contract for Isis and historic trend for Maya. They included the estimated change in income and rounded other cash flows to 10s or 100s in their first round draft budget (Figure 3.10).

Monthly Budget for Maya West and Isis Khan (round 1)

Figure 3.10

	Actual Monthly Total from Last Year	Known Estimated Changes	Monthly Budget Dollar Amount	As a percent of take-home pay
Cash Inflows				
Gross income (5 percent increase)	10,500	525	11,025	
Less: deductions (5 percent increase)	2,625	135	2,760	
Net (take-home) income	7,875	390	8,265	
Gift and other Income	0	0	0	
Investment Income	0	0	0	
<i>Total Cash Inflows</i>	7,875	394	8,265	
Cash Outflows				
<u>Essential Expenses</u>				
Housing (rent or mortgage and insurance)	2,641		2,700	33%
Car - loan	486		500	6%
Student loan repayment	300		300	4%
Utilities (heat, electricity, phone, internet)	457		500	6%
Car - gas	244		300	4%
Car - maintenance, insurance, repairs	208		300	4%
Food, grocery, and household supplies	973		1,000	12%
Medical expenses (drugs, doctor's visits, insurance)	272		300	4%
<i>Total Essential Expenses</i>	5,581		5,900	71%
<u>Discretionary Expenses</u>				
Restaurant (eating out)	568		600	7%
Leisure (movies, games, travel, streaming)	1,285		1,300	16%
Clothing, household items	308		400	5%
Donations and gifts to others	91		100	1%
Other expenses	24		0	0%
<i>Total Optional Expenses</i>	2,277		2,400	29%
<i>Total Cash Outflows</i>	7,857		8,300	100%
Cash surplus (or deficit)	18		-35	0%

The first round draft budget showed a cash deficit of \$35, which was not acceptable to Maya and Isis. There were no funds available to contribute toward any of their financial goals. Significant changes were needed. Maya and Isis knew this and were willing to make changes to their lifestyle after they purchased their house. They just had not done so. The budgeting process opened their eyes to the importance of making the changes sooner rather than later. They knew there were limited actions they could take regarding essential expenses. Nonetheless, Maya and Isis were able to get cheaper auto and house insurance after shopping around. They decided to cut back on optional expenses, especially eating out and leisure. They cancelled all but two streaming services and bought a bike stand and free weights to replace their gym memberships. Instead of traveling for vacations, they joined a local hiking club. Replacing air travel with hiking and backpacking actually aligned with their environmental values and they felt great about the decision. They

increased their food budget and reduced their restaurant budget. Their second round budget (Figure 3.11) showed a cash surplus of \$1,595, a huge improvement. They reduced optional expenses to just 9 percent of take-home pay.

Monthly Budget for Maya West and Isis Khan (round 2)				
	Round 1 Budget Amount	Round 2 Changes	Round 2 Budget Amount	As a percent of take-home pay
Cash Inflows				
Gross income (5 percent increase)	11,025		11,025	
Less: deductions (5 percent increase)	2,760		2,760	
Net (take-home) income	8,265	0	8,265	
Gift and other Income	0	0	0	
Investment Income	0	0	0	
<i>Total Cash Inflows</i>	8,265	413	8,265	
Cash Outflows				
<u>Essential Expenses</u>				
Housing (rent or mortgage and insurance)	2,700	-30	2,670	32%
Car - loan	500		500	6%
Student loan repayment	300		300	4%
Utilities (heat, electricity, phone, internet)	500		500	6%
Car - gas	300		300	4%
Car - maintenance, insurance, repairs	300	-50	250	3%
Food, grocery, and household supplies	1,000	200	1,200	15%
Medical expenses (drugs, doctor's visits, insurance)	300		300	4%
<i>Total Essential Expenses</i>	5,900		6,020	73%
<u>Discretionary Expenses</u>				
Restaurant (eating out)	600	-400	200	2%
Leisure (movies, games, travel, streaming)	1,300	-1,100	200	3%
Clothing, household items	400	-200	200	3%
Donations and gifts to others	100	-50	50	1%
Other expenses	0		0	0%
<i>Total Optional Expenses</i>	2,400		650	9%
<i>Total Cash Outflows</i>	8,300		6,670	81%
Cash surplus (or deficit)				
	-35		1,595	19%
Contribution to emergency fund			300	
Contribution to 401k			1200	
Surplus			95	

Figure 3.11

In the round 2 budget, Maya and Isis planned to allocate \$300 per month toward their emergency funds and contribute \$1,200 toward their retirement accounts. Unfortunately, these actions would not be sufficient for them to reach their current financial goals and there were no other immediate changes to their spending that they could make. Isis decided to work over the summer, which would earn approximately \$5,000 in take-home pay each year. With the additional income, they

would have approximately \$18,000 in emergency funds in two years. Maya and Isis revised their short-term goal to have 3-months of essential expenses in an emergency fund. They decided to postpone their kitchen renovation goal until they paid off their student loans. Even though they were not meeting their goal of contributing 15 percent of gross income toward retirement, they contributed \$1,200 per month, which represented 11 percent of gross income ($\$1200/\$11025 = .11$), an excellent start. Through the budgeting process, Maya and Isis were able to improve their spending habits and revised their financial goals to be more realistic.

How well did Maya and Isis adhere to their budget? They prepared a personal cash flow statement the next year and compared their actual incomes and spending to the budget (Figure 3.12). Overall, Maya and Isis did a great job. They increased their income with Isis's summer job and were able to follow their budget in general. They spent more than budgeted on restaurants but more than made up the difference by spending less on leisure and clothing. They were able to put all the extra surplus toward their emergency fund and were very close to achieving their revised short-term goal in one year.

Annual Budget for Maya West and Isis Khan

Figure 3.12

	Annual Budget Dollar Amount	Actual Amount	Variance = Budget - Actual
Cash Inflows			
Gross income	132,300	140,352	-8,052
Less: deductions	33,120	35,848	-2,728
Net (take-home) income	99,180	104,504	-5,324
Gift and other Income	0	2,500	-2,500
Investment Income	0	0	0
<i>Total Cash Inflows</i>	99,180	107,004	-7,824
Cash Outflows			
<u>Essential Expenses</u>			
Housing (rent or mortgage and insurance)	32,040	31692	348
Car - loan	6,000	5832	168
Student loan repayment	3,600	3600	0
Utilities (heat, electricity, phone, internet)	6,000	5076	924
Car - gas	3,600	3895	-295
Car - maintenance, insurance, repairs	3,000	2580	420
Food, grocery, and household supplies	14,400	13936	464
Medical expenses (drugs, doctor's visits, insurance)	3,600	2472	1,128
<i>Total Essential Expenses</i>	72,240	69,083	3,157
<u>Discretionary Expenses</u>			
Restaurant (eating out)	2,400	3084	-684
Leisure (movies, games, travel, streaming)	2,400	1548	852
Clothing, household items	2,400	2530	-130
Donations and gifts to others	600	780	-180
Other expenses	0	498	-498
<i>Tota Optional Expenses</i>	7,800	8,440	-640
<i>Total Cash Outflows</i>	80,040	77,523	2,517
Cash surplus (or deficit)	19,140	29,481	-10,341
Allocation: Contribution to emergency fund	3,600	15,000	-11,400
Allocation: Contribution to 401K	14400	14400	0
Surplus	1,140	81	1,059

The term zero based budgeting has entered popular culture in recent years. It originated in the business world in the 1960s and was briefly adopted by the government in the 1970s. Zero based budgeting regained popularity following the 2008 recession. The central idea behind zero based budgeting is that instead of

assuming you will spend the same amount as previous years, each year you re-evaluate how much to spend in each category. This is a good idea, especially for discretionary non-essential items. An example is subscription services, which usually automatically renew each year. A zero based budget mindset requires you to evaluate each service before renewing. As noted in this section, good budgeting practices include regular review and assessment and are therefore consistent with the intent of zero based budgeting.

Personal Financial Plan Exercise 3

1. Complete a personal statement of net worth and a personal cash flow statement for the past year.
2. Create a budget for the next year.

Organizing Your Financial Records

Maintaining organized financial records is essential for effective budgeting and financial management. Most financial records can be stored electronically. For security, perform regular backups and use encryption. Some documents require physical copies, such as birth certificates, car titles, social security cards, or wills. Store these in a fireproof safe or safety deposit box. Here is a guideline on what to keep and how long to retain financial and personal documents.

Types of Records and Retention Periods

Record Type	Examples	Retention Period
Personal and Employment	Social Security card, birth certificate, passport, employment letters	Permanent
Tax Records	Tax returns, W-2s, 1099s	3-6 years
Banking, Investment, and Credit Card	Bank statements, brokerage statements, credit card statements and agreements, credit reports	Most recent year
Housing	Lease or mortgage agreement, house title, property tax records	Duration of residency
Automobile	Lease or loan agreement, car title	Duration of ownership
Major Purchases	Receipts and warranties for appliances, electronics	Duration of ownership
Insurance	Health, auto, home/renter's insurance policies	Most recent policy
Will and Estate Plans		Most recent version

Figure 3.13

Integrated Case 3

Creating Personal Financial Statements

Blake Jackson spent the first month after graduation from community college organizing her financial records. She took a personal finance course last semester and it is time to apply what she learned.

She just turned 22 and is looking forward to continuing her study for two more years at State University. She has identified her financial goals. Before she can develop a plan of actions, she needs to get a clear picture of how much she is spending and how she will pay for her university education.

From her personal finance course, she learned that a 12-month spending history will give her a more accurate account of her spending habits. Fortunately, her credit card, bank, and Venmo websites provide easy download of historic transactions. She grouped the items into broad categories.

- Rent: \$7200 last year
- Utilities including internet: \$1080 last year
- Phone: \$300 last year
- Food and grocery: \$1,340 last year
- Medical expenses including insurance: \$623 last year
- Car insurance and maintenance: \$2,084 last year
- Car gas: \$756 last year
- Eating out: \$1123 last year
- Fun and entertainment (movies, travel, etc.): \$832 last year
- Clothing: \$985 last year
- Gifts to friends and family: \$492 last year

Her W-2 last year showed \$20,456 in gross income with \$1,893 in deductions, resulting in net income of \$18,563. She currently has \$580 in her checking account and owes \$3,500 in credit card. Her car has 120,000 miles and is worth around \$8,500. She has a 5-year laptop and a 3-year old cell phone. Both do not have much in resale value.

Activities:

1. Create a Statement of Net Worth.
2. Create a monthly Statement of Cash flows. (Note: remember to convert annual values to monthly values).

Creating A Budget

Blake Jackson plans to work hard over the summer and pay down her credit card as much as possible. She expects to pay \$130 per month once school starts in September. Blake will continue working during school but with a heavier course load she knows she needs to cut back on the hours. She expects her average gross monthly income to be \$1,600, resulting in \$1,400 per month in take-home pay after \$200 in deduction for taxes.

After completing her personal statement of cash flows, she now has a clear picture of her essential and discretionary spending. There are limited changes she can make to her essential

expenses, to which she must add the \$130 per month credit payment. Tuition, fees and books for the State University will total around \$10,000 per year, quite a bit higher than community college. She knows that with reduced working hours and more expensive tuition and fees at the university, she will need to take on student loans. She carefully reviews her discretionary spending and looks for areas to cut back without sacrificing to the point where she would suffer mentally.

Activities:

1. Review the monthly statement of cash flows created in the last activities.
2. Develop a draft budget based on the monthly statement of cash flows and changes described in the case.
3. Recommend how much Blake should take out in student loans based on the estimated deficit for next year.
4. Propose alternative(s) to taking out student loans for Blake and identify the pros and cons of your alternative(s) compared to student loans.

Chapter Three Summary

This chapter covers the essential concepts of personal finance, including the creation of personal balance sheets and cash flow statements, the development and implementation of a personal budget, and the connection of these activities to achieving financial goals. It also highlights common emotional barriers to budgeting and strategies for overcoming them.

Emotional Barriers to Budgeting include fear, guilt, unwillingness to accept constraints, and feeling overwhelmed. Overcome these by accepting financial realities, taking small steps, seeking support, and reframing the budget as a wealth building plan.

Understanding Cash Flows

- A personal cash flow statement tracks money in (inflows) and out (outflows). A cash

surplus is when cash inflows exceed outflows. A cash deficit is when cash outflows exceed inflows.

- Types of Cash Inflows:
 - Recurring: Regular, predictable (e.g., salary, investment income, pensions).
 - Non-recurring: Irregular, unpredictable (e.g., bonuses, gifts, tax refunds).
- Types of Cash Outflows:
 - Essential (Non-discretionary): Necessary, regular (e.g., housing, utilities, food, healthcare, debt repayment).
 - Optional (Discretionary): For enjoyment, flexible (e.g., leisure, dining out, travel).

Creating Personal Financial Statements

1. Personal Cash Flow Statement

- Collect a year's data on cash inflows and outflows from bank and credit card records and statements.
- Classify transactions into categories and calculate total inflows, outflows, and surplus or deficit.

2. Personal Statement of Financial Position (also called Balance Sheet, Net Worth Statement) is a snapshot of assets and liabilities at a specific time.

- $\text{Net Worth} = \text{Total Assets} - \text{Total Liabilities}$.
- Negative net worth means debts exceed assets.
- Valuation: Use market values for assets.
- Organize assets by liquidity: Highly liquid (e.g. cash), moderately liquid (e.g. stocks), illiquid (e.g. real estate, retirement accounts).
- Organize liabilities by duration: Short-term liabilities are due within 1 year (e.g. credit card debt), long-term liabilities are due in more than 1 year (e.g. mortgages, student loans).

3. A cash surplus increases net worth. A cash deficit decreases net worth. Economic conditions also impact asset values.

Tools for Tracking Income and Expenses

- DIY Spreadsheet: Free, private, secure but requires manual entry.
- Bank, Credit Card, Mobile Payment Tools: Often free, automatic categorization, but limited customization.
- Third-Party Apps: User-friendly, automatic data collection, but requires sharing login info and varies in cybersecurity and privacy.
- Choose a tool you will actually use. Practice cybersecurity for electronic financial records.

Using Personal Financial Statements to Evaluate Financial Health

- Analyze Spending Habits: Convert dollar values to percentages to identify patterns.
- Analyze Financial Readiness:
 - Emergency Fund: 3-6 months of essential expenses.
 - Debt-to-Income (DTI) Ratio: Monthly debt payments / gross monthly income. Below 30-35 percent is good. Lenders often require a DTI ratio less than 43 percent when considering loan applications.
- Gaps to Financial Goals: Compare current position to goals to identify necessary adjustments.

Creating a Budget

A budget helps you to manage expenses, achieve financial goals, and build good spending habits.

- Project future income and expenses (using 12 months of past data).
- Convert annual amounts to monthly. Round up values for easy calculation.
- Incorporate new information.
- Make adjustments. It often takes multiple iterations. Be realistic. Smaller adjustments are easier to adhere to.
- Allocate surpluses to financial goals. Tip: use automatic transfers.
- Track progress, and review regularly.

Strategies to Overcome Poor Spending Habits

- Envelope budgeting: Use cash in envelopes or prepaid debit cards for one or two spending categories that are especially challenging.
- Avoiding impulse buying: Use lists, plan sales purchases, apply a 72-hour or 7-day rule for non-essentials, and be cautious with “Buy Now Pay Later.”

Organizing Financial Records

Most financial and legal records are available in electronic formats. Some require physical copies in a fireproof safe.

- Permanent: Personal identity records such as birth certificate, social security card, passport.
- 3-6 Years: Tax records.
- Most recent year: Banking, investment, credit card statements.
- Duration of residency or ownership: Housing, auto, major purchases, employment.
- Most recent version: Insurance policies, will, estate plans.

End of Chapter Questions

1. List and briefly explain the four common emotional barriers that can make creating a personal budget a stressful activity.
2. What strategies can individuals employ to overcome emotional barriers when budgeting?
3. Define cash inflows and cash outflows, and explain the difference between a cash surplus and a cash deficit.
4. Define recurring cash inflows and non-recurring cash inflows. Provide two examples for each type.
5. Define essential (non-discretionary) cash outflows and optional (discretionary) cash

- outflows. Provide three examples for each category.
6. How is net worth calculated, and what does a negative net worth signify?
 7. When creating a personal statement of financial positions, why is it crucial to use market values for assets rather than historical values?
 8. Define asset liquidity. Provide an example for a highly liquid asset and an example for a moderately liquid asset.
 9. Explain the difference between short-term liabilities and long-term liabilities. Provide two examples for each.
 10. Outline the three main steps for creating a personal cash flow statement.
 11. What considerations should guide an individual when determining the number of categories for their cash flows in a personal cash flow statement?
 12. Compare and contrast the advantages and disadvantages of using a DIY spreadsheet versus tools from financial institutions versus third-party apps for expense tracking.
 13. List at least four good cybersecurity practices recommended for managing electronic financial records.
 14. What is the rule of thumb for the size of an emergency fund? Based on their essential expenses, how much would Maya and Isis need for a 3-month and a 6-month emergency fund?
 15. Define the Debt-to-Income (DTI) ratio and provide the general percentage range considered “good.”
 16. Describe the key steps involved in creating and maintaining a budget.
 17. Explain the “envelope budgeting” method. For which type of spending categories is this method particularly effective in the modern financial landscape?
 18. List at least five types of financial records and their recommended retention periods.

Notes

1. Dew et al. (2012)
2. Feinberg (1986), Boden et al. (2020)
3. Liu and Dewitte (2021).
4. Ang and Maesen (2024).

4.

PERSONAL TAXES AND FINANCIAL PLANNING

Chapter Four Learning Objectives

- Understand the roles of taxes in a society.
- Identify major types of taxes.
- Calculate taxable income and the amount owed for federal income tax.
- Identify resources for tax preparation and tax strategies.
- Incorporate tax strategies in your financial plan.
- Tariff and personal finance.

Benjamin Franklin once said “...in this world nothing can be said to be certain, except death and taxes.” Whether or not you love working on taxes (in which case you have a bright future as a Certified Public Accountant), or loathe and avoid taxes like the plague, we all have to deal with it. A recent study by Benzarti and Wallossek (2024) found that the majority, 77 percent, of taxpayers they surveyed considered tax filing to be tedious though it only took approximately 4 hours on average to complete. On a scale of 0 to 100, with 0 being very complex and 100 being not complex at all, study participants rated the U.S. tax system to be around 31 to 33, in other words, relatively complex. If you do not consider tax a fun topic, you are not alone. The truth is that tax filing is more a tedious task than a complicated one and you do not need to be intimidated. There are many tools, from free and paid tax software, trained volunteers, to professional tax preparers to help you. The goal of this chapter is to provide you with a basic understanding of the U.S. individual tax system so you can prepare your own taxes or be an informed consumer of tax preparation services. Knowledge of some basic tax laws will improve your personal financial plan.

Why are There Taxes?

Taxes are the primary source of revenue for any government, from the U.S. Federal Government to small local towns, and from capitalist to communist countries. Taxation provides a way for a large number of individuals to pool their money to pay for certain services and goods. People are willing to pool their money because these goods and services are important for the well-being of everyone. These items are best provided by the government due to the **free-rider problem**, where it is difficult or impossible to prevent individuals from benefiting, even if they have not paid for it. There is no incentive for private firms to provide these goods and services because they cannot force individuals to pay. Economists call these **public goods**. Public goods are a cornerstone of any functional society, as they are commodities or services that are available to all members of the public, and their use by one individual does not diminish their availability to others. President Lincoln recognized the importance of public goods and services and the government's role in providing them when he said "The legitimate object of government, is to do for a community of people, whatever they need to have done, but can not do, at all, or can not, so well do, for themselves – in their separate, and individual capacities" (Basler 1953). Classic examples of public goods include national defense, policing, firefighting, street lighting, public libraries, and public parks. In today's information economy, many basic research endeavors such as mapping the human genome (DNAs) are funded by the government. The cost and scale of these projects are beyond any individual or company and the results being used by one individual does not diminish their availability to others. Pharmaceutical companies use the results from the Human Genome Project to develop new drugs and medical treatments and consumers have access to new cures. Public goods benefit the society as a whole.

Exercise 4.1: Public goods

- List at least 3 public goods and services from local and federal governments that you use regularly.
- How much are you willing to pay for them?
- Are you able to afford it if you have to pay for the entire costs?

Is Taxation Fair?

The government can provide public goods through taxation, as it can collect tax revenue from all members of

the society. This ensures that everyone contributes to the cost of public goods because everyone benefits from them. Structuring these contributions lead to the question of **fairness**. Should everyone contribute equally? Or should those with more resources contribute more? Should there be provisions that ensure people can afford the basic necessities such as housing and food before having to pay taxes?

Exercise 4.2: Fair taxation

- How would you define a fair share of taxes?
- On a scale of 0 to 10, with 0 being completely unfair and 10 being completely fair, how would you rate the U.S. federal tax system?
- Provide reasons for your rating.

Farrar et al. (2020) identified three primary dimensions of tax fairness. The first dimension is how income or wealth is related to taxes, which addresses the fairness of the tax system. The second is whether taxpayers receive government services equitable to taxes paid, which addresses how tax revenues are spent. The third dimension measures the administration of the tax collection process, which relates to how tax laws are enforced.

Fairness in taxation is important. More accurately, perception of a fair tax system is important because fairness is in the eyes of the beholder. One of the triggers for the revolutionary war that led to the founding of the United States was taxation without representation. At the federal level, all taxes must be approved by Congress and then signed into laws by the president. At the state and local levels, taxes often require approval by voters directly. Studies (Marshall et al. 2024) found that taxpayers are more likely to comply with tax laws when they perceive the taxation system as fair and tax revenues are used on goods and services they value. In fact, Nathan et al. (2024) found that taxpayers are willing to pay more in taxes if they believe that others are contributing their fair share. It is quite common for taxpayers to vote in favor of higher property tax to purchase a new fire engine or upgrade school buildings. Interestingly, Eriksen and Fallan (1996) found that increases in tax knowledge lead to increased perceived fairness in taxation and seriousness of tax evasion.

Taxation Systems and Fairness

The three common forms of taxation systems are: progressive, flat, or regressive. In a **progressive tax system**, higher income earners pay a higher percentage, not just dollar amount, of their income in taxes. In other words, tax rates become progressively higher with higher income. The U.S. federal income tax is an example of a progressive system. In a **flat tax system**, everyone pays the same percentage of their income in taxes, regardless

of income level. Examples of a flat tax system include many state and local income tax and the Medicare tax. In a **regressive tax system**, lower income earners pay a higher percentage of their income in taxes. Sales tax is an example of a regressive tax system because lower income taxpayers spend a larger percentage of their income on purchases compared to higher income taxpayers. Most people consider a regressive tax system unfair.

Forms of Tax Systems

- In a **progressive** tax system, higher income earners pay a higher percentage of their income.
- In a **flat** tax system, everyone pays the same percentage of their income in taxes, regardless of income level.
- In a **regressive** tax system, lower income earners pay a higher percentage of their income in taxes.

Taxes, Government Policies, and Fairness

In addition to using tax revenues to fund public services, governments often use tax as a tool to implement other policies. They can use tax credits, which are like discounts on your taxes, as incentives to promote specific goals. For example, President Bush signed the Energy Policy Act of 2005 establishing energy efficiency tax credits for purchasing appliances that meet certain energy efficiency requirements. The goal of this policy is to encourage taxpayers to reduce energy consumption. President Obama made permanent the American Opportunity Tax Credit, which provides tax credits for college students. The goal of this policy is to have an educated workforce for the country. Taxes are sometimes used as deterrents against activities that negatively affect public health. Examples include taxes on cigarettes and alcohol. Since each president and congress often have different policy preferences, tax laws undergo continuous changes with additions and deletions to various parts.

It is easy to conflate dislike about a particular policy with unfairness. Let us use a lunch group as an analogy. One day the group decided to get pizza for lunch even though you and a few others in the group preferred burger. You were somewhat unhappy about the decision but you would not think it was unfair because you and fellow burger lovers had a chance to voice your preference. You would hope that next time the group would go for burgers. You might even find that you enjoyed the pizza a little. Perhaps the group would eventually find a place that served both pizza and burger. Since the U.S. is a representative democracy, citizens have the opportunity to express their preferences on government policies through voting.¹ Unfortunately, sometimes

taxpayers' perception of whether the government services they receive is fair relative to taxes paid may be affected by whether they like the specific government policies and spending priorities.

Tax Loopholes and Fairness

Some tax laws may appear incoherent and difficult to understand due to special tax provisions (tax loopholes) created to benefit a small selected group of taxpayers. These provisions are not part of an overall policy. One example is **Carried Interests** (McCaffery and Jones, 2024). Carried Interests are performance bonuses earned by partners of private equity, venture capital, and hedge funds. Unlike other performance bonuses, Carried Interests earned by these partners are subject to a lower tax rate. It is important to distinguish tax loopholes that do not serve any purpose from tax codes that are designed to promote specific government policies. Use the following questions to identify tax loopholes:

- Does the tax code relate directly to a stated government policy or does the rationale seem convoluted?
- Does the tax treatment on similar incomes or expenses apply to all taxpayers or just a limited group of individuals?

Tax loopholes are legal and their sole purpose is to avoid or reduce taxes. The public's perception of the tax system's fairness is negatively impacted by tax loopholes that benefit only a small number of wealthy taxpayers. As noted in an earlier section, taxpayers are more likely to comply with tax laws when they perceive the tax system as fair. The existence of tax loopholes may lead to less compliance and lower tax revenues.

How Well Does the IRS Perform?

The mission of the IRS is “to provide America’s taxpayers top quality service by helping them understand and meet their tax responsibilities and to enforce the law with integrity and fairness to all.” In a 2024 survey, 35 percent of respondents said they were very satisfied, 40 percent said they were somewhat satisfied, and 10 percent said they were not satisfied at all with their personal interaction with the IRS. In the same survey, 68 percent of respondents agreed with the statement, “I trust the IRS to fairly enforce the tax laws as enacted by Congress” and 63 percent trusted the IRS to help them understand their tax obligations. From 2020 to 2021, the IRS estimated total true tax liability to be \$4,565 billion, of which \$3,877 billion was paid voluntarily and on time, about 85 percent. IRS audits resulted in \$63 billion in additional tax revenue. Uncollected tax (called net tax gap) was \$625 billion. A study (Boning et al 2024) estimated that \$1 spent auditing taxpayers above the 90th income percentile generates more than \$12 in tax revenue, while audits of below-median income taxpayers yields \$5. In addition to direct revenues from an audit, the study estimated that after an initial audit a taxpayer is more likely to comply in the future and this deterrence effect produces at least three times more additional revenue. Even though more audits can reduce the net tax gap and generate more revenue, your

chance of being audited is very low, especially if you make less than \$400,000. From 2013 through 2021, the IRS audited only 0.44 percent of individual tax returns.

Are Tax Laws Complicated?

The first thing to remember about tax laws is that they change frequently and some items, such as deduction amounts and income limits, are updated each year to account for inflation. The Internal Revenue Service (IRS) is responsible for administering tax laws and collecting federal taxes. The IRS also provides a lot of valuable and useful information for taxpayers on their website (www.irs.gov), including the most up-to-date tax forms and instructions. They even have a phone service you can call if you have questions. Secondly, even though the entire set of tax laws is complicated, specific tax codes governing individuals whose primary source of income is wages and salary are relatively straightforward. This chapter provides a clear step-by-step guide to calculate basic federal taxes.

Types of Incomes and Taxes

Though the tax laws and tax forms are written in English, they are anything but plain. The IRS and tax professionals use a lot of jargon and acronyms. Let us first demystify these vocabularies. The IRS distinguishes **earned income**, which includes wages, salaries, tips, bonuses, commissions, and most forms of employer compensation, from other forms of income. The reason for this distinction is because only earned income is subject to Social Security taxes and Medicare taxes levied under the Federal Insurance Contributions Act (FICA). These FICA taxes are unique because employers are required to pay half of these taxes. **Self-employment income** is income earned working for oneself as a sole proprietor or independent contractor, including full-time and part-time gigs. Another form of income that warrants more explanation is capital gain. **Capital gain (or loss)** is defined as the difference between the selling price and purchase price of an asset, such as a house, a stock, a mutual fund, or a business. When you receive money from selling an asset, you do not pay tax on the entire selling price, just the capital gain. If you sell an asset at a loss, you do not pay any tax on the sale. In fact, you may be able to use the loss to reduce your taxes. **Long-term capital gain** applies to assets that have been held for more than one year and is subject to a different, usually lower, tax rate than other income. **Investment incomes** include interest income from bank accounts and bonds, dividend income from stocks and mutual funds, and rental property income. **Passive incomes** are incomes from business activities that you do not manage or actively participate in. Other forms of income may include **prizes, awards, and gambling winnings**. One exception is **gift income**. Receivers do not pay tax on gifts received, donors of the gifts do.

Types of Income

- Earned income
 - Wages, salaries, tips, bonus, commissions, and most forms of compensation from employers.
- Self-employment income
 - Sole proprietorship, independent contractor, gig work, may be full-time or part-time.
- Capital gain (loss)
 - Capital gain (loss) = selling price of an asset – purchase price of an asset.
 - Long-term capital gain applies to assets held over one year.
- Investment incomes
 - Interest income, dividend income, rental property income.
- Passive income
 - Incomes from business activities that you do not manage or actively participate in.
- Other incomes
 - Prizes, awards, gambling winnings.

Taxes can be applied to income, property, and purchases. **Income tax** is the most common type of tax and applies to earned income, investment incomes, capital gains, passive income, and prizes from gambling and competitions. Income tax exists at the federal, state, and sometimes local levels. **Property tax** varies by state and town and can apply to houses, automobiles, boats, motorcycles, and sometimes even personal property. **Estate (Inheritance) tax** is taxes paid on inheritance passed from one generation to the next. Unlike income or property taxes, estate tax is paid only once in a lifetime. The federal estate tax has a high exemption amount, which changes each year. You can find out the latest estate tax exemption amount from the IRS website or use the search term “federal estate tax exemption”. The exemption amount is the amount to be excluded before any tax is applied. For example, if the exemption amount is \$13 million and the estate is worth \$15 million, the estate tax will apply to \$2 million (\$15 million – \$13 million). Any inheritance less than the exemption amount

will not be taxed. The Tax Policy Center estimated that only about 4,000 estates were taxable in 2023, less than 0.2 percent of people expected to die that year. Some states also have inheritance taxes in addition to the federal estate tax. **Gift tax** is paid by the donor, the person giving the gift. There is an annual exclusion amount below which gifts are not subject to tax. This exclusion amount changes each year and is higher than most ordinary gifts. As an example, the annual gift exclusion for 2024 is \$18,000 per person. Therefore unless you spend more than \$18,000 in gifts to a single person, you do not have to worry about paying gift tax.

Sales tax on purchases varies by state. The U.S. does not have a national sales tax on goods and services. Some states have sales tax as high as 9 percent or more, while others have none. Many states also tax hotels and restaurant meals. These taxes can sometimes be a surprise to consumers, especially tourists, because they are not included in the listed prices. **Excise taxes** are levied on specific goods like alcohol and gasoline, and are state specific.

Exercise 4.3: Sales Tax

- Look up the top 5 states with the highest sales tax.
- Look up states with no sales tax.
- Do your findings surprise you? Explain your reactions.

Social Security and **Medicare taxes** are different from other forms of taxes because these taxes are tied directly to specific individual benefits. Established by the Federal Insurance Contributions Act (FICA), these taxes perform like insurance premiums. Social Security taxes provide for income and Medicare taxes provide for hospital care due to old age or disability. Medicare taxes are 2.9 percent of earned income, with the employee paying 1.45 percent and the employer paying 1.45 percent. There is no exemption amount for Medicare taxes. There is a cap which limits the amount of income subject to Social Security taxes. This limit changes each year. All earned income below the limit is subject to Social Security tax of 12.4 percent, with the employee paying 6.2 percent and the employer paying 6.2 percent. For self-employment income by gig workers, independent contractors, and sole proprietors, the taxpayers must pay the entire Social Security (12.4 percent) and Medicare (2.9 percent) taxes.

Calculating Social Security and Medicare Taxes

Social Security and Medicare taxes are a form of flat tax and the calculation is very straightforward. For earned income, Medicare tax for the taxpayer equals earned income multiplied by 1.45 percent. Social Security tax equals the minimum of earned income or social security taxable limit multiplied by 6.2 percent. For self-

employment income from gig or independent contractor work, the taxes would be doubled. The following cases illustrate how to compute these taxes. The first case demonstrates a taxpayer with earned income below the social security limit. This is the most common scenario. In the second case, the earned income exceeds the social security limit and the third case shows how FICA taxes are computed for self-employment income. Notice that the taxpayers in case 1 and case 3 took in the same amount of income but the self-employed taxpayer paid double the amount in FICA taxes.

Example: Social Security and Medicare Taxes

Earned income limit and FICA tax rates for the current year:

- Earned Income Limit for Social Security = \$168,600
- Medicare tax rate = 1.45 percent for earned income, 2.9 percent for self-employment income
- Social Security tax rate = 6.2 percent for earned income, 12.4 percent for self-employment income

Case 1

- Earned income = \$65,000
- Medicare tax = $\$65,000 \times 0.0145 = \943
- Social Security tax = $\text{minimum}(\$65,000, \$168,600) \times 0.062 = \$65,000 \times 0.062 = \$4,030$

Case 2

- Earned income = \$260,000
- Medicare tax = $\$260,000 \times 0.0145 = \$3,770$
- Social Security tax = $\text{minimum}(\$260,000, \$168,600) \times 0.062 = \$168,600 \times 0.062 = \$10,453$

Case 3

- Self-employment income = \$65,000
- Medicare tax = $\$65,000 \times 0.029 = \$1,886$
- Social Security tax = $\text{minimum}(\$65,000, \$168,600) \times 0.124 = \$65,000 \times 0.124 = \$8,060$

Types of Taxes

- Income taxes (federal, state, and local)
 - These are the most common. If you earned wages, interests, dividends, or prizes you pay income taxes at the federal, state, and sometimes city/town level.
- FICA taxes
 - Medicare taxes (federal)
 - Medicare taxes are 1.45 percent of your earned income (another 1.45 percent paid by your employer).
 - Social Security taxes (federal)
 - Social Security taxes are 6.2 percent (another 6.2 percent paid by your employer).
 - Maximum income subject to SS taxes changes every year.
 - Note for self-employed and gig workers: you pay all the Medicare (2.9 percent) and Social Security (12.4 percent) taxes.
- Property taxes (state and local)
 - Vary by state and town. Most states have property taxes on houses and automobiles. Some states impose property taxes on other personal properties.
- Sales tax
- Excise tax
 - Tax on specific goods and services such as alcohol, gas.
- Estate tax (also known as inheritance tax)
 - Federal estate tax
 - Only estate beyond the lifetime exemption amount is subject to tax.
 - In 2023, 0.2 percent of estates (4000 total) had to pay estate tax.

- Some states also have estate (inheritance) tax.
- Gift tax
 - Paid by the donor (the person giving the gift).
 - Each gift below the annual exclusion amount is not taxed.

Filing Status

As noted in the previous section, the U.S. federal income tax is a progressive system, which means higher incomes are taxed at a higher tax rate. In addition, the system takes into account the burden of living expenses on the taxpayers by designating five different filing status:

- Single
- Married filing jointly
- Married filing separately
- Head of household
- Qualifying surviving spouse with dependent child

The rationale is that different filing status reflects different responsibilities. A taxpayer with a single status has no dependents and is only responsible for one's own living expenses. Head of household is an unmarried individual with one or more dependents and therefore higher living expenses. The filing status is important because it affects the federal income tax rate and the deduction amount. The IRS provides detailed definitions for each status on their website. They also have an interactive tool to help you determine your filing status. Use the search term "filing status" in the search box on the IRS website. If more than one status applies to you, you can choose the one that will give you the lowest tax. Married couples usually combine their income and file a joint return. There are special circumstances, such as a couple considering divorce, or one spouse suspecting the other of tax evasion, that make married filing separately a better option. Another case that may make sense to file separately is if one spouse makes a lot more money and the lower income spouse can reduce their income-based student loan payment amount by filing separately. Even if your parents or someone else claims you as a dependent, you may still have to file a tax return. Use the search term "filing requirements for dependents" on the IRS website to find out the latest requirements.

Personal Financial Plan Assignment 4: Filing Status

Determine your filing status using the IRS interactive tool. Go to the IRS website (www.irs.gov). Search for “filing status” in the search box on the IRS website.

Here is a [video](#) to help you.

Withholding and Estimated Tax Payments

Federal taxes are “pay-as-you-go”, which means that taxpayers need to pay most of their taxes during the year, as they receive income, not at the end of the year. There are two ways to satisfy the pay-as-you-go requirement. One is through withholding and the other is through quarterly estimated payments. Insufficient withholding or underpayment of estimated taxes may result in penalties.

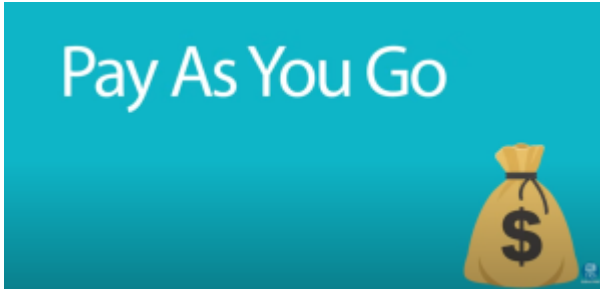
Earned income is usually subject to withholding, which means that employers estimate taxes on behalf of the employees and send estimated federal income tax, Social Security tax, and Medicare tax payments to the federal government directly each pay period. The amount of withholding is determined based on information filled out by employees on the **Withholding Certificate**, commonly known as **Form W-4** (Figure 4.1) The first step to decide is your filing status as explained in the last section. In the second step, check box (c) if you have more than one job or if you are married filing jointly and your spouse works. Otherwise leave the boxes blank. You only need to complete step 3 if you have dependents. If earned income is your primary source of income, use box (a) in step 4 to include other income, such as investment income or self-employment income. Be sure to do this on the W-4 for only one job, the one with the highest pay. If your other income is high relative to the earned income from the job, skip step 4 and you will need to make estimated tax payments separately by yourself. If your state has an income tax, you will need to fill out a similar form to withhold state taxes. The employer will send estimated state tax payment to the state for you. Federal and state withheld taxes are the most common deductions on a paycheck.

When you start a new job, you will be asked to fill out Form W-4 along with other employment documents. You should fill out a new Form W-4 when there are changes to your filing status or number of dependents, such as getting married, divorced, or having a child through birth or adoption.

Figure 4.1

Form W-4 Department of the Treasury Internal Revenue Service	Employee's Withholding Certificate Complete Form W-4 so that your employer can withhold the correct federal income tax from your pay. Give Form W-4 to your employer. Your withholding is subject to review by the IRS.	OMB No. 1545-0074 <div style="font-size: 2em; font-weight: bold;">2025</div>
Step 1: Enter Personal Information	(a) First name and middle initial _____ Last name _____ Address _____ City or town, state, and ZIP code _____	
	(b) Social security number _____ Does your name match the name on your social security card? If not, to ensure you get credit for your earnings, contact SSA at 800-772-1213 or go to www.ssa.gov .	
	(c) <input type="checkbox"/> Single or Married filing separately <input type="checkbox"/> Married filing jointly or Qualifying surviving spouse <input type="checkbox"/> Head of household (Check only if you're unmarried and pay more than half the costs of keeping up a home for yourself and a qualifying individual.)	
<p>TIP: Consider using the estimator at www.irs.gov/W4App to determine the most accurate withholding for the rest of the year if: you are completing this form after the beginning of the year; expect to work only part of the year; or have changes during the year in your marital status, number of jobs for you (and/or your spouse if married filing jointly), dependents, other income (not from jobs), deductions, or credits. Have your most recent pay stub(s) from this year available when using the estimator. At the beginning of next year, use the estimator again to recheck your withholding.</p> <p>Complete Steps 2-4 ONLY if they apply to you; otherwise, skip to Step 5. See page 2 for more information on each step, who can claim exemption from withholding, and when to use the estimator at www.irs.gov/W4App.</p>		
Step 2: Multiple Jobs or Spouse Works	Complete this step if you (1) hold more than one job at a time, or (2) are married filing jointly and your spouse also works. The correct amount of withholding depends on income earned from all of these jobs. Do only one of the following. (a) Use the estimator at www.irs.gov/W4App for the most accurate withholding for this step (and Steps 3-4). If you or your spouse have self-employment income, use this option; or (b) Use the Multiple Jobs Worksheet on page 3 and enter the result in Step 4(c) below; or (c) If there are only two jobs total, you may check this box. Do the same on Form W-4 for the other job. This option is generally more accurate than (b) if pay at the lower paying job is more than half of the pay at the higher paying job. Otherwise, (b) is more accurate <input type="checkbox"/>	
<p>Complete Steps 3-4(b) on Form W-4 for only ONE of these jobs. Leave those steps blank for the other jobs. (Your withholding will be most accurate if you complete Steps 3-4(b) on the Form W-4 for the highest paying job.)</p>		
Step 3: Claim Dependent and Other Credits	If your total income will be \$200,000 or less (\$400,000 or less if married filing jointly): Multiply the number of qualifying children under age 17 by \$2,000 \$ _____ Multiply the number of other dependents by \$500 \$ _____ Add the amounts above for qualifying children and other dependents. You may add to this the amount of any other credits. Enter the total here 3 \$ _____	
Step 4 (optional): Other Adjustments	(a) Other income (not from jobs). If you want tax withheld for other income you expect this year that won't have withholding, enter the amount of other income here. This may include interest, dividends, and retirement income 4(a) \$ _____ (b) Deductions. If you expect to claim deductions other than the standard deduction and want to reduce your withholding, use the Deductions Worksheet on page 3 and enter the result here 4(b) \$ _____ (c) Extra withholding. Enter any additional tax you want withheld each pay period . . . 4(c) \$ _____	
Step 5: Sign Here	Under penalties of perjury, I declare that this certificate, to the best of my knowledge and belief, is true, correct, and complete. _____ Employee's signature (This form is not valid unless you sign it.) Date	
Employers Only	Employer's name and address _____	First date of employment _____ Employer identification number (EIN) _____

Making Estimated Tax Payments



[Click on the image to learn more about the pay-as-you-go system and payment options.](#)

If your primary source of income is from investment or self-employment such as gig work, you will need to pay estimated taxes on your own, once each quarter. The payment dates are April 15, June 15, and September 15 of each year and January 15 the following year. As an example, for the tax year 2025, you will need to complete an estimated tax return for individuals (Form 1040-ES) and make the first quarterly payment on or before April 15, 2025, followed by payments on June 15, 2025 and

September 15, 2025. The last quarterly payment will be on January 15, 2026. Preparing estimated taxes essentially means you have to file taxes twice, the first is the estimation and the second is the actual tax return (Form 1040). In the above example, the estimation is filed on April 15, 2025 and the regular return will be filed on April 15, 2026. The steps for completing the estimated return are similar to those for completing a regular return and we will explain these in the next section. If you expect your self-employment income to be similar from year to year, you can use numbers from the most recent tax return for the estimated return. Continuing with the example, you could use information from the 2024 return (Form 1040) to complete the estimated tax return for 2025 (Form 1040-ES) and file both on or before April 15, 2025. If your income changes significantly you will need to increase subsequent quarterly payments to avoid penalty. You can make estimated payments using the IRS Direct Pay service online or send a check with a payment voucher (Form 1040-V). Other payment options, for which the providers charge a service fee, include debit and credit cards and digital wallets.

Computing Federal Income Taxes

Understanding Adjusted Gross Income, Deductions, and Taxable Income

This section outlines a step-by-step process for calculating individual federal income tax. The first step is to compute **gross income**, which includes all sources of income. The second step is to determine **exemptions** and **exclusions**. Exemptions are incomes that are not taxed by the federal government. A common example is interest income from bonds issued by states or municipalities. All incomes, including capital gains, on certain accounts such as Roth IRA and 529 College Savings Plan, are also tax exempt. We will discuss these investment options in detail in a later chapter. Some incomes are **tax deferred** and excluded from the current year's income tax. Examples include contributions to qualified retirement accounts such as 401k, 403b, or traditional IRA. You do not pay income tax on these contributions in the current year. When you withdraw money from these retirement accounts, you will pay income tax at that time. Therefore, income used for these contributions

are tax deferred. Another common exclusion is interests on student loans. You can deduct up to \$2,500 in student loan interests provided your income is below the income limit. **Adjusted gross income (AGI)** equals gross income less exemptions and exclusions. The tax laws allow taxpayers to deduct certain expenses before assessing income tax. The **standard deduction** is a flat amount for each filing status and applicable to all taxpayers. The deduction amount is higher for filing status with dependents than for single taxpayers to reflect higher living expenses necessary to support the dependents. The standard deduction amounts change each year to account for inflation. For example, in 2025 the standard deduction for single filers was \$15,000 and for heads of household was \$22,500. Figure 4.2 shows the standard deductions for each filing status for 2025. Under certain circumstances, such as large medical expenses or mortgage interest payments, taxpayers may choose **itemized deductions** to get a higher deduction. Itemized deductions requires the taxpayer to list and document expenses that are tax deductible. No documentation is needed for the standard deduction. **Taxable income** is defined as adjusted gross income minus deductions.

Filing Status	Standard Deduction
Single or Married filing separately	\$15,000
Heads of household	\$22,500
Married filing jointly or Surviving Spouse	\$30,000

Standard deduction for tax year 2025. Source: Internal Revenue Service.

Figure 4.2

The most time consuming and tedious part of preparing taxes is collecting tax documents related to income and, if taking itemized deductions, receipts. Each employer is required to provide information on earned income and tax withholdings to the IRS and to its employees on the **Wage and Tax Statement, Form W-2** (Figure 4.3). All other incomes are reported on one of the **Information Returns (1099s)**. Most common examples of information returns include **Form 1099-INT** for interest earned, **Form 1099-DIV** for dividends earned, **Form 1099-NEC** for nonemployee compensation,

The image shows a blank Form W-2 Wage and Tax Statement for the year 2025. The form is divided into several sections:

- Section 1:** Wages, tips, other compensation.
- Section 2:** Federal income tax withheld.
- Section 3:** Social security wages.
- Section 4:** Social security tax withheld.
- Section 5:** Medicare wages and tips.
- Section 6:** Medicare tax withheld.
- Section 7:** Social security tips.
- Section 8:** Allocated tips.
- Section 9:** Control number.
- Section 10:** Dependent care benefits.
- Section 11:** Nonqualified plans.
- Section 12:** See instructions for box 12.
- Section 13:** Checkboxes for 'Employer' and 'Retirement plan'.
- Section 14:** Other.
- Section 15:** State Employer's state ID number.
- Section 16:** State wages, tips, etc.
- Section 17:** State income tax.
- Section 18:** Local wages, tips, etc.
- Section 19:** Local income tax.
- Section 20:** Locally name.

 The form also includes the 'e-file' logo and the text 'Safe, accurate, FAST! Use' and 'Visit the IRS website at www.irs.gov/efile'. At the bottom, it says 'Form W-2 Wage and Tax Statement 2025 Department of the Treasury - Internal Revenue Service'.

Figure 4.3

and **Form 1099-MISC** for various types of income such as prizes, awards. You should also document other income earned but not reported to the IRS, such as lawn mowing, house cleaning, or pet sitting. Incomes that are tax exempt are reported on the respective forms. For instance, tax exempt interest earned are reported on Form 1099-INT along with other interest income. Contributions to tax deferred retirement accounts, such as an **Individual Retirement Account (IRA)**, are reported on **IRA Contribution Information (Form 5498)**. Student loan interests are reported on **Form 1098-E**. Employers and financial institutions are required to send these forms to the IRS and to taxpayers by the end of January or February so taxpayers have sufficient time to prepare their tax returns. To make things easy for yourself, have a dedicated folder for storing all these forms as they arrive so that when it is time to do your taxes, all these documents are already in one place. If you choose to have your documents delivered electronically, create a digital folder and download the forms to it. You can also take pictures of the forms and store them in a digital folder. Organization is the key to simplify your tax preparation.

If you take the standard deduction, no documentation is needed. If you take itemized deductions, you should have receipts for each item. The most common deductions are mortgage interests, state and local taxes including real estate property tax, charitable donations, and medical expenses. **Mortgage interests** are reported on **Form 1098**. Note that only interest on the first \$750,000 of the mortgage is tax deductible. State and local taxes deduction is currently capped at \$10,000 total, including all income and property taxes. Charitable donations can be in the form of cash or property and the deduction is limited to 50 percent of the donor's adjusted gross income. Receipts for donations should be provided by the charitable organizations. Unreimbursed medical and dental expenses greater than 7.5 percent of the taxpayer's adjusted gross income are tax deductible. The specific amounts and percentages indicated above are effective under the current tax laws as of 2025.

We will use two examples to illustrate how to compute adjusted gross income, deductions, and taxable income. The first example is Jordan, a 24 year-old living on their own. The second example is a married couple Maya and Isis.

Example: Determining adjusted gross income and taxable income for Jordan

Jordan is 24 years old and shares an apartment with a roommate. Last year, their earned income from Form W-2 was \$65,000. They received \$2,000 as graduation gifts from their parents. Jordan paid \$1,500 in interest on student loans.

Determining Gross Income:

Jordan's earned income of \$65,000 was taxable. The graduation gift was not taxable. Therefore, gross income is \$65,000.

Determining Adjusted Gross Income (AGI):

The income limit for student loan interest deduction was \$80,000 for that year. Since Jordan's earned income was below the limit, student loan interest of \$1,500 was deductible.

Adjusted Gross Income (AGI) = \$65,000 – \$1,500 = \$63,500.

Determining Deductions: Jordan decided to take the standard deduction, which was \$15,000 that year. No documentation or calculation is needed to take the standard deduction.

Determining Taxable Income:

Taxable income = AGI – standard deductions = \$63,500 – \$15,000 = \$48,500.

Example: Determining deductions and taxable income for Maya and Isis

Maya West and Isis Khan are married and decided to file their tax returns jointly. Earned income for Maya was \$65,000 and for Isis was \$73,000 last year based on information from their W-2 forms. They also received a Form 1099-INT showing they received \$2,000 in interest income and they contributed \$7,000 to an IRA.

Maya and Isis owned a house with a mortgage balance of \$350,000. They paid \$21,000 in mortgage interests last year. They also paid state tax and real estate property tax totaling \$12,800. When they chose their insurance plan, they decided on a high deductible option. Unfortunately, Maya was diagnosed with early stage cancer. Though the treatment was successful, they had medical bills of \$15,000 not covered by their health insurance.

Determining Gross Income:

All of Maya and Isis's incomes were taxable.

Gross income = \$65,000 + \$73,000 + \$2,000 = \$140,000

Determining Adjusted Gross Income (AGI):

Contributions to IRA are tax-deferred.

Adjusted Gross Income (AGI) = $\$140,000 - \$7,000 = \$133,000$

Determining Deductions: The standard deduction for married couples filing jointly was \$30,000 for that year. Let us compare that to itemized deductions for Maya and Isis.

Mortgage interest:

Since their mortgage amount was less than the \$750,000 limit, they could deduct the entire \$21,000 in mortgage interests.

State income and property taxes:

Their state and property tax of \$12,800 was greater than the \$10,000 cap, they could only deduct \$10,000.

Medical expenses:

Medical expenses greater than 7.5 percent of AGI are tax deductible. Their AGI was \$133,000. The exclusion amount = $\$133,000 \times 0.075 = \$9,975$. Their medical expenses were \$15,000. Therefore, the amount of medical expenses that could be deducted = $\$15,000 - \$9,975 = \$5,025$.

Total itemized deductions = Mortgage interests + Allowable state and property taxes + Deductible medical expenses = $\$21,000 + \$10,000 + \$5,025 = \$36,025$.

Since the itemized deduction amount of \$36,025 was greater than the standard deduction of \$30,000, Maya and Isis should itemize their deductions.

Determining Taxable Income:

Taxable income = AGI – deductions = $\$133,000 - \$36,025 = \$96,975$

Understanding Tax Brackets, Marginal Tax Rate, and Average Tax Rate

As noted earlier in this chapter, the U.S. federal income tax is a progressive system, with higher tax rates for higher incomes. This system is implemented by separating taxable income into tax brackets with income in each bracket taxed at a different rate. When your income jumps to a higher tax bracket, you do not pay the higher rate on your entire income. You pay the rate for each bracket that your income falls into. Marginal tax rate refers to the tax rate that will apply to the next dollar of income. Average tax rate is total tax paid divided by taxable income. Marginal tax rate is useful for making future decisions. For example, if you take on an extra shift, the additional take home pay will be taxed at the marginal tax rate. Average tax rate is useful for estimating total tax liabilities. For example, you can apply last year's average tax rate to expected future income to compute estimated taxes. The U.S. federal tax system also takes into account the burden of living expenses by classifying

taxpayers into different filing status. Each filing status has different income brackets. Figure 4.4 shows the tax rates for three filing status in 2025, which range from 10 percent to 37 percent. Let us revisit Jordan’s case to demonstrate how the progressive tax rates and tax brackets work.

Filing Status	Single		Heads of household		Married filing jointly or Surviving spouse	
Tax Rate	Tax brackets (Range of Income)		Tax brackets (Range of Income)		Tax brackets (Range of Income)	
10%	\$0	\$11,925	\$0	\$17,000	\$0	\$23,850
12%	\$11,925	\$48,475	\$17,000	\$64,850	\$23,850	\$96,950
22%	\$48,475	\$103,350	\$64,850	\$103,350	\$96,950	\$206,700
24%	\$103,350	\$197,300	\$103,350	\$197,300	\$206,700	\$394,600
32%	\$197,300	\$250,525	\$197,300	\$250,500	\$394,600	\$501,050
35%	\$250,525	\$626,350	\$250,500	\$626,350	\$501,050	\$751,600
37%	\$626,350		\$626,350		\$751,600	

Figure 4.4

Tax brackets and tax rates for tax year 2025. Source: Internal Revenue Service.

Example: Computing federal tax for Jordan

Jordan had taxable income of \$48,500 in 2025 with a filing status as single. From Figure 4.4, we see that \$48,500 falls in the 22 percent tax bracket, which applies to income between \$48,475 and \$103,350. The marginal tax rate for Jordan was therefore 22 percent. However, the entire taxable income of \$48,500 was not taxed at 22 percent. Figure 4.5 illustrates how taxable income is divided into tax brackets. The first \$11,925 of taxable income was taxed at 10 percent. The amount of taxable income between \$11,925 and \$48,475 was taxed at 12 percent. Only the last \$25 of the taxable income (\$48,500 – \$48,475) was taxed at 22 percent.

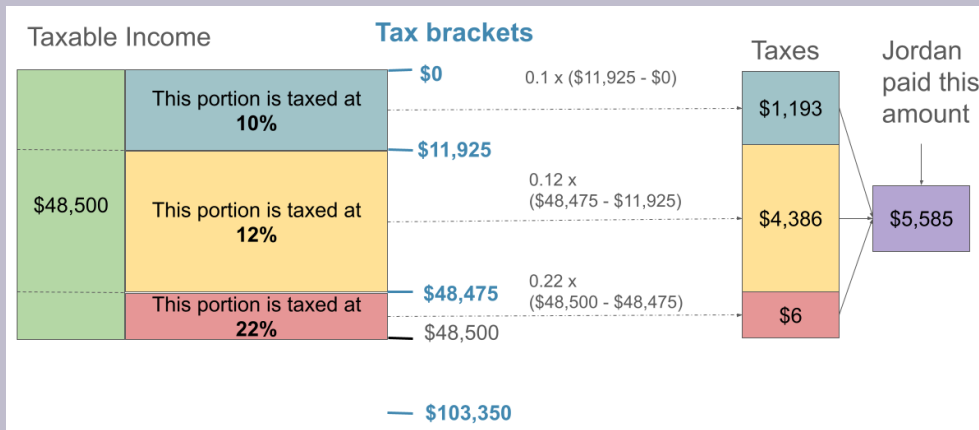


Figure 4.5

Total tax and average tax rate are calculated as follows:

Total tax = $0.1 (\$11,925 - \$0) + 0.12 (\$48,475 - \$11,925) + 0.22 (\$48,500 - \$48,475) = \$5,585$.

Average tax rate = $\$5,585 / \$48,500 = 0.1151 = 11.51$ percent

Example: The value of itemized deductions to Maya and Isis

In the previous section, Maya and Isis found that their itemized deductions totaled \$36,025, which was higher than the standard deduction of \$30,000. How much is the additional \$6,025 in deduction worth to them?

The adjusted gross income for Maya and Isis was \$133,000. If they used the standard deduction of \$30,000, their taxable income would be \$103,000 ($\$133,000 - \$30,000$). If they used the itemized deduction, their taxable income would be \$96,975 ($\$133,000 - \$36,025$). Both amounts of taxable income fall in the 22 percent tax bracket for married couples filing jointly in 2025. This means the marginal tax rate for Maya and Isis was 22 percent. By increasing their deduction by \$6,025, Maya and Isis would reduce their tax paid by \$1,326 ($\$6,025 \times 0.22$).

Computing Federal Income Tax

- **Gross Income:**

- Earned Income: Wages, Commissions, tips etc.
- Investment Income: Interest, dividend, rental income etc.
- Passive Income: Income from
 - business you do not manage.
- Short-term and Long-term Capital Gain: profit from investing.

- **Exemptions and Exclusions:** Exemptions and exclusions reduce gross income to arrive at Adjusted Gross Income (AGI). Tax exempt income is not taxed. Tax deferred income is not taxed in the current year but will be taxed at a later time.
- **Adjusted Gross Income (AGI):** AGI is defined as gross income minus exemptions and exclusions.
- **Deductions:** These are allowances for living expenses.
 - **Standard Deductions:** A fixed amount based on filing status, disability, and age.
 - **Itemized Deductions:** Individual expenses that can be deducted, including charitable donations, medical expenses, mortgage interest, real estate property tax, and state and local income tax. There are limits (caps) or exclusions for some of these expenses.
- **Taxable Income:** Taxable income is defined as AGI minus deductions.
- **Tax Brackets and Tax Rates:** The US federal income tax system is progressive, meaning higher income brackets are taxed at higher rates.
- **Marginal Tax Rate:** The tax rate applied to the next dollar of taxable income (i.e., the tax bracket you are in).
- **Average Tax Rate:** Total tax paid divided by taxable income.

Tax Credits

Tax credits directly reduce the amount of tax owed. In contrast, tax exemption and deductions reduce taxable income and the amount of tax savings depends on the marginal tax rate of the taxpayer. For example, an individual has a 22 percent marginal tax rate and tax liability of \$2,500. In this example, a \$1,000 tax credit reduces tax liability by \$1,000, while a \$1,000 deduction reduces taxable income by \$1,000 and tax liability by \$220 ($\$1,000 \times 0.22$).

There are a wide range of tax credits, and the amount available varies each year. Some tax credits are refundable, which means the taxpayer gets a refund even if no tax is owed. Taxpayers who qualify for refundable tax credits should file tax returns even if they do not owe taxes and are not required to file so they can claim these tax credits. Not all tax credits are refundable. For nonrefundable tax credits, once the tax liability is reduced to zero, any leftover amount would become useless. Some tax credits are partially refundable, which means taxpayers can get a percentage of the leftover amount as a refund after tax liability is reduced to zero. Most tax credits have income limits, which means taxpayers with incomes higher than the limits do not qualify for them.

A common refundable tax credit is the Earned Income Tax Credit (EITC), which is intended to help low-to-moderate income workers get a tax break. According to a report by the Congressional Research Service,

26 million taxpayers (16 percent of all taxpayers filing an individual income tax return) received the Earned Income Tax Credit in 2020 and the average credit was \$2,276 per return. Other common tax credits include the American Opportunity credit and Lifetime Learning credit for college expenses, and Child tax credit and Child and Dependent Care credit. The IRS website has information for eligibility and up-to-date information on each type of tax credits.

Tax Filing and Tax Resources

Federal income tax deadline is April 15th of each year. You can file your tax return electronically or via postal mail by completing the individual federal tax form (Form 1040). If the amount of tax withholding or estimated payments is greater than the total tax liability, the taxpayer will receive a tax refund. Otherwise, the taxpayer must pay the remaining amount owed. There are many resources available to help you with tax returns, ranging from free services, free and paid software, to expensive tax lawyers.

The **Volunteer Income Tax Assistance (VITA)** program offers free in person help to low-to-moderate income taxpayers who need assistance in preparing basic tax returns. The IRS manages the overall VITA program and provides training materials to volunteers. Each VITA site is overseen by local volunteers. Universities and colleges, libraries, and community centers are often locations for VITA sites where you can get help. You may want to volunteer for the VITA program yourself. You will receive free training, learn how to prepare taxes, give valuable service to the community, and gain experience for yourself. Leaders at the VITA sites conduct a quality review check for every return before it is filed. In 2022, there were more than 3,200 VITA sites nationwide and prepared over 1 million tax returns.

In addition to the VITA program, the IRS also offers the **IRS Direct File** and the **IRS Free File** programs which allow taxpayers meeting certain qualifications to prepare and file federal income tax returns online. These qualifications include the amount and types of income and the types of deductions and tax credits. These programs typically do not support itemized deductions. Both programs have interactive screening questions on the IRS website to help taxpayers determine if they qualify.

The IRS Direct File program was developed by the IRS and launched in 2024. The Direct File software is unique in that it automatically imports data from various tax forms (such as W-2 and 1099s) already reported to the IRS by employers and financial institutions, eliminating the need for taxpayers to enter them manually. You should still keep a copy of the tax forms for your record. In 2025, the IRS Direct File software supports wage income (W-2), Social Security income (SSA-1099), unemployment compensation (1099-G), interest income (1099-INT), and retirement income (1099-R). Since the IRS already has this information, it does not need access to your payroll or bank accounts. The income limit to use IRS Direct File changes each year to account for inflation. In 2025 it was \$200,000 for single filers and \$250,000 for married couples filing jointly. The Direct File software supports a number of tax credits including Earned Income Tax Credit, Child Tax Credit, Child and Dependent Care Credit, Credit for the Elderly or the Disabled, Premium Tax Credit, and Retirement Savings Contributions Credit. It also supports standard deduction, student loan interest

deduction, deduction for educator expenses, and health savings account contributions. Some states have joined the IRS Direct File program and allow taxpayers to file state taxes using the Direct File software. Since this program is run by the IRS, the information you enter is protected by the same security and privacy protocol as IRS tax data.

Unlike the IRS Direct File program, the IRS Free File program is a partnership between the IRS and a number of commercial tax software providers. Be careful when choosing an IRS Free File provider and watch out for scammers and imposters. Use the IRS website to find a legitimate provider. Do not use search engines. IRS Free File partners offer a limited version of their commercial tax software for free to qualified taxpayers. In 2025 the income limit was \$84,000 and this amount changes each year to reflect inflation. The types of tax credits and deductions supported vary by software and are more restrictive than those available on IRS Direct File. It is not always easy to determine what features the free software supports. When you need a tax credit or deduction feature that is not included in the free version, the software will prompt you to upgrade to the paid version. This could be a frustrating experience. With IRS Direct File, the supported features are clearly stated.

If you do not qualify for any of these free programs, you can purchase commercial tax software or use a tax preparer. The price of commercial tax software depends on the types of income, deductions, tax credits, and the number of state returns it supports. Some software include import functions to gather data automatically from your financial institutions and payroll services. However, to use this function the software will need permission to access your payroll, bank and investment accounts. The degree of security and privacy protection varies by software provider. This is also true for IRS Free File providers who are the same companies. Some software offers an offline version that allows you to prepare the returns on your computer, instead of online. You can also choose to print out the completed forms and file via postal mail instead of e-file. These options may be valuable to some taxpayers, especially those who want more control over where and how their tax and financial data are stored.

The biggest advantage of tax software, including IRS Direct File, is the use of interview style questions to guide taxpayers through their tax returns. These questions replace the need for taxpayers to read long instructions written in legalese. Once a taxpayer gathers all tax related documents, using a tax software to complete and file tax returns is relatively easy.

If you opt to have a paid preparer do your tax returns, choose the preparer carefully and wisely because you are ultimately responsible for the accuracy of every item reported on the return. At the minimum the preparer should have a **preparer tax identification number (PTIN)**. Only attorneys, Certified Public Accountants (CPAs), and enrolled agents certified by the IRS can represent taxpayers in case of audits, appeals, and other tax matters. Good preparers will ask to see your records and receipts. Avoid preparers who claim they can get larger refunds than others or who base their fees on the refund amount. Before hiring a tax preparer, check their history and references.

If you are unable to submit your tax returns by the April 15 deadline, you have the option to file for an extension, granting you until October 15 to complete your returns. The extension applies to the return, not tax payments. You need to make estimated payments on any amount owed by April 15 to avoid penalties. These

payments can be made through the IRS website, where you can indicate that you are filing for an extension. If you are expecting a refund, you have strong incentives to complete the return as early as possible to prevent scammers from stealing your refund.

If you discover you have made mistakes on your tax returns, you can correct the errors by filing an **amended return (Form 1040x)**. The amended return has the same items as the original return. Most tax software can generate an amended return after you enter the corrected information.

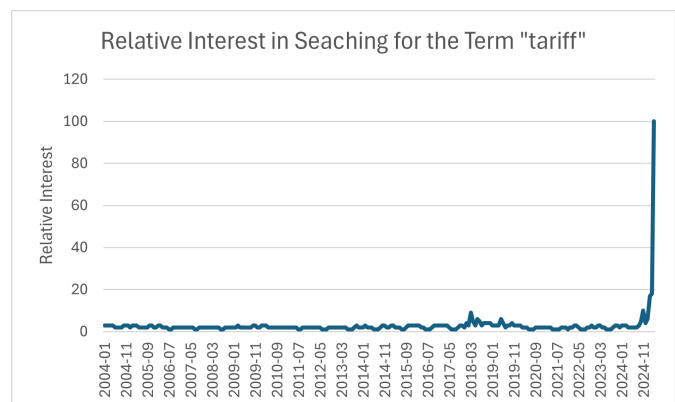
Remember that you have a multitude of resources at your disposal to assist you with tax-related matters. The IRS provides a wealth of materials, including FAQs, informative brochures and videos designed to address common taxpayer questions. Additionally, there are free services available, such as VITA (Volunteer Income Tax Assistance), IRS Direct, and IRS Free File. However, the availability of these free services is contingent upon government funding and may fluctuate from year to year.

Tax Planning Strategies

Taxes are a complex but essential part of personal finance. The amount of tax withholding affects your take-home pay. If you do not withhold sufficiently, you will have a large tax bill on April 15 and may even incur penalty and interest. You can reduce your tax by taking advantage of tax saving opportunities. Some expenses are tax deductible and you should take into account their impact on taxes in your budget and personal financial plan. Some investments are tax deferred, such as retirement accounts and health savings accounts. Returns on some investments are tax exempt, such as Roth IRA, Roth 401k, and college savings plans. Tax deferred accounts reduce the current income tax but you have to pay tax when you withdraw money from these accounts. With tax exempt investments you do not get any tax reduction today but you do not pay any tax on income and capital gain from these investments. The benefits of tax exemption often outweigh those of tax deferral, especially in the long-run.

Is Tariff a Tax?

Tariff did not used to be a topic in a personal finance textbook. It belongs in an international economics or an import-export business textbook. That changed in April 2025 when President Trump declared tariffs on all countries that trade with the U.S. and sent consumers typing ‘tariff’ into search engines (Figure 4.6). In its simplest term, tariff is a purchase tax paid by businesses importing goods from another country. For example, a boutique buys



t-shirts from a supplier from another country at \$10 per t-shirt and sells them at \$13 to its customers. The \$3 mark-up covers payroll, rent, overhead, and profits to the boutique owner. If the U.S. government levies a 100 percent tariff, the boutique pays \$10 (\$10 x 1) to the government when the t-shirt arrives at a U.S. port. How tariffs affect the consumers depends on a number of factors. One extreme scenario is that the boutique passes the entire \$10 tariff to its customers and now sells the t-shirt at \$23. Another extreme scenario is that the supplier lowers the wholesale price from \$10 to \$5, absorbing all the burdens from the tariff. The most likely scenario includes a combination of negotiating with its supplier, taking a smaller profit, cutting payroll and other costs, and increasing prices. For instance, the supplier may lower the wholesale price to \$8 to the boutique, resulting in a \$8 tariff. The boutique lowers its mark-up to \$2. The final price to the consumer goes up to \$18.

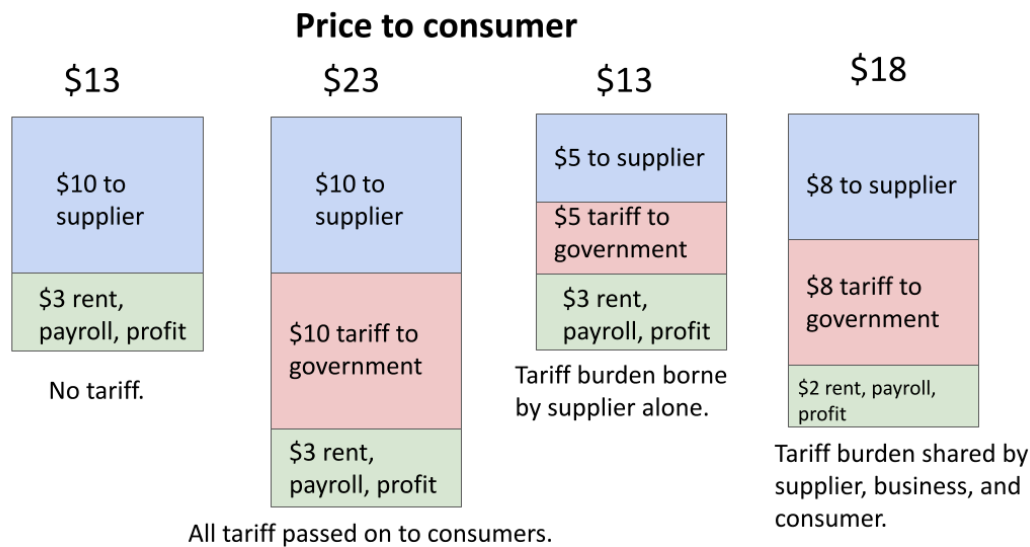


Figure 4.7

Integrated Case 4

Tax Preparation

It is spring break and Blake Jackson wants to take the extra available time to get her taxes done. Her W-2 last year showed \$20,456 in gross income with \$1,893 in federal tax withholding. Her grandmother gave her \$500 as a graduation present and instructed her to use the money to open an IRA account. During the summer she entered an eSport tournament and won \$1000 in prize money.

Activities:

1. What impact will the gift of \$500 from her grandmother have on Blake's adjusted gross income? Explain.
2. What impact will the \$1000 prize from the eSport tournament have on Blake's adjusted gross income? Explain.
3. What impact will her \$500 IRA contribution have on Blake's adjusted gross income? Explain.
4. Compute Blake's adjusted gross income for last year.
5. What is Blake's filing status?
6. Look up the standard deduction for Blake from the IRS website.
7. Compute Blake's taxable income.
8. What is Blake's marginal tax rate?

Chapter Four Summary

This chapter provides a detailed overview of personal taxation and its role in financial planning.

Why We Have Taxes and What Makes Them Fair

Taxes are the primary way governments fund public goods and services like roads, schools, and national defense, which private companies cannot efficiently provide. The fairness of a tax system is judged by three main factors:

1. The relationship between income and the amount of tax paid.
2. The equitable distribution of government services funded by taxes.
3. The fairness of the tax collection process itself.

Types of Tax Systems

There are three primary tax structures:

- Progressive Tax: Higher earners pay a higher percentage of their income in taxes (e.g. the U.S. federal income tax).
- Flat Tax: Everyone pays the same tax rate, regardless of income (e.g., Medicare tax).
- Regressive Tax: Lower earners pay a higher percentage of their income in taxes. Sales tax is a common example, as those with lower incomes spend a larger portion of it on goods.

Taxes are also policy tools, with tax credits incentivizing behaviors (like energy efficient appliances) and excise taxes discouraging others (like smoking).

How Federal Income Tax Is Calculated

Calculating your federal income tax is a multi-step process:

1. Gross Income: This includes all your income from various sources (wages, investments, self-employment, etc.).
2. Adjusted Gross Income (AGI): This is your Gross Income minus specific tax-deferred contributions (like to a 401k or traditional IRA) and other exclusions.
3. Deductions: You can subtract either a Standard Deduction (a fixed amount based on your filing status) or Itemized Deductions (specific expenses like mortgage interest and large medical bills). You choose whichever is larger.
4. Taxable Income: This is your AGI minus your chosen deduction. This is the amount of income your tax is actually calculated on.
5. Tax Liability: Your tax is calculated using a progressive system of tax brackets. Different portions of your income are taxed at increasing rates. Your marginal tax rate is the rate applied to your last dollar of income.
6. Tax Credits: These are subtracted directly from the tax you owe. They are more valuable than deductions because they provide a dollar-for-dollar reduction in your tax bill.

Paying and Filing Your Taxes

Taxes are collected on a “pay-as-you-go” basis throughout the year.

- Withholding: Employees elect to have federal income and FICA (Social Security and Medicare) taxes automatically deducted from their paychecks based on their Form W-4.
- Quarterly Payments: Self-employed individuals and those with significant investment income must make estimated tax payments four times a year.

The tax filing deadline is typically April 15th. You can file using free services like VITA, paid commercial software, or a paid preparer.

Key Tax Planning Strategies

Effective tax planning aims to legally minimize your tax liability. Key strategies include:

- **Manage Withholding:** Adjust your W-4 to avoid owing a large sum (under-withholding) or giving the government an interest-free loan (over-withholding).
- **Utilize Tax-Deductible Expenses:** Plan for expenses that can be itemized, such as charitable donations.
- **Leverage Tax-Advantaged Accounts:**
 - **Tax-Deferred Accounts:** Contributions to traditional 401(k)s, traditional IRAs, and HSAs are made pre-tax, lowering your current taxable income. Taxes are paid upon withdrawal in retirement.
 - **Tax-Exempt Accounts:** Contributions to Roth IRAs and 529 College Savings Plans are made with after-tax money, but investment growth and withdrawals are completely tax-free.

End of Chapter Questions – Chapter 4

1. Explain why taxes are necessary.
2. Define public goods and give three examples.
3. Explain the “free-rider problem” and how taxation helps address it in the context of public goods.
4. Define fairness in the context of taxation.
5. Differentiate between a progressive tax system and a regressive tax system, providing an example for each.
6. What are the different types of income and taxes individuals encounter?
7. Explain how the “pay-as-you-go” tax system in the U.S. works.
8. Briefly describe two ways taxpayers can satisfy the “pay-as-you-go” requirement for federal

taxes.

9. Explain the purpose of Form W-4.
10. How does an individual's filing status impact their federal income tax calculation?
11. Define Adjusted Gross Income (AGI), deductions, and taxable income, and explain how they are calculated.
12. Explain the difference between Adjusted Gross Income (AGI) and Taxable Income.
13. Explain tax brackets, marginal tax rate, and average tax rate in the U.S. progressive tax system.
14. Explain why marginal tax rate is important for making future financial decisions.
15. Explain the difference between tax deductions and tax credits.
16. What resources are available to individuals for tax preparation and assistance?
17. What is the main distinction between a tax loophole and a tax code designed to promote a specific government policy?
18. Identify two free resources available to taxpayers for preparing their federal income tax returns.
19. What is a tariff?

Notes

1. A discussion of the fairness of the American voting system is beyond the scope of this book. It is an important topic that warrants studying by all citizens.

5.

COMPOUND INTERESTS AND TIME VALUE OF MONEY

Chapter Five Learning Objectives

- Define opportunity cost and the time value of money.
- Understand how compound interests work.
- Define future value and perform future value calculations.
- Define present value and perform present value calculations.
- Define annuity and perform annuity calculations.
- Apply time value of money concepts to inflation, investment returns, interest on borrowing, and personal financial planning.
- Distinguish different types of interest rates.
- Identify key economic and political factors affecting interest rates.

“A dollar today is worth more than a dollar tomorrow.” You may have heard this saying before. Do you agree? How would you explain your answer?

Opportunity Cost

Before we continue, it is useful to first explore a concept called **opportunity cost**. Everyday you make decisions that have opportunity costs that you may or may not be aware of. Consider the following choices:

Have taco for lunch or.....	have pizza for lunch?
Take a nap or.....	go for a run?
Work extra shifts or.....	take a vacation trip over spring break?

Economists define opportunity cost as the value of the next-best alternative when you make a decision. Assuming your appetite is limited, the opportunity cost of eating pizza for lunch is having tacos. It is what you give up when you choose one alternative over another. What is the opportunity cost of going for a run? In this case, it is taking a nap. People often overlook opportunity costs when making decisions. The cost of vacationing over spring break is not just the cost of the trip. The amount of money you could make by working extra shifts is the opportunity cost of the vacation and should be part of your decision. Opportunity costs play an important role in personal finance.

Let us look at the saying again. If you do not spend a dollar today, you can invest the dollar. We will use the terms **rate of return** or **return** to describe earnings from an investment. The expected return on an investment is positive because no one will invest in something that is expected to lose money. **Expected return** is not the same as **realized return**, which is the actual return and may be positive or negative. Another reason expected return is positive is due to **inflation**, which is defined as the increase in the price of goods and services over time. For example, you want to buy a new bicycle, which costs \$400 today. If you wait one year, the price of the same bicycle goes up to \$450. If the return on investing the \$400 is less than \$50, you will be better off buying the bicycle today. This is before taking into account the opportunity costs of not being able to use the bike during that time. To entice consumers to invest, the expected return on an investment must account for inflation.

Since you can earn a return on your investment, the dollar you invest today is expected to grow to more than one dollar in the future. The opportunity cost of spending a dollar today is the return you expect to earn by investing it. Therefore, a dollar today is worth more than a dollar tomorrow. We call this the **time value of money** and it is a core concept in finance. Time value of money calculations are fundamental tools for analyzing investments, loans, and financial planning. You can apply these tools to determine how much you need to save each month to reach a particular financial goal, such as making down payment on a house. Mastering these concepts will enable you to understand and compare different investment and loan options. With this knowledge, you will make better financial decisions.

Example: Jordan learning about time value of money

Jordan is 24 years old and recently graduated from college. They are learning about personal finance and developing a personal financial plan. After putting together a budget, they found that they can save \$10 per day by preparing breakfast and lunch at home. It will also save them time from driving to pick up these meals and have more free time in the morning and during lunch break. Even though \$10 does not seem like a lot of money, Jordan feels that is a goal they can achieve. They are

surprised to learn that by investing \$300 per month (\$10 per day x 30 days) and earning 8 percent per year on their investment, these savings can grow to over \$1 million in 40 years!

Understanding Compounding

In the world of finance, compounding refers to the process where the return earned or interest owed is added back to the investment or loan. This continuous reinvestment allows the balance to grow and accumulate over time. This phenomenon is also referred to as “interest on interest.”

The snowball effect is the best way to see how powerful compounding can be. Each time the return is reinvested, the snowball gets bigger, picking up even more snow in the next round. The longer you invest, the more you earn, which means the amount you earn each period gets larger and larger. With compounding, your investment grows faster and bigger over time. Unfortunately, the same is true for the loan balance if you do not make any payments and let interest accumulate.

To illustrate how compounding works, let us look at an investment that earns 10 percent per year. If you put \$1,000 into this investment, how much would you earn in one year? over two years? over 30 years?

Your earnings after one year would be \$100 ($\$1,000 \times 0.10$). If you extrapolate earnings over two years to be \$200 ($\100×2) and earnings over 30 years to be \$3,000 ($\100×30), your calculation implicitly assumes **simple interest**. This means earnings are not reinvested.

With compounding, your earnings will grow year after year and at an increasing rate.

Year One: Your earning after one year would also be \$100 ($\$1,000 \times 0.10$). However, the new balance after reinvesting is \$1,100 ($\$1,000 + \100).

Year Two: In the second year, the return is based on the new balance of \$1,100, resulting in \$110 ($\$1,100 \times 0.10$). The balance after two years is \$1,210 ($\$1,100 + \110). Notice how your earning in the second year, \$110, is greater than that in the first year, \$100, because of compounding. Over two years, you earn \$210 ($\$110 + \100).

Year Three and Beyond: This pattern continues each year and over 30 years you would earn about \$16,450 in return and your investment would have an ending balance of \$17,450, significantly more than what you would earn without compounding (simple interest).

Your earnings increase each year because you make money not only on your original investment but also on the accumulated earnings from previous years. This is the essence of compounding – your money earns money, and over time, this leads to significant growth. Figure 5.1 shows the effects of compounding as the investment horizon lengthens. The term **future value** refers to the ending balance of the investment.

Future Value of \$1,000 Earning 10 Percent Per Year

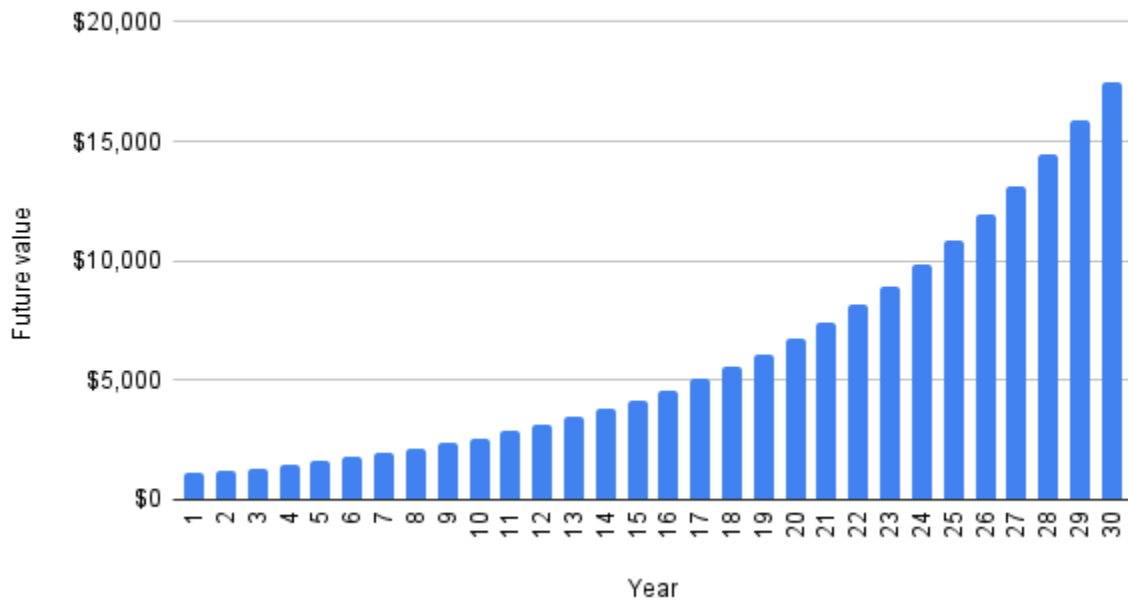


Figure 5.1

How much your money grows depends on a number of factors. The first factor is time. The longer you invest, the more your money grows. Secondly, the higher the rate of return on an investment, the more your money grows. Finally, the more often you reinvest, the more your money grows. This last factor is called **compounding frequency**, which is defined as the number of times in a year interest or return is computed and added to the balance. Hence, annual compounding means once per year. Monthly compounding means 12 times per year. Quarterly compounding means 4 times per year, etc. Many consumer loans such as credit cards, auto loans, and mortgages have monthly compounding. If you do not make the scheduled monthly payment, any unpaid amount is added to the loan balance, increasing future interest. Some people are surprised to find that even if they do not make new purchases, their credit card balances continue to grow rapidly. To be an informed consumer, you will want to know how the credit card companies and banks determine your payments. The next topic in this chapter, time value of money calculations, will address these questions.

Time Value of Money Calculations

As noted in the last section, the relationship between time and money depends on a number of factors. We use the term present value (PV) to describe the value at the beginning of an investment horizon. It is also the value of a loan's initial amount. Future value (FV) refers to the value at the end of an investment horizon or the final

balance of a loan. Before going over how to use a spreadsheet to perform time value of money calculations, it is useful to examine the basic time value of money formula.

$$\text{Future Value} = \text{Present Value} \times (1 + \text{rate of return})^{\text{Investment Horizon}}$$

Let us look at the \$1,000 investment that earns 10 percent per year again. The present value of this investment is \$1,000. The rate of return is, of course, 10 percent. The future value of this investment can be determined using the above formula.

- Future value of \$1000 after one year = $\$1,000 \times (1 + 0.1)^1 = \$1,100$
- Future value of \$1000 after two years = $\$1,000 \times (1 + 0.1)^2 = \$1,210$
- Future value of \$1000 after 30 years = $\$1,000 \times (1 + 0.1)^{30} = \$17,449$

You can see that this “formula” is simply a short-cut for computing the future value with reinvested earnings. Earlier we indicated that the longer you invest, the more your money grows. You just verified that this claim is true with your own calculations. Your investment after 30 years is worth a lot more than after just 2 years. The ability to confirm theories with numerical examples is a great feature of many finance concepts. Next, let us look at the effect of different rates of return on an \$1,000 investment over 30 years.

- Future value of \$1000 after 30 years at 4 percent = $\$1,000 \times (1 + 0.04)^{30} = \$3,243$
- Future value of \$1000 after 30 years at 8 percent = $\$1,000 \times (1 + 0.08)^{30} = \$10,063$
- Future value of \$1000 after 30 years at 12 percent = $\$1,000 \times (1 + 0.12)^{30} = \$29,960$

The above results confirm that the higher the rate of return, the more your money grows. The future value of an investment is positively related to the length of time and the rate of return on the investment. In other words, the longer the investment horizon and the higher the rate of return, the larger will the future value be.



The basic time value of money formula is relatively simple, yet it has many applications. Some of you may recognize that it has the same form as the exponential growth formula. We can use it to estimate the effect of inflation on prices by using the rate of inflation as the rate of return. You may have come across old photos showing prices from decades ago. Everything seems to be so much cheaper back then. Figure 5.2 is an excerpt from a grocery store flyer in 1985 advertising bread for 99 cents and a pound of bananas for 39 cents. The inflation

Figure 5.2

rate averaged 2.83 percent per year between 1985 and 2025 according to the Bureau of Labor Statistics. What would the inflation adjusted prices be for these items 40 years later in 2025?

- Price of bread after 40 years at an inflation rate of 2.83 percent = $\$0.99 \times (1 + 0.0283)^{40} = \3.02
- Price of bananas after 40 years at an inflation rate of 2.83 percent = $\$0.39 \times (1 + 0.0283)^{40} = \1.19

Example: Estimating future cost of college

Accounting for the effect of inflation is especially important when evaluating long-term financial goals. For instance, a couple is saving for their newborn child's college education. Currently the average cost of a state university is around \$12,000 per year. The cost of college has increased by 5 percent per year on average over the past decade. Assuming this trend continues, they will need more than \$12,000 per year when their child enters college. But how much more? They can get an estimate of how much the future cost would be by applying time value of money calculations.

- Time horizon: 18 years
- Rate of increase: 5 percent per year
- Current cost of college: \$12,000

$$\text{Future Cost of college after 18 years} = \$12,000 \times (1 + 0.05)^{18} = \$28,879$$

Exercise 5.1: Inflation adjusted prices

1. The average price of gasoline per gallon was \$1.12 in 1985. Using an average inflation rate of 3 percent per year, what would the inflation adjusted price be for gasoline today? How does the current price you see at gas stations compare to your calculated inflation adjusted price?
2. The federal minimum wage in the United States in 1985 was \$3.35 per hour. If the minimum wage were to increase at the rate of inflation at 3 percent per year, what would the inflation

adjusted minimum wage be today? Look up the current federal minimum wage. How does it compare to your calculation?

While the basic time value of money formula is easy to use, it has some limitations. One is that it can only handle a single dollar amount, which is referred to as a **lump sum** cash flow in finance. A more common type of cash flow in everyday life is an **annuity**, which consists of multiple fixed dollar amounts that are received or paid at equal time intervals. An **ordinary annuity** has payments that occur at the end of each period. An **annuity due** has payments that occur at the beginning of each period. Auto loans and mortgages with fixed monthly payments are examples of ordinary annuities. Rent is an example of an annuity due because rent is usually due at the beginning of each month. To compute the future value of an annuity is not simple. In theory, you can compute the future value of each fixed payment in an annuity individually using the formula and then sum up the total. Such calculations become time consuming and tedious very quickly. Fortunately, spreadsheet software has built in functions to compute annuity and lump sum cash flows, simplifying time value of money calculations. Using these functions can provide useful answers to many financial planning questions.

Using A Spreadsheet to Perform Time Value of Money Calculations¹

Spreadsheet software such as Google Sheets or Microsoft Excel have functions that can perform time value of money calculations, such as computing future value (FV), present value (PV), rate of return or interest rate per time unit (RATE), number of periods in the investment horizon or loan term (NPER), and annuity payment amount per time unit (PMT). We will go over each of these calculations and their applications in the following sections. It is important to pay attention to compounding frequency when using these built-in functions and ensure that the time unit matches. For instance, if a loan requires monthly payments, then the number of periods should be the number of months and the rate of return should be the interest rate per month. Mismatches are easy to overlook because the information provided by banks and businesses is often stated in various time units. Interest rates are usually quoted as interest rates per year. Auto loan terms are often stated in months (36 months, 48 months, 60 months, etc.) and home mortgage terms are stated in years (15 years, 30 years). Since the mortgage requires monthly payments, you need to make adjustments accordingly so that interest rate and loan terms are stated in monthly units. To obtain the interest rate per month, divide the annual rate by 12 because there are 12 months in a year. The loan term for a 30 year mortgage is 360 months (30 years x 12 months per year). If you make checking the time unit the first step in your calculations, you are a lot less likely to overlook any mismatches.

Spreadsheet function names	Output from function
FV()	Computes the future value (FV): the value at the end of an investment horizon or the final balance of a loan. The output is a dollar amount.
PV()	Computes the present value (PV): the value at the beginning of an investment horizon or the initial balance of a loan. The output is a dollar amount.
RATE()	Compute the rate of return or interest rate per period. The output is a decimal that is usually formatted as a percentage.
NPER()	Computes the number of periods in the investment horizon or loan term. The output is a time unit.
PMT()	Computes the annuity payment: a stream of cash flows in equal dollar amounts that are received or paid at equal time intervals. The output is a dollar amount.

When the output of the function is a dollar amount (FV, PV, PMT), the result can be positive or negative. A positive value signifies that the cash flow is an inflow and a negative value signifies that the cash flow is an outflow. This is because the software assumes that cash flows in a time value of money calculation cannot all have the same sign (all positive or all negative). The software assumes that if you take out a loan today, you will receive the cash now (a cash inflow) and you will need to pay back interests and the borrowed money in the future (cash outflows). As a rule of thumb, the initial value of a loan is treated as a cash inflow and a present value. Loan payments and future ending balance are treated as cash outflows.

To use a spreadsheet to perform time value of money calculations, you need to input values into these functions. Google Sheets and Excel use different notations for these inputs. The following table provides descriptions for these input variables and their corresponding notations in Google Sheets and Excel. The next section will explain each function and include examples to illustrate how to use them.

Description of input variables	Notation in Google Sheets	Notation in Excel
The rate of return (or interest rate, or growth rate, or inflation rate) per time unit. This input variable is a decimal.	rate	rate
The number of periods in the investment horizon or loan term. This input variable is a time unit.	number_of_periods	nper
The amount of annuity cash flow per time unit. This input variable is a dollar amount and can be positive or negative.	payment_amount	pmt
The current value of an investment or a loan. This input variable is a dollar amount and can be positive or negative.	present_value	pv
The future value of an investment or a loan. This input variable is a dollar amount and can be positive or negative.	future_value	fv
This input variable is an indicator for whether the annuity cash flows occur at the end or at the beginning of each period. Use 0 (or omit) if the annuity occurs at the end of each period, an ordinary annuity. Use 1 if the annuity occurs at the beginning of each period, an annuity due. The default, if it is left empty, assumes the annuity is an ordinary annuity with cash flows at the end of each period.	end_or_beginning	type

Future Value Calculation

Future value calculations have many uses, as demonstrated in earlier sections in this chapter. It can be used to determine the future worth of an investment, the future balance of a loan, or the estimated future prices based on expected inflation. The spreadsheet function for computing future value is `FV()` and it requires five input variables: (1) the rate of return per time unit, (2) the number of periods in the investment horizon, (3) the amount of annuity cash flow per time unit, (4) present value, (5) an indicator for whether the annuity cash flows occur at the end or at the beginning of each period. To use a built-in function, start with an equal sign (=) before the function name. We will use several examples to demonstrate how to compute future values. Implement the calculations in these examples using your preferred spreadsheet software.

Future value function: `FV()`

Google Sheets	<code>FV(rate, number_of_periods, payment_amount, present_value, [end_or_beginning])</code>
Excel	<code>FV(rate, nper, pmt, pv, [type])</code>

Example: Future value of a lump sum investment

Jordan received \$2,000 as a graduation gift today and decided to put the money into an Individual Retirement Account (IRA) and expects to earn 11 percent per year on this investment. Compute the estimated value of this investment after 40 years.

The time unit for this calculation is year. The \$2,000 is the present value because it is the amount of money at the start. Treat this as a cash outflow and enter this amount as -2000. The rate of return is 11 percent per year and the number of periods is 40 years. There is no additional cash flow so the annuity amount is 0.

- rate: 0.11
- number_of_periods: 40
- payment_amount: 0
- present_value: -2000
- end_or_beginning: left blank
- Spreadsheet entry: =FV(.11, 40, 0, -2000)
 - Result: \$130,002

What would happen if you enter 2000 instead of -2000? Try it out!

- rate: 0.11
- number_of_periods: 40
- payment_amount: 0
- present_value: 2000
- end_or_beginning: left blank
- Spreadsheet entry: =FV(.11, 40, 0, 2000)
 - Result: -\$130,002

The spreadsheet software assumes that if one of the cash flows is an inflow, the other must be an outflow.

Example: Future value of constant regular investments

In a previous example, Jordan decided to save \$300 per month by preparing breakfast and lunch at home. We claimed that by earning a return of 8 percent per year, these savings would grow to over \$1 million in 40 years! Now you have the tools to check this claim.

The time unit of this calculation is month because Jordan is putting away money each month. The \$300 per month is an annuity cash flow. Since this is money being put away, the amount is entered as a cash outflow (negative). The investment horizon is 480 months (40 years x 12 months per year). The rate of return per month is 8 percent divided by 12. There is no present value so the amount entered is \$0. Jordan plans to invest the money at the end of each month so this is an ordinary annuity and the indicator variable can be left blank or 0.

- rate: 0.08/12
- number_of_periods: 480
- payment_amount: -300
- present_value: 0
- end_or_beginning: left blank
- Spreadsheet entry: =FV(.08/12, 480, -300, 0)

- Result: \$1,047,302

How would the outcome change if Jordan waited 10 years before implementing this savings scheme? Assume that everything else remains the same, i.e. Jordan would put away \$300 per month into an investment that earns 8 percent per year. The only difference is that the investment horizon would only be 360 months (30 years x 12 months).

- rate: 0.08/12
- number_of_periods: 360
- payment_amount: -300
- present_value: 0
- end_or_beginning: left blank
- Spreadsheet entry: =FV(.08/12, 360, -300, 0)

- Result: \$447,108

Did the answer surprise you? Did you expect the future value to decrease by more than half by waiting 10 years?

Example: Future value of credit card balances

Before taking a personal finance course Sam had made some unwise spending decisions and had racked up \$8,000 in credit card debt. The card carries a 24 percent interest rate per year and monthly minimum payment of \$50. If Sam makes the minimum payment for 24 months and does not make any additional purchases, what will the future balance be at the end of the 24 months?

The time unit of this calculation is month. The \$50 monthly minimum payment is an annuity cash flow. Since these are payments, Sam should treat them as cash outflows. The number of periods under consideration is 24 months. The interest rate is 2 percent per month (24 percent per year / 12 months). The credit card balance today is \$8,000 and represents the present value in this calculation. This amount is considered a cash inflow because it is money Sam does not have to pay today. A general rule of thumb is to treat initial loan balance as a cash inflow. Payment for this credit card is due at the end of each month so the annuity is an ordinary annuity and the indicator variable can be left blank or 0.

- rate: 0.24/12
- number_of_periods: 24
- payment_amount: -50
- present_value: 8000
- end_or_beginning: left blank
- Spreadsheet entry: =FV(0.24/12, 24, -50, 8000)
 - Result: -\$11,346

The future value is negative, meaning this is the amount Sam needs to pay after 24 months. In this example, even though Sam stops making new purchases and makes the minimum payment, the balance on the credit card continues to grow. To unravel this mystery, let us look at how much interest is charged on the balance in the first month. Sam owes \$8,000 and the credit card company charges 2 percent per month, meaning the company charges \$160 ($\$8,000 \times 0.02$) in interest in the first month. The minimum payment of \$50 is not sufficient to cover the interest charged and \$110 ($\$160 - \50) will be added to the balance in the next month. This means the interest charge will be even higher next month and the process continues. The effect of compounding is at work again, this time against Sam.

Exercise 5.2: Compute Future Value

Use the spreadsheet function, =FV(), to compute future values. Compare your results to those in earlier sections of this chapter.

1. Compute the future value of a \$1,000 investment today that earns 10 percent per year in one year.
2. Compute the future value of a \$1,000 investment today that earns 10 percent per year over two years.
3. Compute the future value of a \$1,000 investment today that earns 10 percent per year over 30 years.
4. Compute the future value of a \$1,000 investment today that earns 4 percent per year over 30 years.
5. Compute the future value of a \$1,000 investment today that earns 8 percent per year over 30 years.
6. Compute the future value of a \$1,000 investment today that earns 12 percent per year over 30 years.
7. Based on your own calculations, what relationship do you observe between investment horizon and future value? Between interest rate and future value?

Present Value Calculation

Present value calculation can be used to determine how much a series of annuity cash flows is worth today. The calculation can also estimate how much money to set aside today as a lump sum to reach a specific future goal. The process of computing present value is called **discounting** and the rate of return is often referred to as the **discount rate**. Present values are affected by the rate of return, the length of the time horizon, and the cash flow amount in the future. The higher the rate of return, the smaller the present value needed to reach the same future goal. Similarly, the longer the investment horizon, the smaller the present value needed. On the other hand, the larger the cash flow amount in the future, the larger the present value. Computing present value is one of the most commonly used methods in financial analysis because the value of an investment is the present value of its future cash flows. This method of valuing an investment is called **discounted cash flow analysis**.

The spreadsheet function for computing present value is PV() and it requires five input variables: (1) the rate of return per time unit, (2) the number of periods in the investment horizon, (3) the amount of annuity

cash flow per time unit, (4) future value, (5) an indicator for whether the annuity cash flows occur at the end or at the beginning of each period. We will use several examples to demonstrate how to compute present values. Again, you should follow these examples using your preferred spreadsheet software.

Present value function: PV()

Google Sheets	PV(rate, number_of_periods, payment_amount, future_value, [end_or_beginning])
Excel	FV(rate, nper, pmt, fv, [type])

Example: Present value of a lump sum retention bonus

Jordan's company offers a retention bonus of \$15,000 if an employee stays with the firm for 3 years. A recruitment firm reached out to Jordan and a competitor is offering a sign-on bonus of \$12,000 today. If Jordan were to receive the sign-on bonus, they can earn 8 percent per year by investing the money. Assuming all other attributes of the two jobs are the same, how can Jordan compare the sign-on bonus today versus the retention bonus in 3 years? One approach is to compute the present value of the retention bonus.

The time unit of this calculation is year. The retention bonus will be received 3 years from now. Therefore it is a cash inflow and a future value. The rate of return (discount rate) is 8 percent per year. There are no other cash flows.

- rate: 0.08
- number_of_periods: 3
- payment_amount: 0
- future_value: 15000
- end_or_beginning: left blank
- Spreadsheet entry: =PV(0.08, 3, 0, 15000)
 - Result: -\$11,907

The result of -\$11,907 means that if Jordan were willing to put away \$11,907 into an investment that earns 8 percent per year, that investment would grow to \$15,000 in 3 years. In other words, the retention bonus of \$15,000 in 3 years is worth only \$11,907 today, slightly less than the \$12,000 sign-on bonus.

Remember that present value is affected by the discount rate. How would the analysis change if the rate of return is 4 percent per year? or 12 percent per year?

- rate: 0.04
- number_of_periods: 3
- payment_amount: 0
- future_value: 15000
- end_or_beginning: left blank
- Spreadsheet entry: =PV(0.04, 3, 0, 15000)
 - Result: -\$13,335

- rate: 0.12
- number_of_periods: 3
- payment_amount: 0
- future_value: 15000
- end_or_beginning: left blank
- Spreadsheet entry: =PV(0.12, 3, 0, 15000)
 - Result: -\$10,677

This example demonstrates that present value decreases when the discount rate increases.

Example: Present value of constant regular cash flows

In learning about the competitor's sign-on bonus, Jordan's company is willing to change their retention bonus structure. Jordan will receive \$5,000 each year for 3 years with the first payment at the end of year one. The rate of return is still 8 percent per year. Do you think this new structure is more valuable than the original one? Let us find out.

The time unit of this calculation is year. The retention bonuses will be \$5,000 per year starting at the end of year one. Therefore it is a cash inflow and an ordinary annuity and the indicator variable can be left blank or 0. The rate of return (discount rate) is 8 percent per year. There is no future value.

- rate: 0.08
- number_of_periods: 3
- payment_amount: 5000
- future_value: 0
- end_or_beginning: left blank
- Spreadsheet entry: =PV(0.08, 3, 5000, 0)
 - Result: -\$12,885

The above calculations show that the present value of an annuity of \$5,000 per year over 3 years is higher than the present value of a \$15,000 lump sum received at the end of 3 years. This is because the \$5,000 that Jordan receives at the end of year one and year two can be invested to earn an 8 percent return.

Exercise 5.3: Compute Present Value

Use the spreadsheet function, =PV(), to compute present values.

1. Compute the present value today of an investment that promised \$10,000 in one year when the discount rate is 10 percent per year.
2. Compute the present value today of an investment that promised \$10,000 in two years when the discount rate is 10 percent per year.
3. Compute the present value today of an investment that promised \$10,000 in 30 years when the discount rate is 10 percent per year.
4. Compute the present value today of an investment that promised \$10,000 in 30 years when the discount rate is 4 percent per year.
5. Compute the present value today of an investment that promised \$10,000 in 30 years when the discount rate is 8 percent per year.
6. Compute the present value today of an investment that promised \$10,000 in 30 years when the discount rate is 12 percent per year.
7. Based on your own calculations, what relationship do you observe between investment horizon and present value? Between interest rate and present value?

Annuity Payment Amount Calculation

Many personal finance decisions require computing annuity payment. It can help you determine the amount of regular savings required to reach a financial goal. It can estimate the monthly payment on an auto loan or a mortgage.

The spreadsheet function for computing annuity payment amount is `PMT()` and it requires five input variables: (1) the rate of return per time unit, (2) the number of periods in the investment horizon, (3) present value, (4) future value, (5) an indicator for whether the annuity cash flows occur at the end or at the beginning of each period.

It is important to pay attention to whether the present value and future value are inflows or outflows. When analyzing loans, the initial amount borrowed is treated as the present value and a cash inflow. The resulting annuity payment amount from the spreadsheet function will be shown as negative, a cash outflow. We will use several examples to demonstrate how to use this function to analyze financial planning decisions.

Annuity payment amount function: PMT()

Google Sheets	<code>PMT(rate, number_of_periods, present_value, future_value, [end_or_beginning])</code>
Excel	<code>PMT(rate, nper, pv, fv, [type])</code>

Example: Annuity payment amount to reach a future financial goal

Sam was intrigued when Jordan shared that saving a few hundred dollars per month could grow to over \$1 million in 40 years. Sam's goal is to have \$1,500,000 by age 70. Being relatively young at 25 years old, Sam is willing to take on more risk and plans to invest in the stock market and expects to earn 10 percent per year on average. How much will Sam need to save each month to reach this goal?

The time unit of this calculation is month. The \$1,500,000 is future value and represents a cash inflow in 45 years (age 70 – age 25). Since the time unit is month, the investment horizon is 540 months (45 years x 12 months). The rate of return is 10 percent divided by 12. Sam has no current savings so the present value is \$0. Since Sam will put aside savings at the end of each month, the savings will be an ordinary annuity and the indicator variable should be left blank or 0.

- rate: 0.10/12

- number_of_periods: 540
- present_value: 0
- future_value: 1500000
- end_or_beginning: left blank
- Spreadsheet entry: =PMT(0.10/12, 540, 0, 1500000, 0)
 - Result: -\$143

The analysis shows that Sam only needs to save \$143 per month to reach the goal of \$1,500,000 in 45 years assuming the rate of return is 10 percent per year. How much would Sam need to save to reach the same goal if they wait until age 40 to begin saving?

If Sam waits until age 40, there will only be 30 years (360 months) left to save. The calculation is the same except the investment horizon (number_of_periods) is now 360.

- Spreadsheet entry: =PMT(0.10/12, 360, 0, 1500000, 0)
 - Result: -\$664

This example illustrates the importance of saving early! Even if the amount is relatively small, the power of compounding has a great impact.

Example: Auto loan and auto lease payments (Note: we will discuss automobile purchase in detail in a later chapter. This example examines a simplified scenario.)

A car dealer is offering two financing options on a car selling for \$32,000. The first option is to purchase the car with a 36-month loan at 9 percent per year. The second option is to lease the car. Assume that the buyer will put \$2000 as down payment. First, compute the monthly payment for buying this car.

Since the car sells for \$32,000, with a \$2,000 down payment, the buyer needs to borrow \$30,000 (\$32,000 – \$2,000). The time unit is month. The interest rate is 9 percent divided by 12 and the loan term is 36 months. The auto loan must be fully paid off after 36 months so the future value is \$0. The monthly payment is due at the end of each month.

- rate: 0.09/12
- number_of_periods: 36
- present_value: 30000
- future_value: 0
- end_or_beginning: left blank
- Spreadsheet entry: =PMT(0.09/12, 36, 30000, 0, 0)
 - Result: -\$954

The monthly payment on this auto loan is \$954. When the buyer indicates that this amount is too high, the dealer offers a lease option with monthly payment of \$320. That is a huge difference. How did the dealer do that?!?

There are a few important differences between buying and leasing and we will discuss those in detail in a later chapter. One critical difference is that the consumer does not own the car at the end of a lease. The estimated future value of the car at the end of the lease plays a key role in reducing the monthly payment. The dealer in this example estimates the car will be worth \$26,000 at the end of the 36 month lease after adjusting for inflation. If the consumer wants to own the car, they would need to pay \$26,000 at the end of the lease. The time value of money calculation for the lease will include the \$26,000 as a cash outflow in future value. Unlike auto loans, car lease payments are typically due at the beginning of each month, which makes the lease cash flow an annuity due. We will need to set this indicator to 1.

- rate: 0.09/12
- number_of_periods: 36
- present_value: 30000
- future_value: -26000
- end_or_beginning: 1
- Spreadsheet entry: =PMT(0.09/12, 36, 30000, -26000, 0)
 - Result: -\$320

Exercise 5.4: Compute Annuity Payment Amount

Use the spreadsheet function, =PMT(), to compute the annuity payment amount.

1. Compute the monthly payment amount of a \$5,000 credit card balance over 12 months when the interest rate per year is 12 percent.
2. Compute the monthly payment amount of a \$5,000 credit card balance over 12 months when the interest rate per year is 24 percent.
3. Compute the monthly payment amount of a \$5,000 credit card balance over 24 months when the interest rate per year is 24 percent.
4. Compute the monthly payment amount of a \$5,000 credit card balance over 36 months when the interest rate per year is 24 percent.
5. Based on your calculations, what can you conclude about the relationship between interest rate and payment amount? Between loan horizon and payment amount?

Time Horizon Calculation

The time horizon calculation can be used to determine how long it will take to reach a financial goal or how long it will take to pay off a loan. It is a very useful tool in financial planning. The spreadsheet function for computing time horizon is NPER(), which stands for number of periods. This function requires five input variables: (1) the rate of return per time unit, (2) the amount of annuity cash flow per time unit, (3) present value, (4) future value, (5) an indicator for whether the annuity cash flows occur at the end or at the beginning of each period.

Correctly identifying which cash flow is an inflow and which is an outflow is critical when using this function. The assumption of this function is that at least one of the cash flows must have the opposite sign. This assumption is based on common sense. If you borrow money today, you must pay it back in the future, which means that the cash flow for present value is positive (a cash inflow) and either the annuity payments or the future value must be negative (a cash outflow). The spreadsheet software will return with an error message if you forget to identify at least one of the cash flows as an outflow (negative). If this happens, you can correct the error easily by specifying the appropriate cash flow as an outflow.

Number of periods function: NPER()

Google Sheets	NPER(rate, payment_amount, present_value, future_value, [end_or_beginning])
Excel	NPER(rate, pmt, pv, fv, [type])

Example: Time it takes to pay off a loan

In a previous example, Sam had made some unwise spending decisions and had racked up \$8,000 in credit card debt. The card carries a 24 percent interest rate per year. Sam was discouraged to find out that making the minimum payment of \$50 per month would never pay off the balance. After reviewing their budget, Sam plans to pay \$250 per month. How long will it take for Sam to pay off the entire \$8,000?

In this calculation the time unit is month. The \$250 monthly payment is an annuity cash flow and an outflow. The initial balance of \$8,000 is the present value and an inflow. Since Sam plans to fully pay off the loan, the future value is \$0. The interest rate is 24 percent divided by 12 months. Credit card payments are usually due at the end of the month so the indicator variable can be left blank or 0.

- rate: 0.24/12
- payment_amount: -250
- present_value: 8000
- future_value: 0
- end_or_beginning: left blank
- Spreadsheet entry: =NPER(0.24/12, -250, 8000, 0)
 - Result: 52.59

It will take Sam 53 months to pay off this credit card balance. That is over 4 years! If Sam doubles the monthly payment to \$500, how long will it take?

- rate: 0.24/12
- payment_amount: -500
- present_value: 8000
- future_value: 0
- end_or_beginning: left blank
- Spreadsheet entry: =NPER(0.24/12, -500, 8000, 0)
 - Result: 19.48

By doubling the monthly payment amount, Sam can reduce the time it takes to pay off the credit card balance by more than half, in less than 2 years (19.48 months).

Exercise 5.5: Compute Investment or Loan Horizon

Use the spreadsheet function, =NPER(), to compute the number of time units in an investment or loan. Give the answer in years if the horizon is longer than one year.

1. How long will it take to pay off a \$5,000 loan with a 20 percent interest rate per year with monthly payment of \$500?
2. How long will it take to pay off a \$5,000 loan with a 20 percent interest rate per year with monthly payment of \$250?
3. How long will it take to pay off a \$5,000 loan with a 20 percent interest rate per year with monthly payment of \$100?
4. How long will it take to pay off a \$5,000 loan with a 20 percent interest rate per year with monthly payment of \$50? Why do you think the spreadsheet software returns an error in this case? (Hint: how much interest is on this loan in the first month?)

Rate of Return Calculation

Computing the rate of return has many applications. It can be used to estimate returns on investments and interest rates on loans. It is especially useful when comparing different investment and loan options that have unusual structures or terms such as payday loans and buy-here-pay-here auto contracts.

This function requires five input variables: (1) the number of periods in the investment horizon, (2) the amount of annuity cash flow per time unit, (3) present value, (4) future value, (5) an indicator for whether the annuity cash flows occur at the end or at the beginning of each period. Correctly identifying which cash flow is an inflow and which is an outflow is also critical when using this function. Once again, this function assumes that at least one of the cash flows must have the opposite sign.

Rate of return function: RATE()

Google Sheets	RATE(number_of_periods, payment_amount, present_value, future_value, [end_or_beginning])
Excel	RATE(nper, pmt, pv, fv, [type])

Example: True cost of a payday loan

Payday loans are not regulated the same way as regular bank loans. The cost of a payday loan is stated as fees, rather than interest. Sam's car broke down and needed \$1,000 to fix the problem. With no emergency fund and having maxed out their credit card, Sam took out a payday loan for \$1,000. The term of the loan requires a \$150 fee. The payday loan company will deduct \$1,150 automatically from Sam's paycheck in 2 weeks. What is the interest rate on this payday loan?

Since Sam has to pay back the loan plus fee in 2 weeks, the time unit is bi-weekly, the same as the payroll frequency. The present value is the \$1,000 received today. There is no periodic payment. The future value is the repayment of \$1,150 (\$1000 + \$150) and is a cash outflow. The loan is for one payroll period.

- number_of_periods: 1
- payment_amount: 0
- present_value: 1000
- future_value: -1150
- end_or_beginning: left blank
- Spreadsheet entry: =RATE(1, 0,-1000, 1150)
 - Result: 0.15

The interest rate is 15 percent every 2 weeks, equaling 390 percent per year (15 percent x 26 payroll periods)! This is assuming the loan is fully repaid in 2 weeks. Otherwise, additional fees and compounding will increase the cost of this payday loan much, much more.

Exercise 5.6: Compute Rate of Return

Use the spreadsheet function, =RATE(), to compute the rate of return on an investment or the interest rate on a loan. Give the result as interest rates per year if the time unit is not year.

1. A car dealer offers financing on a \$35,000 car. The monthly payment will be \$675 and the loan is for 72 months. Compute the interest rate per year for this loan.
2. A car dealer offers financing on a \$35,000 car. The monthly payment will be \$750 and the loan is for 60 months. Compute the interest rate per year for this loan.
3. A car dealer offers financing on a \$35,000 car. The monthly payment will be \$875 and the loan is for 48 months. Compute the interest rate per year for this loan.
4. A car dealer offers financing on a \$35,000 car. The monthly payment will be \$1100 and the loan is for 36 months. Compute the interest rate per year for this loan.
5. If you want to choose the loan with the lowest interest rate, which option would you choose?

Example: Use time value of money tools to study changes in income

Income and wealth inequality have made news headlines recently. Using the time value of money tools, you can examine the data directly yourself. The Federal Reserve Bank of St. Louis collects and distributes many financial statistics, including data on income, wealth, and housing prices. The following are income data for 39 years between 1984 and 2023.

- Median household income for the US population was \$22,420 in 1984 and \$80,610 in 2023.
- Mean household income for the lowest 20 percentile was \$5,440 in 1984 and \$17,650 in 2023.
- Mean household income for the top 5 percentile was \$93,770 in 1984 and \$526,200 in 2023.

Using the =RATE() function, we can estimate the average increase in income for the three groups.

Year	1984	2023	Spreadsheet formula	Average rate of increase per year
Median income	22,420	80,610	=rate(39, 0, -22420, 80610)	3.34%
Mean lowest 20 percentile income	5,440	17,650	=rate(39, 0, -5440, 17650)	3.06%
Mean top 5 percentile income	93,770	526,200	=rate(39, 0, -93770, 526200)	4.52%
Top 5 to lowest 20 percentile	17 times	30 times		

The results show that income for the lowest 20 percentile increase by 3.06 percent per year on average while income for the top 5 percentile increase by 4.52 percent per year. In other words, income for those on the top increases at a faster rate than those at the bottom. Another way to assess income inequality is to compare the gap between the top and the bottom. In 1985, those in the top 5 percentile earned 17 times more than those in the bottom 20 percentile ($93,770 / 5,440 = 17$). By 2023, that gap increased to 30 times ($526,200 / 17,650 = 30$). While it makes sense for some jobs to be paid more than others, too much income inequality can slow down economic growth. That is why economists are concerned with increasing income inequality.

Exercise 5.7: Compute Price Increase

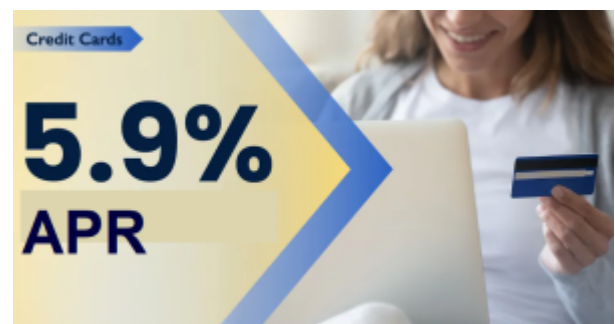
An earlier section in this chapter explains that you can apply the time value of money tools to estimate future prices. The inflation rate shows the average price increase for items consumed by a representative household. Since not all goods increase at the same rate, the inflation rate may not

fit your personal consumption pattern perfectly. Use the RATE function to compute the average price increase for the following items over the past 40 years.

1. The price of coffee was \$2.59 per pound in 1985 and \$6.78 per pound in 2025. Compute the average price increase for coffee per year.
2. The price of bacon was \$1.95 per pound in 1985 and \$6.92 per pound in 2025. Compute the average price increase for bacon per year.
3. The MSRP for a base model 4-door sedan was \$8,100 in 1985. A similar model sold for \$28,295 in 2025. Compute the average price increase for this car per year.
4. Median price of houses was \$82,800 in 1985 and \$416,900 in 2025. Compute the average increase in median house prices per year.
5. Median household income for the US population was \$23,620 in 1985 and estimated to be \$82,675 in 2025. Compute the average increase in median household income per year.
6. The Federal minimum wage was \$3.35 per hour in 1985 and \$7.25 per hour in 2025. Compute the average increase in minimum wage per year.
7. Based on your calculations, what conclusions would you draw about the cost of food, cost of transportation, cost of housing, and income over these 40 years?

Understanding the time value of money enables you to make more informed financial decisions. Spreadsheet software is an important tool for financial analysts and a detailed discussion of how to construct effective financial models is beyond the scope of this textbook. For those interested in learning more about creating spreadsheet formulas, please read the appendix to this chapter.

Types of Interest Rates



As shown in the last section, interest rate is an important factor affecting the time value of money. If you are new to personal finance, the many terms used to refer to interest rates can be confusing. You may have seen the terms APY (Annual Percentage Yield) and APR (Annual Percentage Rate). Both of them are interest rates but are defined differently. APY is sometimes

referred to as the Effective Annual Rate and it takes into account the effects of compounding when interest is computed more frequently than once per year. In the beginning of this chapter, we learn that with compounding, future interest is calculated on both the original principal and the accumulated interest. Therefore, the APY is not the same as the interest rate per year when the compounding frequency is not annual. Let us look at an example to illustrate the difference between APY and the interest rate per year.

Example: APY when interest is compounded quarterly

Pat deposited \$100,000 into a savings account that pays 8 percent per year with interest compounded quarterly. This means that interest is computed at the end of each quarter and added to the account balance. The interest rate per quarter is 2 percent (8 percent per year divided by 4 quarters). The interest and account balance for each quarter is computed as follows.

- Quarter 1
 - Quarter 1 interest = $\$100,000 \times 0.02 = \$2,000$
 - Quarter 1 balance = $\$100,000 + \$2,000 = \$102,000$
- Quarter 2
 - Quarter 2 interest = $\$102,000 \times 0.02 = \$2,040$
 - Quarter 2 balance = $\$102,000 + \$2,040 = \$104,040$
- Quarter 3
 - Quarter 3 interest = $\$104,000 \times 0.02 = \$2,081$
 - Quarter 3 balance = $\$104,000 + \$2,081 = \$106,121$
- Quarter 4
 - Quarter 4 interest = $\$106,121 \times 0.02 = \$2,122$
 - Quarter 4 balance = $\$108,243$
- Total interest over the year = $\$2,000 + \$2,040 + \$2,081 + \$2,122 = \$8,243$
- Effective annual return on the \$100,000 investment = $\$8,243 / \$100,000 = 0.0824 = 8.24$ percent

In this example, the APY is 8.24 percent. If interest is computed only once at the end of the year, to earn \$8,243 on \$100,000, the interest rate per year has to be 8.24 percent. In other words, an

investment with annual compounding would have to provide a return of 8.24 percent per year to generate the same amount of interest as an investment with an 8 percent return per year compounded quarterly.

Different compounding frequencies make direct comparison of interest rates on different investment or loan products difficult. The APY takes into account the effects of compounding and is therefore useful when performing such comparisons. The following formula can be used to compute APY, simplifying the calculation process.

$$\text{APY} = \left(1 + \frac{\text{interest rate per year}}{\text{compounding frequency per year}} \right)^{\text{compounding frequency per year}} - 1$$

The investment in the above example offers an 8 percent return per year quarterly compounding, therefore the compounding frequency is 4 times per year. We can use the APY formula to compute its APY.

$$\text{APY} = \left(1 + \frac{0.08}{4} \right)^4 - 1$$

Financial institutions have incentives to show investors the highest interest rate on their investments. Not surprisingly, most of them use APY when advertising investment products such as savings accounts or certificates of deposits. Lenders, on the other hand, prefer to show a lower interest rate if possible to entice borrowers. Since the term interest rate does not have a legal definition, predatory and unscrupulous lenders have used deceptive tactics to trick borrowers in the past. Congress passed the Truth in Lending Act (TILA) in 1968 which included how borrowing costs must be disclosed under Regulation Z for all consumer credits. Lenders are required to disclose the APR, which includes the total interests and fees related to the loan. They can use the APR tables provided by the Consumer Financial Protection Bureau (CFPB) or the Federal Reserve. You can estimate the APR with the following formula.

$$\text{APR} = \frac{\left(\frac{\text{Fees} + \text{Total Interests}}{\text{Principal}} \right)}{\text{number of days in the loan}} \times 365$$

Example: How loan fees affect APR

Sam's car broke down and they needed to borrow \$1,000 to fix it. A lender offers a 90 day loan at 20 percent per year plus a \$50 fee.

- Total interest = \$1,000 × 0.2 / 365 × 90 = \$49
- $\text{APR} = \frac{\left(\frac{\text{Fees} + \text{Total Interests}}{\text{Principal}} \right)}{\text{number of days in the loan}} \times 365$
- $\text{APR} = \frac{\left(\frac{50+49}{1000} \right)}{90} \times 365 = 0.4015 = 40.15\text{percent}$

The APR in this example is double the advertised interest rate of 20 percent. Notice that the total interest is \$49 but the fee on the loan is \$50. Therefore, the true cost of this loan is 40.15 percent, the APR.

Example: Finding the true cost of borrowing

Sam found another lender online who claims to not charge any fee. They offer a \$1,000 loan at 20

percent per year to be repaid in 12 monthly payments of \$100 each. The lender derives the monthly payment amount using the following steps.

- Finance charges = Principal x interest rate = \$1,000 x 0.2 = \$200
- Monthly payment = (Principal + Finance charges) / 12 months = (\$1,000 + \$200) / 12 = \$100

We can use the time value of money function, =RATE(), to estimate the actual interest rate on this loan. The amount received at the beginning of the loan is the present value and a cash inflow. The monthly payment is the annuity payment amount and a cash outflow. The loan term is 12 months.

- number_of_periods: 12
- payment_amount: -100
- present_value: 1000
- future_value: 0
- end_of_beginning: left blank or 0
- Spreadsheet entry: =RATE(12, -100, 1000, 0)
 - Result: 2.92 percent per month
 - 2.92 percent x 12 = 35.07 percent per year

The APR for this loan according to the APR Table is 35 percent, very close to the time value of money calculation. Once again, the true cost of borrowing for this loan is not 20 percent. Before the passing of TILA, lenders could advertise the loan rate as 20 percent. After TILA, they must disclose the APR which is 35 percent.

Key Factors Affecting Interest Rates

Interest rates play a very important role in our daily life and in financial planning. They affect payments on car loans, mortgages, credit cards and returns on savings and investments. It is useful to have a basic understanding of the factors that influence interest rates.

Components of Interest Rates

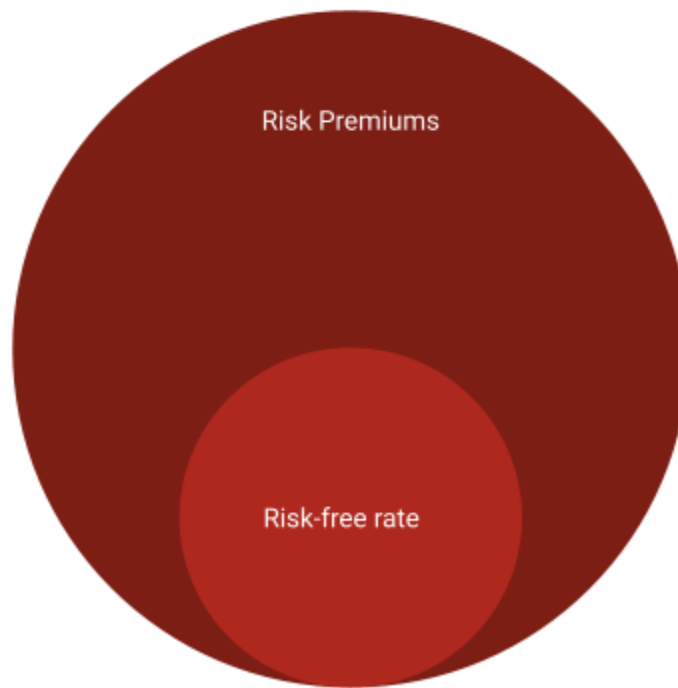


Figure 5.3

There are two main components to interest rates: the risk-free rate and risk premiums (Figure 5.3). The risk-free rate is the interest rate on a hypothetical investment that has no risk. The 3-month U.S. Treasury Bill is often used as a proxy for a risk-free investment because historically the U.S. government has never defaulted on its debt since the civil war. The risk-free rate is affected by inflation and the supply and demand for money. When the economy is strong, there will be greater demand for money and the risk-free rate will be higher. The federal government's monetary policy can affect the supply of money and influences the risk-free rate. When unemployment is high and economic growth is slow, the Federal Reserve will increase money supply to decrease interest rates. Lower interest rates will encourage businesses to invest and consumers to spend more. When inflation is rising, the Federal Reserve will shrink money supply to increase interest rates to reduce consumption. Since investors must be compensated for the effect of inflation, the risk-free rate also rises and falls with inflation.

All investments and loans carry risks to varying degrees. The interest rates on these include the risk-free rate plus a risk premium. The risk premium is affected by four factors. The first factor is the overall risk averseness of investors. High confidence among consumers and businesses tends to reduce risk averseness and lower risk premiums. Uncertainty about the future will increase risk premiums. The second factor is the default risk of the borrower, which varies from borrower to borrower. Higher default risk leads to a higher default risk

premium. The third factor is maturity risk. The longer the term of an investment or loan, the higher the maturity risk premium. The last factor is liquidity risk. Liquidity refers to the ability to sell an asset for cash quickly without depressing its value. Let us see how this interest rate model works in real life. A borrower with a higher credit score (therefore lower default risk) will be able to get loans at lower interest rates. In general, the interest rate on a 15-year mortgage is lower than the interest rate on a 30-year mortgage because the 15-year mortgage has lower maturity risk. The rule of thumb is that higher risk results in higher interest rates. This rule applies to investments as well as loans. If you invest in higher risk securities, you should demand a higher expected return. Beware of investments that promise high return with low risk. Financial markets are highly competitive and investments that sound too good to be true, usually are bad. Investors with limited wealth and income are least suited to invest in high risk investments, even if the high returns appear attractive.

Some interest rates are fixed, which mean the rates remain constant for the duration of a loan or an investment. Examples include certificates of deposits, fixed rate mortgages, and many government bonds. The fixed rates provide predictability and makes financial planning easier but have less flexibility. Variable interest rates fluctuate based on market conditions. Examples include credit cards, adjustable rate mortgages, and savings accounts. Many variable rate loans such as credit cards and adjustable rate mortgages are tied to the Prime Rate. The Prime Rate is the lowest interest rate the largest banks charge their most creditworthy large customers. The interest rates on consumer loans are stated as Prime Rate plus a margin. For example, the interest on an adjustable rate mortgage is Prime Rate plus 3 percent. In March 2020, the Prime Rate was 3.25 percent, meaning the interest rate on this mortgage would be 6.25 percent. In July 2023, the Prime Rate was 8.5 percent, meaning the interest rate on this mortgage could go up to 11.5 percent, increasing the monthly payment significantly. We will discuss mortgages in more detail in a later chapter. The key takeaway here is that variable interest rates are less predictable. Many variable rate loans offer a lower initial interest rate than fixed rate loans, making these loans attractive. It is important to take into account potential rate increases when considering these loans. Historically, the lowest Prime Rate was around 3.25 percent and the highest was 11.5 percent in 1981 (Figure 5.4).

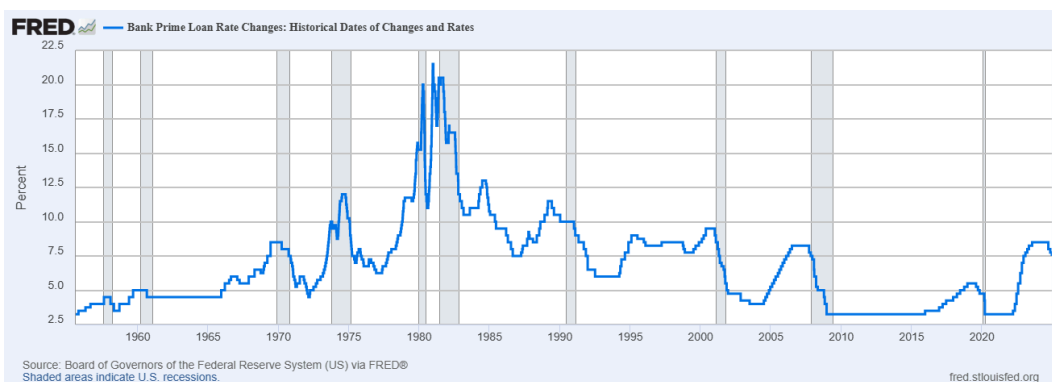


Figure 5.4

Whether you are saving for a house down payment, investing for retirement, or managing debt, interest rates play a crucial role. They influence every aspect of your financial life, from daily transactions to long-term

goals. Understanding factors that affect interest rates and the different types of interest rates are important for personal financial planning.

Integrated Case 5

Applying Time Value of Money in Financial Planning

Blake Jackson had let her credit card balance grow to \$3500 at the end of June. At an interest rate of 20 percent per year, the credit card balance can grow quickly. One of Blake's short-term financial goals is to pay off the current balance within one year. She expects to be able to pay \$1200 per month over the next two months as she will be working full-time over the summer. Once school begins in September, she will have to cut back her hours significantly.

Activities:

1. What will the credit card balance be after the next two months, assuming interest will be computed at the end of each month and Blake pays \$1200 per month? (Hint: interest per month = remaining balance \times interest rate per year / 12. New balance = previous balance + interest per month – payment per month)
2. How much will Blake need to pay per month starting in September if she wants to pay off the remainder of the balance in the next 10 months?

Chapter Five Summary

This chapter explains opportunity cost, time value of money, compounding, and various types of interest rates. Mastering these concepts provides a foundation for analyzing investments and loans.

Opportunity Cost

Opportunity cost is defined as the value of the next-best alternative when you make a decision. This means that every financial decision carries a cost beyond the direct monetary outlay.

Recognizing opportunity costs helps individuals make more informed choices by considering what they are giving up.

Time Value of Money (TVM)

The core principle of time value of money is encapsulated by the saying, “A dollar today is worth more than a dollar tomorrow.” This is due to two primary factors:

- Inflation: The increase in the price of goods and services over time. Money held today will likely buy less in the future.
- Opportunity to Earn Returns: A dollar not spent today can be invested, earning interests, dividends, and capital gains, which allows it to grow to more than one dollar in the future.

TVM calculations are essential tools for analyzing investments, loans, and financial planning.

The Power of Compounding

Compounding is when the return earned or interest owed is added back to the investment or loan. This process, also known as interest on interest, allows balances to grow and accumulate over time at an accelerating rate.

Simple Interest vs. Compound Interest:

- Simple Interest: Assumes earnings are not reinvested. For a \$1,000 investment at 10 percent per year, simple interest would yield \$100 annually, totaling \$200 over two years (new balance \$1,200).
- Compound Interest: Reinvests earnings. The same \$1,000 investment at 10 percent would yield \$100 in Year 1 (new balance \$1,100), and \$110 in Year 2 (new balance \$1,210).

The growth of money through compounding depends on:

- Time: The longer you invest, the more your money grows.
- Rate of Return: The higher the rate of return on an investment, the more your money grows.
- Compounding Frequency: The more often you reinvest, the more your money grows. Common frequencies include annually, quarterly, and monthly. Many consumer loans like credit cards and mortgages use monthly compounding, meaning unpaid interest quickly adds to the principal.

Time Value of Money Calculations and Spreadsheet Applications

Spreadsheet software (e.g., Google Sheets, Microsoft Excel) provides built-in functions:

- FV(): Computes the future value.
- PV(): Computes the present value, also known as “discounting.”
- RATE(): Computes the rate of return or interest rate per period.
- NPER(): Computes the number of periods (time horizon).
- PMT(): Computes the annuity payment amount per time unit.

Understanding Interest Rates

Types of Interest Rates

- Annual Percentage Yield (APY): Also known as the Effective Annual Rate (EAR), APY takes into account the effects of compounding when interest is computed more frequently than once per year. This makes it suitable for comparing investment products, as it reflects the true annual return.
 - Formula: $APY = (1 + (\text{interest rate per year} / \text{compounding frequency per year}))^{\text{compounding frequency per year}} - 1$.
- Annual Percentage Rate (APR): APR includes the total interests and fees related to the loan and is typically used for loan products. It provides a consistent basis for disclosing borrowing costs under the Truth in Lending Act (TILA). However, not all costs and fees are required to be included in the calculation of APR. Therefore, consumers still need to read the fine prints.
 - Formula: $APR = ((\text{Fees} + \text{Total Interests}) / \text{Principal}) / \text{number of days in the loan} \times 365$.

Financial institutions often advertise APY for savings to show higher returns and APR for loans to show lower initial rates, potentially misleading consumers without careful attention.

Components of Interest Rates

Interest rates are generally comprised of:

- Risk-Free Rate: This is the theoretical interest rate on an investment with no risk. The 3-month U.S. Treasury Bill is often used as a proxy. This rate is influenced by inflation and the supply and demand for money.

- When the economy is strong, demand for money increases, raising the risk-free rate.
- Monetary policy (e.g., by the Federal Reserve) affects money supply, influencing this rate.
- Risk Premiums: Additional compensation for various types of risk associated with an investment or loan. These include:
 - Overall Risk Averseness of Investors: High confidence reduces risk premiums; uncertainty increases them.
 - Default Risk: The risk that a borrower will not repay the loan. Higher default risk leads to higher default risk premium. Higher credit scores generally result in lower interest rates.
 - Maturity Risk: The risk associated with the length of an investment or loan. The longer term an investment or loan, the higher the maturity risk premium. For example, 30-year mortgages typically have higher rates than 15-year mortgages.
 - Liquidity Risk: The risk that an asset cannot be quickly sold for cash without losing value.

Fixed vs. Variable Interest Rates

- Fixed Rates: Remain constant for the duration of the loan or investment, offering predictability and makes financial planning easier. Examples include fixed-rate mortgages and certificates of deposit.
- Variable Rates: Fluctuate based on market conditions, often tied to a benchmark rate like the Prime Rate, which is the lowest interest rate large banks charge their most creditworthy customers. While variable rates may offer a lower initial rate, they are less predictable and can significantly increase monthly payments if the benchmark rate rises.

1. Explain why a dollar today is worth more than a dollar tomorrow.
2. Define opportunity cost and provide an example.
3. Explain the concept of compounding in finance. How does it differ from simple interest?
4. What are the three main factors that determine how much your money grows with compounding?
5. Define Present Value (PV) and Future Value (FV) in financial calculations.
6. Define an ordinary annuity and an annuity due. Provide an example for each type.
7. When performing time value of money calculations using spreadsheet functions, what critical assumption does the software make about cash flows?
8. Explain the importance of matching time units when using spreadsheet functions for TVM calculations. Provide an example.
9. What is the difference between APY (Annual Percentage Yield) and APR (Annual Percentage Rate)?
10. What are the two main components of interest rates?
11. What is the risk-free rate, and what factors affect it?
12. What four factors affect the risk premium component of interest rates?
13. Explain the difference between fixed and variable interest rates, and provide examples for each.
14. Why should investors be cautious of investments promising high returns with low risk?
15. Jordan received a \$2,000 graduation gift today and decided to invest it in an Individual Retirement Account (IRA), expecting to earn 11 percent per year. Compute the estimated value of this investment after 40 years, assuming no additional contributions.
16. Sam has accumulated \$8,000 in credit card debt with a 24 percent annual interest rate. If Sam commits to making minimum payments of \$50 per month for 24 months and makes no additional purchases, Compute the remaining balance at the end of the 24 months.
17. Jordan's company offers a retention bonus of \$15,000 if they stay for 3 years. A competitor is offering a \$12,000 sign-on bonus today. If Jordan can invest money at an 8 percent annual return, how can they compare these two offers using present value, and which option is more financially beneficial today?
18. Sam, currently 25 years old, wants to accumulate \$1,500,000 by age 70 for retirement. Assuming an average annual investment return of 10 percent and no current savings, how much money will Sam need to save each month to reach this financial goal?
19. A car dealer offers financing on a \$35,000 car with monthly payments of \$675 for 72 months. Compute the annual interest rate for this loan.

Appendix 5

Creating spreadsheet templates to perform time value of money calculations

This appendix assumes that you have moderate knowledge of spreadsheets, including the use of functions, formulas, and cell references. You can skip this appendix. It will not affect your ability to understand and master future chapters.

A template is a simple financial model. Despite its simplicity, some basic design principles still apply.

- Avoid hard coding numbers in formulas.
- Keep formulas readable.
- Be consistent in the model structure.
- Use color coding to emphasize user inputs and model outputs.
- Clearly label inputs and outputs.
- Minimize input errors.
- Validate input wherever possible.

To determine user inputs and model outputs, a spreadsheet designer conducts interviews with users to assess their needs and workflow. In this appendix, the purpose of the templates is to perform time value of money calculations. The input variables have been specified earlier in this chapter. We need to decide the format for the input variables. For example, should the user input return per time unit or input interest rate per year? This is a design decision. We decide to have the user input interest rate per year because that is the most common format interest rates are quoted.

Compounding frequency is another input variable. However, in our experience converting time units to compounding frequencies is not intuitive for some users. The template can do this conversion easily. The design decision here is to have the user input the time unit instead of the compounding frequency. To minimize input error, the template will use a drop down menu so the user can select the time unit.

The first template is to compute future value. Since this template is very simple, we will put all the elements on the same sheet. We use Google Sheets in this appendix. The first part of the template (Figure 5A.1) informs the user of the purpose of the template and the color codes.

	A	B
1	Template: Compute Future Value	
2		
3	<i>Legend</i>	
4	User input	
5	Template output	

Figure 5A.1

The second part (Figure 5A.2) contains the input area. This template is used to compute future value, therefore the input variables include:

- Time unit
- Interest rate per year
- Number of periods
- Annuity amount per period
- Present value
- An indicator with 0 for ordinary annuity and 1 for annuity due.

	A	B	C
7	<i>User input area</i>		<i>Notes</i>
8	Time Unit	<input type="text"/>	
9	Interest rate per year (Enter as a decimal)		If interest rate given is not per year, convert it accordingly.
10	Number of periods (time horizon)		Be sure it is in the correct time unit.
11	Annuity amount per period		
12	Present value		
13	Ordinary annuity or annuity due indicator		Enter 0 if payment occurs at the end of each period, enter 1 if payment occurs at the beginning of each period.

Figure 5A.2

We include notes to help the user enter input variables in the correct format. Notice the input for cell B8 (time unit) is a drop down menu. The valid options for time units are included in the data validation area, Figure 5A.3.

	A	B
19	<i>Data Validation</i>	
20	Time units	Compounding Frequency
21	Day	365
22	Month	12
23	Quarter	4
24	Semi-annual	2
25	Year	1

Figure 5A.3

To implement this data validation rule, first select cell B8. Then choose [Data] from the top menu and [Data validation] from the submenu. From the Data validation rules menu, choose the option [Dropdown (from a range)]. Enter the range containing the time units, A21:A25. Select [Done]. See Figure 5A.4. If you do not use Google Sheets, the menu options will look different.

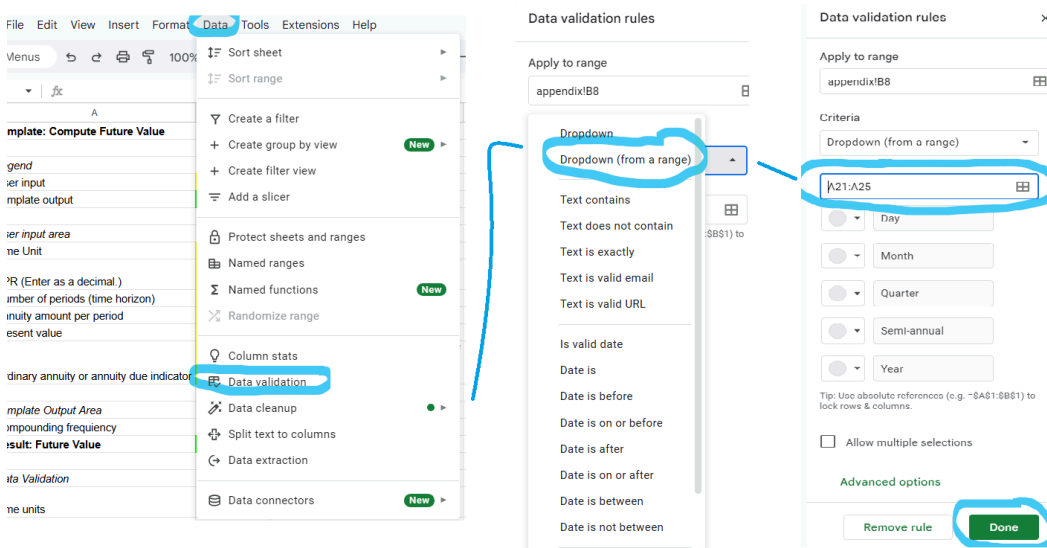


Figure 5A.4

This template has 2 outputs. The first output converts the time unit into a compounding frequency. We did not color code this output because it is an intermediate calculation and not the final output of the template. Figure 5A.3 shows that the compounding frequency is specified next to the corresponding time unit. The compounding frequency is used to convert interest rate per year to the appropriate rate per period. This calculation is done in cell B16. We use the vlookup function to select the correct compounding frequency. The formula for cell B16 is ‘=vlookup(B8, A21:B25,2)’ (Figure 5A.5). Cell B8 contains the time unit selected by the user. Cells A21:B25 contains the time unit and the compounding frequency. The number 2 specifies that the compounding frequency is in the second column.

	A	B	C
15	Template Output Area		
16	Compounding frequency	=vlookup(B8,A21:B25,2)	First select a time unit in cell B8.

Figure 5A.5

Cell B17 contains the output from this template which is the future value. The formula for cell B17 is =FV(B9/B16,B10,B11,B12,B13). This function is explained earlier in this chapter. In this template, cell references are used in the function instead of numbers (Figure 5A.6). By creating a template, you can use it to compute future values easily by changing the input variables.

	A	B
15	Template Output Area	
17	Result: Future Value	=fv(B9/B16,B10,B11,B12,B13)

Figure 5A.6

You can test your template using one of the examples in the chapter. Figure 5A.7 shows the template’s calculation for a \$1000 investment at 10 percent per year over 30 years.

	A	B	C
1	Template: Compute Future Value		
2			
3	<i>Legend</i>		
4	User input		
5	Template output		
6			
7	<i>User input area</i>		<i>Notes</i>
8	Time Unit	Year	
9	Interest rate per year (Enter as a decimal)	10%	If interest rate given is not per year, convert it accordingly.
10	Number of periods (time horizon)	30	Be sure it is in the correct time unit.
11	Annuity amount per period	0	
12	Present value	\$1,000	
13	Ordinary annuity or annuity due indicator	0	Enter 0 if payment occurs at the end of each period, enter 1 if payment occurs at the beginning of each period.
14			
15	<i>Template Output Area</i>		
16	Compounding frequency		1 First select a time unit in cell B8.
17	Result: Future Value	-\$17,449.40	

Figure 5A.7

You can create similar templates for computing present value (Figure 5A.8), annuity payment amount (Figure 5A.9), rate (Figure 5A.10), and number of time periods (Figure 5A.11).

	A	B	C
1	Template: Compute Present Value		
2			
3	<i>Legend</i>		
4	User input		
5	Template output		
6			
7	<i>User input area</i>		<i>Notes</i>
8	Time Unit		
9	Interest rate per year (Enter as a decimal)		If interest rate given is not per year, convert it accordingly.
10	Number of periods (time horizon)		Be sure it is in the correct time unit.
11	Annuity amount per period		
12	Future value		
13	Ordinary annuity or annuity due indicator		Enter 0 if payment occurs at the end of each period, enter 1 if payment occurs at the beginning of each period.
14			
15	<i>Template Output Area</i>		
16	Compounding frequency	=vlookup(B8,A21:B25,2)	First select a time unit in cell B8.
17	Result: Present Value	=PV(B9/B16,B10,B11,B12,B13)	
18			
19	<i>Data Validation</i>		
20	Time units	Compounding Frequency	
21	Day		365
22	Month		12
23	Quarter		4
24	Semi-annual		2
25	Year		1

Figure 5A.8

	A	B	C
1	Template: Compute Annuity Payment Amount		
2			
3	<i>Legend</i>		
4	User input		
5	Template output		
6			
7	<i>User input area</i>		<i>Notes</i>
8	Time Unit	<input type="text" value=""/>	
9	Interest rate per year (Enter as a decimal)		If interest rate given is not per year, convert it accordingly.
10	Number of periods (time horizon)		Be sure it is in the correct time unit.
11	Present value		
12	Future value		
13	Ordinary annuity or annuity due indicator		Enter 0 if payment occurs at the end of each period, enter 1 if payment occurs at the beginning of each period.
14	<i>Template Output Area</i>		
16	Compounding frequency	=vlookup(B8,A21:B25,2)	First select a time unit in cell B8.
17	Result: Annuity payment amount	=PMT(B9/B16,B10,B11,B12,B13)	="per "&B8
18			
19	<i>Data Validation</i>		
20	Time units	Compounding Frequency	
21	Day		365
22	Month		12
23	Quarter		4
24	Semi-annual		2
25	Year		1

Figure 5A.9

	A	B	C
1	Template: Compute Rate		
2			
3	<i>Legend</i>		
4	User input		
5	Template output		
6			
7	<i>User input area</i>		<i>Notes</i>
8	Time Unit	<input type="text" value=""/>	
9	Number of periods (time horizon)		Be sure it is in the correct time unit.
10	Annuity amount per period		
11	Present value		
12	Future value		
13	Ordinary annuity or annuity due indicator		Enter 0 if payment occurs at the end of each period, enter 1 if payment occurs at the beginning of each period.
14	<i>Template Output Area</i>		
16	Compounding frequency	=vlookup(B8,A22:B26,2)	First select a time unit in cell B8.
17	Result: rate per period	=RATE(B9,B10,B11,B12,B13)	
18	Result: rate per year	=B17*B16	
19			
20	<i>Data Validation</i>		
21	Time units	Compounding Frequency	
22	Day		365
23	Month		12
24	Quarter		4
25	Semi-annual		2
26	Year		1

Figure 5A.10

	A	B	C
1	Template: Compute Number of Periods		
2			
3	<i>Legend</i>		
4	User input		
5	Template output		
6			
7	<i>User input area</i>		<i>Notes</i>
8	Time Unit	<input type="text"/>	
9	Interest rate per year (Enter as a decimal)		If interest rate given is not per year, convert it accordingly.
10	Annuity amount per period		
11	Present value		
12	Future value		
13	Ordinary annuity or annuity due indicator		Enter 0 if payment occurs at the end of each period, enter 1 if payment occurs at the beginning of each period.
14			
15	<i>Template Output Area</i>		
16	Compounding frequency	=vlookup(B8,A21:B25,2)	First select a time unit in cell B8.
17	Result: Number of periods	=nper(B9/B16,B10,B11,B12,B13)	=B8
18			
19	<i>Data Validation</i>		
20	Time units	Compounding Frequency	
21	Day		365
22	Month		12
23	Quarter		4
24	Semi-annual		2
25	Year		1

Figure 5A.11

Notes

1. An extensive discussion of how to use spreadsheets to create financial models is beyond the scope of this textbook. Appendix 5 shows you how to create simple templates to perform time value of money calculations.

PART III

MODULE THREE: CREDIT AND BANKING

Module Three introduces the legal and economic environment and important institutions for personal financial planning. Chapter 6 explains the credit report, credit scores, and relevant consumer protection laws. You will learn to determine the true cost of borrowing, how to improve your credit scores, and how to protect yourself against financial scams and identity theft. Chapter 7 introduces commonly used financial services and institutions. It focuses on managing your day-to-day financial needs, safe banking practices, and the pros and cons of credit cards versus debit cards.

6.

CREDIT SCORES, CREDIT REPORT, AND CONSUMER CREDITS

Chapter Six Learning Objectives

- Understand the different types of consumer credits.
- Identify good and bad reasons for using consumer credit.
- Identify important factors to consider before taking out a loan.
- Determine the true cost of credit.
- Obtain and evaluate your credit report.
- Develop a plan to achieve a good credit score.
- Recognize identity theft tactics and apply preventive practices.
- Understand personal bankruptcy.

The term “credit” refers to the ability of a customer to obtain goods or services before paying for them, based on the trust that payment will be made in the future. This chapter will explore the fundamental aspects of consumer credit, discuss good reasons for its use, the factors to consider before borrowing, and the importance of responsible credit management. It includes a section on how to obtain a free copy of your own credit report, read its content, correct errors if necessary, and strategies to improve your credit scores.

Consumer credit encompasses various forms of borrowing used by individuals for personal or household purposes, from purchasing essential items to investing in their future. Durkin et al (2015) noted that the merits and pitfalls of using consumer credits has long been a topic of debate. Some people view the use of credit as an attempt to live beyond one’s means, itself a moral failing and a potential cause of financial troubles if debts pile up. These concerns have some valid points. American households rely more and more on consumer credits overtime. Figure 6.1 shows the amount of total consumer credits in the U.S. from 1985 to 2024, which exhibits a continuous upward trend.

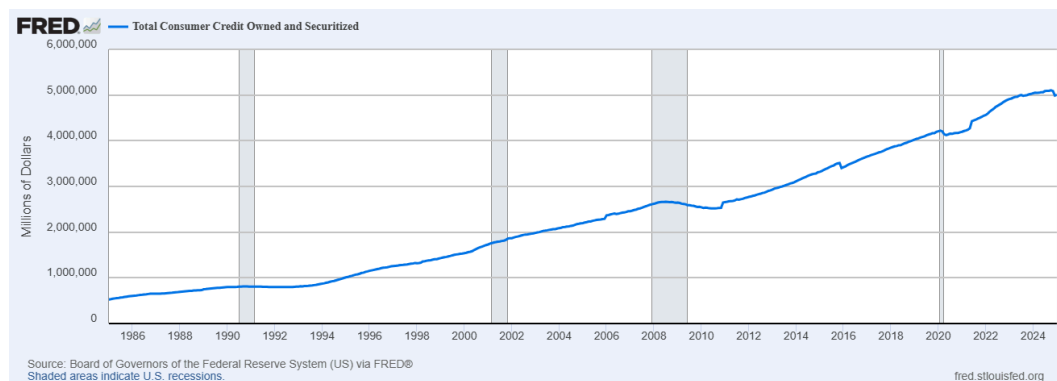


Figure 6.1

To put the size of consumer credits in perspective, it may be helpful to look at it as a percentage of the country's overall income, defined as the nominal gross domestic product (GDP). Figure 6.2 shows that household debt as a percentage of nominal GDP remained relatively stable at around 65 percent since 2013, after peaking at 85 percent surrounding the 2008 financial crisis. One possible reason is that consumers use credits as part of their emergency plan during economic hard times and revert to normal financing patterns when the crisis is over. Another possible explanation is that consumers maintain a relatively stable level of debt even when the economy contracts. Hence when GDP decreases during a recession and debt level stays the same, the ratio will increase.

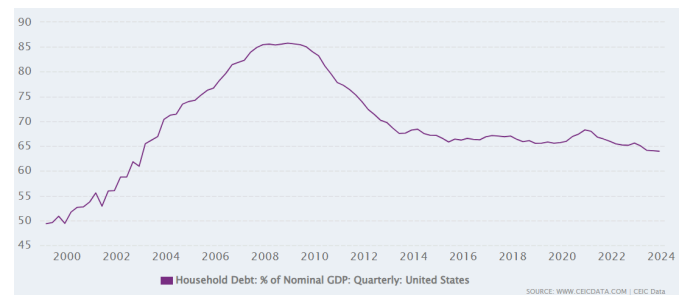


Figure 6.2

We learn in chapter one that some money beliefs are more likely to lead to excessive spending and debt accumulation. Individuals who exhibit money worship or money status personalities should be more careful when using consumer credits. The tools discussed in chapter three, such as using a budget, the 72-hour and 7-day rules, sticking to a list when shopping, setting spending alerts, and the envelope method, can help overcome these challenges. Using a waiting rule of 3 to 7 days is especially helpful if impulse buying is a culprit. While waiting, consider the following questions.

- Does the item solve a real problem in your life?
- Will you still be using this item a year from now?
- Is this a quality item that will last a long time?
- Where will this item go in your home?
- Can you borrow or rent this item instead?
- Will you buy this item if you need to pay cash for it?

Exercise 6.1: Spender, know thyself!

Reflect on your spending habits. It is useful to review the personal cash flow statement you prepared for the Personal Financial Plan Exercise 3 in Chapter 3.

- Identify one to two areas where you can reduce spending.
- Select one of the methods discussed in this section to use. Explain why you think this method will work for you.

Example: Maya and Isis Learned to Live Within Their Budget

After creating their personal cash flow statement Maya and Isis realized they were spending almost 30 percent of their take-home pay on optional expenses, especially on leisure items and eating out. They expected to get a 5 percent raise next year and did not want to continue to live paycheck to paycheck. To reach their financial goals, they created a budget which significantly reduced optional expenses.

Maya and Isis found that sticking to a budget was much harder than creating one. Some changes were easier for them than others. They used a list when going grocery shopping and were delighted with the results. Not only were they able to reduce impulse purchases, they seldom forgot to buy items they actually needed, so no more mid-week runs to the store. For clothes and household items, Maya and Isis shopped mostly online. They put items in the shopping cart or a wish list and came back after 3 to 7 days and only hit “buy” after reviewing the items carefully. They found they had much fewer buyer regrets with this system.

They decided to only eat out with friends and limited that to once per week as much as possible. Planning meals ahead of time was a big challenge for them. Their old habit was to text each other on their way home and if it was a busy day and neither wanted to cook, they would have take-outs for dinner. Maya and Isis decided to add some fun into meal prep. They shared the changes they were trying to make with their friends and some of them expressed interest in doing the same. They took turns hosting meal prep “parties” each week. The community and support they received

from each other helped them stick to the new habit. They discovered they were eating healthier and spending less at the same time. They did not think they could do it without their friends.

The biggest optional spending category for Maya and Isis was leisure activities like travel and streaming services for games, music, and shows. They reviewed their streaming services and realized they watched one or two shows at most from each. They cancelled all but one service and rotated to another service when they grew tired of the catalog. Instead of streaming games, they limited new game purchases to \$150 per year. This one change reduced their streaming expense by 90 percent. This change was a little challenging because they could not watch whatever show they wanted on demand but they felt the sacrifice was worth it. It took time to cancel the services but once done it was not difficult to stay within the limits they set for themselves.

While reviewing their financial health, Maya and Isis realized they also needed to improve their physical health. They had expensive gym memberships but did not use the gym as often as they liked or should. They cancelled the gym memberships and invested in free weights and a bike stand. Having the equipment at home made it easier to work out. They also joined a hiking club, which gave them incentive to keep in shape in the winter. Instead of expensive resort vacations, they went on backpacking trips. Maya and Isis were avid hikers in their youth and really enjoyed reconnecting with nature. This change was not difficult for them.

After one year, Maya and Isis updated their cash flow statement and were proud of the results (Figure 6.3). They were able to save almost 28 percent of their take-home pay and made an excellent start towards reaching their financial goals.

Personal Cash Flow Statement For Maya West and Isis Khan

	Year Before Budgeting	Year After Budgeting	Year Before Budgeting	Year After Budgeting
<i>Net take-home pay</i>	94,500	104,504		
<i>Essential Expenses</i>			<i>As a percent of take-home pay</i>	
Housing (rent or mortgage and insurance)	31,694	31,692	34%	30%
Car - loan	5,832	5,832	6%	6%
Student loan repayment	3,600	3,600	4%	3%
Utilities (heat, electricity, phone, internet)	5,484	5,076	6%	5%
Car - gas	2,926	3,895	3%	4%
Car - maintenance, insurance, repairs	2,494	2,580	3%	2%
Food, grocery, and household supplies	11,678	13,936	12%	13%
Medical expenses (drugs, doctor's visits, insurance)	3,263	2,472	3%	2%
<i>Total Essential Expenses</i>	<i>66,971</i>	<i>69,083</i>	<i>71%</i>	<i>66%</i>
<i>Optional Expenses</i>				
Restaurant (eating out)	6,812	3,084	7%	3%
Leisure (movies, games, travel, streaming)	15,423	1,548	16%	1%
Clothing, household items	3,698	2,530	4%	2%
Donations and gifts to others	1,096	780	1%	1%
Other expenses	290	498	0%	0%
<i>Total Optional Expenses</i>	<i>27,319</i>	<i>8,440</i>	<i>29%</i>	<i>8%</i>
<i>Cash surplus (or deficit)</i>	<i>211</i>	<i>29,481</i>	<i>0%</i>	<i>28%</i>

Figure 6.3

Having too much debt is obviously a problem. But if you do not use any credit, you will not have a credit history, which will negatively impact your life. A 2015 Consumer Financial Protection Bureau report found that 26 million Americans are “credit invisible.” This means that one in every ten adults does not have any credit history. An additional 9.9 million people do not have sufficient history and 9.6 million lack any recent credit history to get a credit score. All together, there are 45 million consumers who are credit invisible or unscorable, making up 20 percent of the U.S. adult population. This problem varies by income and demographics. In low-income neighborhoods, almost 30 percent are credit invisible and 15 percent are unscorable. Approximately 28 percent of Black and Hispanic consumers are credit invisible or unscorable compared to 16 percent of White consumers. Learning how to use consumer credit appropriately is essential to building a good credit history.

Consumer credits can be used to purchase goods and services that produce long-term returns. For instance, purchasing a reliable car can reduce absenteeism, improving job performance. Obtaining a college degree

provides better employment opportunities and higher income over the long run. Instead of saving up enough cash to pay for these items in full, consumers can borrow part of the costs. The opportunity cost of waiting to save up enough cash can be high. An unreliable car can lead to someone losing a job and income, creating a negative cycle that is difficult to get out of. While excessive debt and late payments will negatively impact your credit history, never using credit also has its downsides. Your credit history affects many areas of your life. In addition to your ability to borrow money, insurance companies use information from your credit report to determine your insurance premium and coverage. Often your credit report is part of a background check for employment and rental application. Therefore, the crux of the issue is mastering how to use consumer credits responsibly and strategically to improve your financial well-being.

Exercise 6.2: Why use consumer credits?

Based on what you have learned so far about personal finance and your personal and family experiences, classify the loans in Figure 6.4 as a good reason or a bad reason for taking out a personal loan. Explain your decisions.

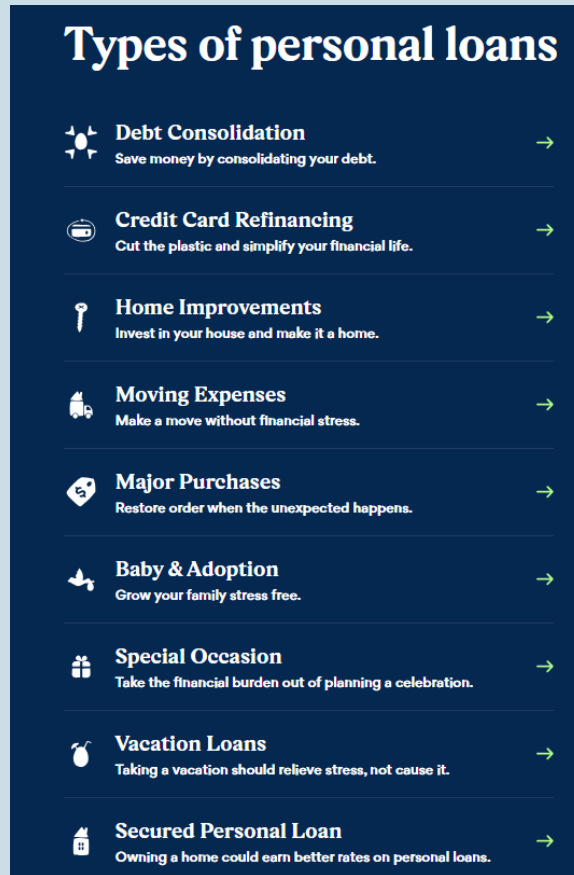


Figure 6.4

Good and bad reasons for using consumer credit

Good reasons for using consumer credit include:

- Investing in your future: This could involve taking out a car loan to commute to a job or obtaining a student loan to pursue education for career advancement.
- Building a good credit score: Responsible use of credit and timely payments are crucial for establishing and improving one's credit score. A good credit score can make it easier to obtain loans in the future at more favorable interest rates.

- Convenience: Using credit cards can be more convenient than carrying large amounts of cash. They also offer additional benefits such as fraud protection and rewards programs.
- As part of your emergency planning: Having access to credit can provide a financial safety net for unexpected expenses. This can help you avoid costly alternatives such as payday loans or title loans.

Bad reasons for using consumer credit include:

- Not considering the effects of repayment on your future budget: Borrowing without a clear plan for repayment can lead to financial strain. It is important to consider your income, expenses, and other debts before taking on additional debt.
- Excessive spending: Studies have shown that individuals tend to spend more when using credit cards or buy-now-pay-later (BNPL) compared to cash. This can lead to accumulating debt that is difficult to repay.
- Accumulating debt unintentionally: Without careful monitoring, open-end credit like credit cards can lead to a gradual and unnoticed increase in debt. It is important to track your spending and make sure you are not using credit to finance a lifestyle you cannot afford.

Types of Consumer Credits

A borrower's default risk, the chances that the loan will not be repaid, is the primary determinant of interest rate and availability of consumer credits. In addition, different types of consumer credits have unique characteristics that also affect their interest rates and availability. One important characteristic is **secured** versus **unsecured**. The term secured means that a loan is backed by an asset, such as a car or a house. If the borrower fails to repay the loan, the lender can repossess the asset and sell it to offset the loan. An unsecured loan is based solely on the borrower's promise to pay. The risk to the lender is lower with a secured loan because of the value of the underlying asset. Interest rate on a secured loan is lower than the interest rate on an unsecured loan for borrowers with the same default risk.

Another important characteristic is **open-end** versus **closed-end**. With closed-end loans, the entire loan amount is given out and the repayment schedule specified when the contract is signed. With open-end credit, the consumer can take out money repeatedly, up to a certain pre-approved amount. For revolving open-end credit, there is no fixed end date for full repayment. Since closed-end loans have fewer unknowns they typically have lower interest rates than open-end loans. Student loan is an example of unsecured, closed-end credit. Each semester students take out a new student loan and each loan has its own interest rate and repayment schedule. Auto loans secured by a car and mortgages secured by a house are examples of secured, closed-end credit. A

home equity line of credit (HELOC) secured by a house is an example of secured, open-end credit. Credit cards are a common example of unsecured, open-end credit. When you make purchases with a credit card, the bank is loaning you the money to pay the merchant. At the end of each month, you pay off the balance. You can use the same card for purchases the following month. You do not open a new credit card each month. Therefore the credit on the card is considered revolving.

Consumer credits can be classified in several ways

- **Unsecured Credit:** This type of credit is based solely on the borrower's promise to pay.
- **Secured Credit:** This type of credit is backed by an asset, such as a car or a house, which can be repossessed by the lender if the borrower fails to repay the loan.
- **Closed-end Credit:** The full loan amount is given out when the contract is signed and must be paid back by specific dates. Student loan is an example of unsecured, closed-end credit whereas auto loan (secured by the car) is an example of secured, closed-end credit.
- **Open-end Credit:** This is a loan where the borrower can draw on funds repeatedly, up to a certain pre-approved amount, and there is no fixed end date for full repayment. Open-end credit is also called revolving credit because borrowers can repeatedly take out more credit on the same loan. Credit cards are a common example of unsecured, open-end, revolving credit. A home equity line of credit (HELOC) secured by the house is an example of secured, open-end credit.

Factors to Consider When Taking Out a Loan

Before taking on any form of consumer credit, it is important to carefully consider all the key factors. First and foremost is whether you can afford the loan. When considering the total monthly payments, be sure to include any hidden fees and potential changes in interest rates. Budgeting is essential to help you determine if you can meet all your existing essential expenses and the payments on the new loan. You should also think about what you might need to give up to afford the loan. A second factor to consider is fixed versus variable interest rates. Open-end loans almost always have variable interest rates. Closed-end loans may have fixed or variable rates. As the name implies, fixed interest rates remain the same for the life of the loan, while variable interest rates can fluctuate with the benchmark interest rate, usually the Prime Rate. Most variable rate loans have a lifetime cap or interest rate ceiling, which is the maximum level the interest rate can increase to. Use the life-time cap

interest rate as the worst case scenario in your budget when evaluating whether you can afford the loan. It may not happen but it is better to be prepared. Be extra wary if the initial rate is much lower than a comparable fixed rate loan. This is sometimes called a “teaser rate” and is used to tempt borrowers into taking out a larger loan than they can truly afford. During the 2008 financial crisis, many homeowners found they could not make their mortgage payments when the interest rates on their variable rate mortgages increased significantly, leading to loan defaults and home foreclosures.

Other important factors include origination fee, prepayment fee, late payment fee, and credit insurance premium. These are potential extra charges that add to the cost of borrowing. Some lenders charge an origination fee, which may have other names. Essentially it is a fee levied when you take out a loan and is often added to the loan balance instead of an out of pocket cost to the borrower. This fee can sometimes increase the cost of borrowing a lot, especially for short-term loans. Late payment fee or penalty is applied if you miss a payment on the loan. Missing loan payments can damage your credit history and may sometimes increase the interest rate on a variable rate loan. Some lenders charge a prepayment fee or penalty if you pay off the loan early. Loans with prepayment fees reduce your flexibility. For instance an auto loan with a prepayment fee will increase the cost of trading in the car before the loan is fully paid off. Occasionally lenders may require credit insurance as part of the loan requirement. The insurance company will pay the lender for a specified period of time in case you are unable to make the loan payment due to certain events. The type of events covered – death, illness, or unemployment – depends on the specific policy. The insurance company charges a premium, which may be a single lump sum added to the loan balance when you take out the loan or a monthly amount based on the outstanding balance of the loan. Credit insurance can increase the cost of borrowing significantly. If you have a good credit history, shop for lenders that do not require insurance. Many of these additional costs are not included in the calculation of the APR and you must read the loan agreement carefully to find them.

Factors to consider when taking out a loan

- **Origination fee:** Some lenders charge an origination fee to cover the cost of processing the loan. This fee is often a percentage of the loan amount and adds to the total cost of borrowing.
- **Prepayment fee (penalty):** Some lenders charge a prepayment penalty if you pay off your loan early.
- **Late payment fee (penalty):** If you miss a payment on your loan, you may be charged a late payment fee. This fee can add to the total cost of borrowing and can also damage your credit history.

- **Fixed versus variable interest rates:** Fixed interest rates remain the same for the life of the loan, while variable interest rates can fluctuate based on financial market conditions. Evaluate the worst case scenario using the lifetime cap rate.
- **Credit insurance:** Credit insurance protects the lender from your inability to repay the loan if you lose your job or become unable to work. The insurance premium increases the cost of the loan.
- **Can you afford the loan?** This is the most critical question. Consider your total monthly payments, including any hidden fees and extra costs such as credit insurance premium, and whether you can meet all your essential expenses and afford the total loan payments. **Budgeting** is essential to determine loan affordability. You should also think about what you might need to give up to make the monthly loan payment.

Exercise 6.3: Identify key factors in a loan.

Review the personal loan offer from an online lender in Figure 6.5. Identify the following items.

1. How much will you receive today if you take out this loan?
2. Explain the difference between the “loan amount” and the amount you will receive.
3. How much is your monthly payment?
4. How many payments will you need to make to repay this loan?
5. How much will your total payments add up to?
6. (Optional) Using the TVM tool from Chapter 5, what is the annual rate on this loan? Compare your result from the disclosed APR.

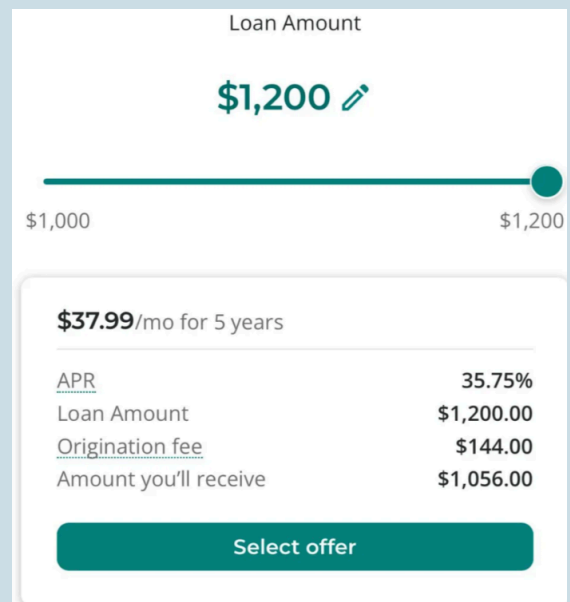


Figure 6.5

What Do Lenders Look For When Extending Credit?

A lender's primary concern when considering whether to approve a loan is the borrower's ability to repay the loan. They used the term creditworthiness to describe this ability. Traditionally lenders use the five Cs of credit to evaluate borrowers. The five Cs are character, capacity, capital, collateral, and conditions. Character refers to a person's moral, ethical, and emotional qualities. People with good character are honest and fair. They display self-discipline, make good decisions, and have a strong sense of responsibility. Capacity measures someone's ability to make the loan payments. Capital is based on the current equity and debt burden of the borrower. Lenders are wary of excessive debt. Collateral is the value of the asset used to secure a loan and is relevant when evaluating a secured loan. Conditions include national, international, and industry factors that may affect the lender's ability to lend and/or the borrower's ability to repay the loan. For instance, a borrower employed in an industry that is currently laying off employees may not be able to get a loan. Uncertainty about the economy may reduce a lender's willingness to extend long-term loans. Conditions are generally factors beyond the borrower's control.

Some of these factors can be evaluated objectively. The debt payment-to-income ratio (DTI) is used to estimate capacity. The DTI compares your monthly debt payments to your gross monthly income. There are two common measures for debt payment. The first includes housing costs, such as rent or mortgage payment. Lenders often look for a DTI of less than 35 percent when housing costs are included. When housing costs are excluded, lenders look for a DTI of less than 20 percent. Chapter 3 explains how to compute DTI using data from the personal cash flow statement. Capital can be evaluated using the debt-to-equity ratio, defined as total liabilities divided by net worth. If you own a house with a mortgage or a car with an auto loan, the debt-to-equity ratio will likely be high. For instance, if you put 10 percent down on a house, the debt-to-equity ratio for the house is 9. Chapter 3 presents several cases where the values of net worth are negative. Banks put more emphasis on DTI than debt-to-equity ratio when evaluating personal loans, especially for secured loans. For secured loans, lenders can sell the collateral in case the borrower fails to pay the loan, providing an alternative source of repayment. The value of the collateral, such as a car or a house, can be assessed by an independent party.

Character is more difficult to quantify. In the old days, banks may require character reference letters from respected members of the community. Today many lenders use your credit report and your credit scores as a proxy for your character. The next section is devoted to credit reports and credit scores.

The Five C's of Credit

- **Character** – Refers to a person’s moral, ethical, and emotional qualities.
- **Capacity** – Can a person’s income cover additional debt payments?
- **Capital** – How much is a person’s debt and net worth?
- **Collateral** – Will the loan be secured using valuable assets?
- **Conditions** – Are there industrial, economic, or political circumstances that may affect a person’s ability to repay a loan and/or the lender’s willingness to lend?

Credit Reports and Credit Scores

Credit reports and credit scores are two very different things. A credit report is a historic document of your past credit activities. A credit score is a number computed by a mathematical model based on information in your credit report and other sources. Lenders use the credit score to predict how likely you will make future payments as promised.

The three main credit reporting bureaus that compile credit reports are Equifax, Experian, and TransUnion. Appendix 6 contains sample reports from each of these bureaus. The formats of the credit reports differ for each bureau but all contain the same main sections: personal information, public records, credit accounts, collections, inquiries, and personal statements. You should download your credit reports regularly (at least once per year) and review it for accuracy. The Fair Credit Report Act (FCRA) of 1970 required the three main credit bureaus to ensure that the information they collect is accurate, to provide a free copy of the credit report to consumers every year, and to allow consumers a chance to fix any mistakes. As of 2023, consumers can download a free report every week online at www.annualcreditreport.com. You have to provide your name, date of birth, social security number, and address to obtain the report. These are very important and sensitive personal information. Be sure to go to the correct website by typing in the address. Do not use a search engine to look for free credit reports as there are many scammers and fake sites. Store your credit reports securely because it contains sensitive information that can be used to steal your identity, a topic we will discuss in a later section. You can also request a paper copy of your credit report once per year in accordance with the Fair Credit Report Act, which limits the company to charge no more than \$14.50 for a paper credit report.

How to Read a Credit Report

We will use a generic sample report to explain the key items to look for in a credit report. It is important to request the credit bureaus to correct any errors so your credit reports are accurate. Each report contains the date the report was generated because information changes over time. Figure 6.6 shows the personal information section and public record section on a sample credit report. The personal information section

includes name(s), date of birth, social security number, current and previous addresses, current and previous phone numbers, and employment history. The public record section may include events such as bankruptcies, civil judgements resulting from lawsuits, and tax liens by the federal, state, or local governments. Many consumers do not have any item in the public record section.

ACME Credit Report Bureau

Report Date: 2024-10-27

Report Number: 2024-0829

Personal Information:

- * Consumer Name: Jordan S. Doe
- * Also Known As (AKA): Jordan Smith
- * Date of Birth: 1980-05-15
- * Social Security Number (Partial): XXX-XX-6789
- * Address: 123 Main Street, Anytown, CA 91234
- * Previous Addresses: 456 Oak Ave, Anytown, CA 91234 (2015-2020)
- * Phone Number: (555) 123-4567 Previous Phone Number: (555) 987-6543

Employment History:

- * Employer: Acme Corporation
- * Address: 789 Business Park, Anytown, CA 91234
- * Occupation: Software Engineer
- * Start Date: 2020-01-02
- * Employer: Previous Company Inc.
- * Address: 100 Main Street, Anytown, CA 91234
- * Occupation: Junior Developer
- * Start Date: 2017-06-01
- * End Date: 2019-12-31

Summary:

- * Credit Score (FICO 8): 600 (Fair)
- * Total Accounts: 11
- * Open Accounts: 8
- * Closed Accounts: 2
- * Derogatory Marks: 3 (including collection)
- * Inquiries (Last 2 Years): 3
- * Total Debt: \$15,000 + Collection

Public Records:

- * Bankruptcy: Chapter 7, Filed: 2020-01-10, Discharged: 2020-06-15

Figure 6.6

The longest section in a credit report is on the credit accounts. Some bureau separates this section into accounts in good standing versus accounts with late payments, sometimes referred to as adverse accounts or accounts with potentially negative items. There are three main account types: installment credit, open credit, and revolving credit. Installment credit accounts are closed-end credit accounts. They usually have a fixed monthly payment and interest is charged on the amount borrowed or the remaining balance. Examples of installment credit include auto loans, mortgages, and student loans. Revolving credit accounts are open-end credit accounts which charge interest and fees based on the remaining balance each month. These accounts have a maximum loan amount and a minimum monthly payment amount. Examples include home equity line of credit (HELOC) and credit cards. Open (non-installment) credit accounts require the balance to be paid in full every period, usually monthly or quarterly. Examples include electricity, water, and phone accounts. These utility accounts are considered credit accounts because consumers receive the service before paying for them. Since full payment is expected on these accounts, they are usually reported to credit bureaus only when payments are late.

The layout of the credit reports from the credit bureaus differ but they all contain the same essential information, which is included in the sample report (Figure 6.7). Items you should look for in the accounts section of the report include (1) account number, (2) name of the creditor, (3) account status, (4) current balance, (5) payment status, (6) last payment date, and (7) payment history. You should match the account numbers on the credit report to what you have in your own record to verify that the loans and accounts belong to you. Sometimes the name of the creditor or institution may appear unfamiliar for a number of reasons. One is that loans are often sold from one bank to another. When a loan is sold, the bank must notify the borrower. However, consumers usually remember the name of the bank they borrow from but not necessarily the latest bank their loan has been sold to. Another reason is that a merchant's credit card is actually issued by a bank, not the merchant. The name of the merchant is what most people see on the card. The name of the issuing bank is in small print at the back or sometimes just a tiny logo. On the credit report, it is the name of the issuing bank that is listed, not the merchant. It is useful and important to know the name of the institutions to whom you owe money. If you see an account that you did not open, contact the creditor and the creditor bureau right away. You may be a victim of identity theft, a topic we will discuss later in this chapter.

Figure 6.7

Loan Type: Name	1 Account Number	2 Creditor	Account Type	3 Account Status	Original Loan Amount / Credit Limit	4 Current Balance	5 Payment Status	Opened Date	6 Last Payment Date	7 Payment History
Credit Card: Visa Rewards	XXXX-1234	First National Bank	Revolving	Open	\$10,000	\$2,000	Current	2018-03-10	2024-10-20	34 On Time, 2 Late (30 days)
Credit Card: Mastercard	XXXX-5678	Second Credit Union	Revolving	Open	\$5,000	\$500	Current	2020-07-15	2024-10-18	24 On Time
Auto Loan: Honda Civic	XXXX-9012	Auto Finance Inc.	Installment	Open	\$20,000	\$10,000	Current	2021-11-01	2024-10-05	35 On Time
Student Loan: Federal Direct Loan	XXXX-3456	US Department of Education	Installment	Open	\$30,000	\$2,500	Current	2003-09-01	2024-10-10	Many On Time
Mortgage: Home Loan	XXXX-7890	Third Mortgage Company	Installment	Open	\$250,000	\$200,000	Current	2023-01-15	2024-10-06	21 On Time
Personal Loan: Home Improvement	XXXX-1122	Fourth Finance Company	Installment	Open	\$5,000	\$2,500	30 Days Late	2023-05-01	2024-09-14	16 On Time, 1 Late (30 days)
Credit Card: Department Store Card	XXXX-3344	Department Store Inc.	Revolving	Closed	\$2,000	\$0			2023-06-01	
Credit Card: Old Credit Card	XXXX-5566	Old Credit Union	Revolving	Closed	\$1,000	\$0			2019-01-01	
Utility: Electricity	XXXX-7788	Anytown Power & Light	Utility	Open		\$150	Current	2020-02-15	2024-10-15	On Time
Utility: Phone	XXXX-9900	Global Telecom	Utility	Open		\$80	Current	2019-05-01	2024-10-10	On Time

An account that is still in use will have its status listed as **open** or **active**. Notice that loans you have paid off or accounts you have canceled recently are still on the report. The status of these accounts should be listed as **closed** and the current balance should be \$0. The last payment date and current balance are often used by banks to verify your identity. Current balances are especially important because they represent your liabilities. Accounts with payment status listed as **current** or **paid as agreed** means you have made the necessary payments. Since most consumer credits have monthly payments, late payments are indicated as 30 days late, 60 days late, 90 days late, etc. In this sample report, payment history information is summarized. Late payments are items of great concern to future lenders and can lower your credit scores.

Other important information on a credit report include any collection actions, inquiries, and personal statements (Figure 6.8). The collection section lists loans that have been sent to collection agencies after the borrower fails to make payments. Any history of collection action is viewed negatively by future lenders. There are two types of inquiries. Promotional inquiries, also known as soft inquiries or soft credit pulls or soft credit checks, are often not initiated by the consumer and have no impact on the credit history or credit scores. If you receive advertisements (aka junk mails) from credit card or insurance companies with “pre-approved” written on the envelopes or in the emails, these are likely results from promotional inquiries. Regular inquiries, sometimes referred to as hard inquiries or hard credit pulls or hard credit checks, are approved by you and requested on your behalf. These inquiries are usually part of a loan, credit card, or rental application. Hard inquiries can negatively affect your credit scores because they signal to other lenders that you may be taking on more debt in the near future. These potential future debts and debt payments are not currently on your credit report. Personal or consumer statements are optional. If you have any late payment or collection actions, you can submit a statement to the credit bureau to explain the circumstances. These personal statements help future lenders understand your situation when evaluating your loan application.

Collection:

- * Account Number: XXXX-XXXX-XXXX-1212
 - * Creditor: Collection Agency Inc.
 - * Original Creditor: Anytown Medical Center
 - * Account Type: Collection
 - * Account Status: Collection
 - * Original Balance: \$500
 - * Current Balance: \$500
 - * Date of First Delinquency: 2023-08-15
 - * Date Assigned to Collection: 2024-01-15
-

Inquiries:

- * 2024-09-15: Auto Finance Inc. (Auto Loan)
 - * 2024-01-10: Third Mortgage Company (Mortgage)
 - * 2023-04-20: Fourth Finance Company (Personal Loan)
-

Promotional Inquiries:

- * 2025-01-15: ABC Insurance
 - * 2025-01-15: FreeCredit Bank
 - * 2025-01-15: XYZ Insurance
-

Consumer Statement:

* "Late payments on Visa Rewards and Personal Loan accounts in August and September 2024 were due to unexpected medical expenses and hospitalization. I was unable to work during this period, leading to a temporary disruption in my income. I have since recovered and resumed regular payments. The collection account is also related to the unexpected medical expenses."

Figure 6.8

If you find any errors in your credit report, be sure to submit a correction request to the reporting bureau. All three reporting bureaus have a dispute-handling system on their website. Explain clearly which item you are disputing and be sure to include relevant supporting documents such as a paid bill for an incorrectly reported missing or late payment, or a police report in case of stolen credit card or identity theft. Credit reporting bureaus must forward your dispute, including all information you submitted, to the company that originally gave the information to them. If the company corrects your information because of your dispute, it must correct the same item with every credit reporting bureau it has provided that information.

What Are Credit Scores?

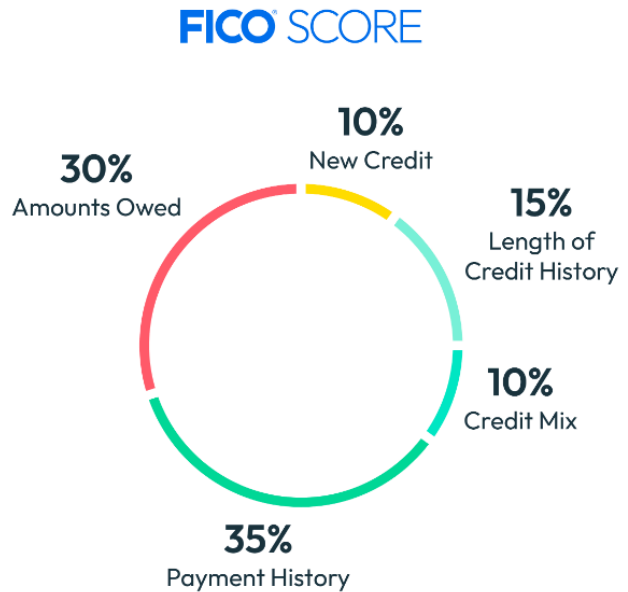
You can get a credit score for free from many credit card companies, banks, lenders, and nonprofit credit and housing counselors. There is no government regulation requiring companies to provide credit scores for free. However, if you are rejected for a loan or credit card based on your creditworthiness, the lender is required to provide you with the numerical credit score it used in the decision and the key factors that affected your score. Many companies advertise “free credit scores.” They could be part of the credit reporting companies such as Experian and Equifax, or lenders or websites that make money from advertising. Beware of companies that ask you to provide payment information before showing you the numbers. These companies are selling you services, usually with a monthly fee. They are charging you for services that you may not want.

The two main companies that compute credit scores are FICO and VantageScore. Unlike credit reports, credit scores are not governed by any government regulations. FICO is the first credit scoring company founded in 1956 by two engineers. VantageScore is a joint venture created in 2006 between the three major credit bureaus: Equifax, Experian, and TransUnion. Each credit scoring company uses their proprietary algorithms to compute credit scores using information from credit reports and other sources. Your credit score is also affected by who is requesting it and the purpose of the inquiry. Each company assigns different weights to different credit behaviors and has different models for different applications. They may have one model for credit card companies, one for mortgages, and other ones for insurance companies, background check, etc. The credit score number you see from your credit card company may differ from the number given to the lender evaluating your auto loan application even though both numbers are from FICO. At the same time, the auto lender will receive different numbers from FICO versus VantageScore on the same loan applicant. Since the primary use of credit scores is to predict future credit behaviors, these algorithms rely heavily on machine learning and some incorporate AI to improve their predictive power. Combined with the proprietary nature of these algorithms, it is impossible to determine precisely how credit scores are computed. Nevertheless, it is useful to know which factors play critical roles in affecting your credit scores.

The most important factor is your payment history. According to VantageScore, 90 percent of people with a “prime” VantageScore pay all their debts on time and the company considers this an extremely influential factor in their scoring model. For FICO, 35 percent of the data items used in their model is related to payment history, including bankruptcies and collection actions (Figure 6.9). Other important factors include type and age of the credit accounts and percentage of credit use. Age is how long you have opened an account. Longer relationships have a positive impact on your credit score. Having different types of credit (credit mix) such as credit card, student loans, auto loans, also improves your credit score. VantageScore considers these factors highly influential and 15 percent of the data items used by FICO is related to length of credit history and 10 percent is related to credit mix. Percentage of credit use is particularly relevant for revolving credit such as credit card and home equity line of credit (HELOC). To avoid negatively affecting your credit score, keep the balances on revolving credit to be less than 30 percent of the credit limit. VantageScore considers total debt balances to be a moderately influential factor. FICO also uses debt balances and percentage of credit use in their model, with this type of data representing 30 percent. Opening many new credit accounts can also negatively affect your credit scores in both companies’ models. Expect to see your credit scores decrease temporarily after opening a new credit card or taking out a new loan. The scores will return to normal after a few months provided you make on time payments.

What's in my FICO® Scores?

FICO Scores are calculated using many different pieces of credit data in your credit report. This data is grouped into five categories: payment history (35%), amounts owed (30%), length of credit history (15%), new credit (10%) and credit mix (10%).



Source: myfico.com/credit-education/whats-in-your-credit-score

Figure 6.9

Key Factors Affecting Your Credit Scores

- Payment history, including bankruptcies and collection actions
- Age of accounts
- Types of accounts (credit mix)
- Percentage of credit use

- Total debt balances
- Recent credit activities

What Is a Good Credit Score?

Credit scores from both FICO and VantageScore range from 300 to 850. Since the two companies use different models to derive their numbers, the scores are not directly comparable. There is no official standard for interpreting these scores. In general, a credit score below 600 is considered bad and a score over 800 will usually qualify you for the best interest rates. Gravier (2025) reported that the national average FICO Score was 717 in 2023. Figure 6.10 shows the common ratings for FICO and VantageScore numbers. Consumers with “very good” or “excellent” ratings from FICO and “prime” or “superprime” ratings from VantageScore can generally get approval for loans and credit cards at reasonable interest rates. Remember that credit score is only one of the elements a lender considers when evaluating loan applications. Debt-to-income (DTI) ratio and other factors also play a role in the lender’s decision.

FICO Credit		VantageScore	
Rating	FICO Score	Credit Rating	VantageScore
Excellent	800 to 850	Superprime	781-850
Very Good	740 to 799	Prime	661-780
Good	670 to 739	Near Prime	601-660
Fair	580 to 669	Subprime	300-600
Poor	300 to 579		

Figure 6.10

Ways to Establish Credit and Improve Your Credit Scores

It takes time to build a credit history. Start early and go slowly. Those who are fortunate to have someone willing to be a cosigner can make a beginning with a cosign credit card or a cosign loan. Cosigning is a valuable gift. The cosign credit accounts appear on the credit reports of both people and any non-payment or late payment affect both. There are other options besides cosigning.

In general, merchant cards such as gas station cards or store cards have easier approval standards. These cards are sometimes referred to as proprietary cards because you can only use them at the specific merchant. Gas station cards can be a good first credit card because gas is an essential expense and its limited use reduces the temptation to overspend. Some credit cards are specially designed for college students. These cards require little to no credit history. They have lower credit limits and many have no annual fees. Another type of credit cards that require little to no credit history and are not limited to college students are secured credit cards. You deposit money with the secured credit card companies as collateral. Watch out for hidden fees and restrictions on secured credit cards. Note that debit cards linked to your checking account do not count towards your credit history. If you attend college, federal student loans, especially those that offer interest deferment are a great option to establish credit. Even if interest is not deferred, federal student loans typically have much lower interest rates than credit cards. Credit cards, debit cards, student loans, and personal loans are important topics and will be the focus in a later chapter. Another way to establish credit is to have non-installment (open) credit accounts such as phone bills, utility bills, or streaming service in your name. Usually only late payments of open credit accounts are reported to the credit bureaus.

Once you establish a credit history, you can work on getting and maintaining a good credit score. As noted in an earlier section, the most important thing is to pay your loans and bills on time consistently. Set up reminders on your calendar so you do not forget. If you opt for electronic billing, pay the bills as soon as you receive them. Do not dismiss the reminders or the emails! If you miss any payment, pay up as soon as you can and call the company and explain why the payment was late. If this is a first incident, you can request them to report your account “paid as agreed” to the credit reporting bureaus. When you use credit cards, do not exceed 30 percent of your total credit limit. Paying off the balance in full each month will get you the best credit scores and avoid interest costs. Do not avoid the bills. Even if you cannot pay the entire balance, pay as much as you. It is also time to review your spending and budget if you find yourself in the same situation month after month. Only apply for credit that you need. If you apply for a lot of credit over a short period of time, the credit scoring models will lower your scores because it appears that you may be dealing with financial setbacks. Check your credit reports on a regular basis and submit corrections if you identify any errors.

Example: Jordan's First Credit Cards

After needing their parents to cosign a car loan, Jordan decided it was time to apply what they learned in their personal finance class to overcome their fear of debt. Since they already prepared a statement of net worth, a statement of cash flow, and a budget, Jordan had all the information necessary to evaluate their debt capacity. With an annual gross income of \$65,000, car payment of

\$445 per month and rent of \$1,200 per month, Jordan's DTI was about 30 percent. Since lenders generally prefer a DTI of 30 percent or lower, Jordan was in a good shape to get approval for a credit card.

$$\text{DTI} = (1200 + 445) / (65000/12) = 0.30 = 30 \text{ percent}$$

From their budget, Jordan knew that they spent about \$80 on gas and \$400 on groceries each month. Instead of putting these expenses on debit cards, Jordan decided to apply for a gas card from their go-to gas station and a credit card with no annual fee to pay for groceries. Jordan set up purchase alerts on the credit card and paid off the balance each week. Jordan made consistent payments on the car loan, the gas card, and the credit card, and reached a credit score over 700 within one year.

Ways to establish credit history

- Start with merchant cards such as gas station cards.
- Take out interest deferred federal student loans.
- Obtain student credit cards or secured credit cards.
- Establish open accounts such as phone bills or streaming services in your name.
- Have someone cosign a credit card, a lease, or a loan.

Ways to improve credit scores

- Pay your bills on time.
- Pay off credit card balances each month.
- Have a diverse set of credit accounts.

- Limit credit use to be less than 30 percent of the credit limit.
- Obtain copies of your credit report and verify the information.

Exercise 6.4: Know your credit scores

1. Obtain your credit scores from a reliable website such as a credit card company, a bank, or Experian.
2. Is your credit score higher or lower than you expected?
3. How do you feel about your credit score?
4. Identify 3 actions you can take to improve your credit score if needed.

Know Your Rights and Consumer Protection

Consumers suffer when unscrupulous businesses take advantage of them. Financial products such as loans and investments are especially vulnerable to abuses because it is easy to obfuscate information, making financial products difficult to understand. You cannot pick up a loan and examine its quality. Instead, loan contracts and investment agreements are written in long legalese and finance jargons. In addition to individual losses and sufferings, these bad business practices have led to national and global financial disasters. Over time Congress has passed laws to combat some of the worst abuses to protect consumers. You already learned about the Fair Credit Reporting Act (FCRA) of 1970 earlier in this chapter. The first law directly related to consumer credits is the Truth in Lending Act (TILA) passed in 1968 in response to widespread predatory loan practices. Prior to the TILA lenders would use different terminology and payment structures to manipulate uninformed borrowers. Under the TILA, lenders must disclose the Annual Percentage Rate (APR), which includes interest and fees in its calculation. Chapter 5 explains how APR is determined. Lenders must also disclose the dollar amount of finance charges such as interest, fees, and points, as well as payment schedule including the number of payments, payment amounts, due dates, total amount borrowed, and total amount of payments. Other important information to be disclosed include late fees, prepayment penalties, and service charges. With the disclosure requirement of the TILA and the time value of money tools discussed in Chapter 5, you now have the information and methods necessary to compare loans covered under the TILA.

Often financial innovations create new products that are not governed by existing laws, necessitating the government to play catch up. In 1976, the Consumer Leasing Act was passed to amend the TILA, requiring similar disclosure requirements for consumer leases, which became popular in the 1960s after the passage of the TILA which covers only loans. As credit card use became more popular and cases of fraud and abuse by criminals and merchants increased, congress passed the Fair Credit Billing Act (FCBA) in 1974, which provides consumers a process to dispute billing errors such as incorrect amount, undelivered goods or services, and unauthorized charges. The FCBA also prohibits creditors from taking action that could negatively affect a consumer's credit rating during the investigation and limits consumers' liability for unauthorized charges to \$50. If you notice errors in your credit card bill, notify the credit card company in writing and include any information that will support your case and pay the portion of the bill not in dispute. If a sincere effort to resolve a problem with an item purchased has been made, but the store is not cooperative, you can ask your credit card company to stop payment. The FCBA aims to protect consumers from criminals and bad merchants. In 2009, congress passed the Credit Card Accountability Responsibility and Disclosure act (CARD) to protect consumers from unfair and deceptive practices by credit card issuing companies. Under the CARD act, credit card issuers must disclose the interest rate, annual fees, late fees and other terms in a clear and understandable manner. They must provide a 45-day written notice before increasing interest rates or making significant changes to the terms. Credit card statements now must show the total cost of making minimum payments and the number of months it would take to pay off the balance if only minimum payments are made. College students used to be the target of "free credit card" offers and many students accumulated thousands of dollars in credit card debt without fully understanding the terms or consequences. A Sallie Mae survey in 2008 found that 84 percent of college students had at least one credit card and 19 percent of seniors graduated with more than \$7,000 in credit card debt. The CARD act prohibits credit card issuers from opening an account for anyone under 21 unless the applicant demonstrates an independent ability to make payments or has a cosigner. It also restricts how credit card companies can market to young adults, preventing them from using gifts or other incentives. A Sallie Mae 2013 survey reported that 62 percent of college students pay their entire credit card balance every month and 33 percent make at least the minimum payment. By requiring credit card companies to provide important information in a clear and easy to understand manner, young adults are able to make better financial decisions. Without government regulations, credit card companies bury this information behind legalese and lengthy small prints.

The Fair Debt Collection Practices Act (FDCPA) of 1977 prohibits debt collectors from engaging in unfair, deceptive, or abusive practices. This includes misrepresenting the amount owed, lying that they are attorneys or government representatives, making false threats about arrests by the police, or threatening to do things to you that are illegal. Debt collectors can call your family, friends, or employers to find out how to contact you, including your address and phone number, but they cannot say they are trying to collect on a debt. If you tell the collectors you cannot receive their calls at work, they must stop. Debt collectors are also not allowed to harass, oppress, or abuse you or anyone else they contact. This includes excessive repetitive phone calls, use

of obscene or profane language, and threats of violence or harm. If you think a debt collector has violated FDCPA, you can sue them for damages.

Another important financial consumer protection law is the Equal Credit Opportunity Act (ECOA) of 1974 which prohibits discrimination based on race or color, religion, national origin, sex, sexual orientation, gender identity, marital status, age, current or past income from public assistance programs, and past actions exercised in good faith. The ECOA requires creditors to notify applicants within 30 days of a credit application of their decision and if credit is denied, they must explain the reasons. The reasons must be specific, such as “your income is too low,” or “you have not been working long enough,” or “your credit score is below our requirement.” Vague statements like, “you did not meet our standards,” are insufficient. If it is due to creditworthiness, creditors must tell you which credit bureau’s report they use and the numerical credit score they use and the key factors that affected your score. Most of the time credit discrimination is hidden or even unintentional, making it hard to detect. These challenges are exacerbated by new technology. For example, redlining, a practice of crossing out entire minority neighborhoods from mortgages, is illegal. However, there is no law banning zip code as an input data in a credit scoring model. Kabler (2004) found that credit scores were lower for residents of high-minority zip codes after controlling for income, education, and marital status. The ECOA provides consumers specific rights when credit is explicitly denied but it does not police how and where credit companies promote specific products. A lender can promote a higher interest rate loan in high-minority neighborhoods or use online ads targeting minorities without specifying demographic characteristics. When working with a lender, watch out for warning signs. Beware if the lender offers a loan with a higher interest rate than you apply for, or encourages you to apply for a type of loan that has less favorable terms such as higher interest rate or points or fees. It is a red flag if you are treated differently in person than on the phone or online, or are refused credit even though you qualify for it based on advertised requirements, or are discouraged from applying for credit.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) made exercising your rights a lot easier. Before the Dodd-Frank Act, consumers have to file their complaints with the proper federal agency that regulates the specific financial product. There are quite a few federal agencies and a credit company may sell several financial products, each regulated by a different agency. Navigating the federal and state regulatory landscape can be confusing and frustrating for consumers. The Dodd-Frank Act established the Consumer Financial Protection Bureau (CFPB), which now acts as a clearing house for all consumer complaints on financial services. The CFPB can also set rules to prevent deceptive practices such as requiring plain language in disclosures and statements and limit unreasonable penalty fees. Protecting consumers from financial malpractice is an important function the federal government is uniquely qualified to do. Through the end of 2024, the CFPB has saved consumers over \$21 billion and helped over 205 million consumers from financial malpractices.

Consumer Rights and the Consumer Financial Protection Bureau (CFPB)

Some important consumer rights include:

- Clear and complete disclosure of all finance charges and payment schedule on loans and credit products regulated by the Federal Trade Commission (FTC).
- Protection against predatory lending practices, especially for young adults under 21.
- Timely dispute resolution process with creditors, merchants, and credit bureaus.
- Access to credit reports and control over who can obtain credit reports.
- Protection against unfair, deceptive, or abusive debt collection practices.
- Protection against credit discrimination based on race or color, religion, national origin, sex, sexual orientation, gender identity, marital status, age, current or past income from public assistance programs, and past actions exercised in good faith.

The Consumer Financial Protection Bureau (CFPB) was created to provide a single point of accountability for enforcing federal consumer financial laws and protecting consumers. The CFPB's responsibilities include:

- Rooting out unfair, deceptive, or abusive acts or practices by writing rules, supervising companies, and enforcing the law.
- Enforcing laws that outlaw discrimination in consumer finance.
- Taking consumer complaints.
- Enhancing financial education.
- Researching the consumer experience of using financial products.
- Monitoring financial markets for new risks to consumers.

Identity Theft

You worked diligently to build up your finances and manage your credit carefully. All that hard work could evaporate if you fall victim to identity theft. AARP reported that in 2024 American adults lost \$47 billion to identity theft and scams, continuing an upward trend. Some thieves steal money from the victims' existing bank accounts or credit cards. Other thieves abuse the stolen personal information to open new credit cards and new bank accounts or file for bogus unemployment claims, causing damages to the victims' credit history and credit scores. Not all losses are financial. Fifteen percent of the respondents in a Federal Trade Commission

(FTC) report said that their personal information was misused in non-financial ways, including giving the victims' identity to law enforcement authorities when stopped by the police or charged with a crime. Time is lost as well. Imagine having to contact the police, banks, credit card companies, credit bureaus, and friends and families. A FTC report found that consumers spend between 30 to 60 hours on average resolving problems. These inconveniences can become disasters if these shenanigans are discovered too late. Quite often victims do not know that their identities have been stolen until they apply for a job or unemployment or a loan and are turned down. In addition to loss of time and money, victims of identity theft also suffer from emotional distress, a sense of being violated and insecurity. By understanding the tactics employed by identity thieves and taking proactive steps to protect yourself, you can reduce the risk of becoming victims of this pervasive crime.

Common Identity Theft Tactics

Large scale identity thefts happen when criminals hack into databases of companies and institutions (called data breaches) as a result of inadequate security measures, software vulnerabilities, or employee negligence. In 2017, Equifax, one of the three credit reporting bureaus, suffered a data breach that exposed the personal information of 147 million people. If the FTC determines that the companies or institutions are at fault, consumers are usually given free credit monitoring for a set period of time as compensation. Credit monitoring provides email or text alerts when there are changes to your credit reports, such as new credit accounts opened in your name, hard inquiries, changes to your personal information, or changes to your credit scores. Credit monitoring does not cover non-financial abuses.

In addition to hacking into databases, the tactics employed by identity thieves are diverse and constantly evolving, exploiting vulnerabilities in both human behavior and technological systems.

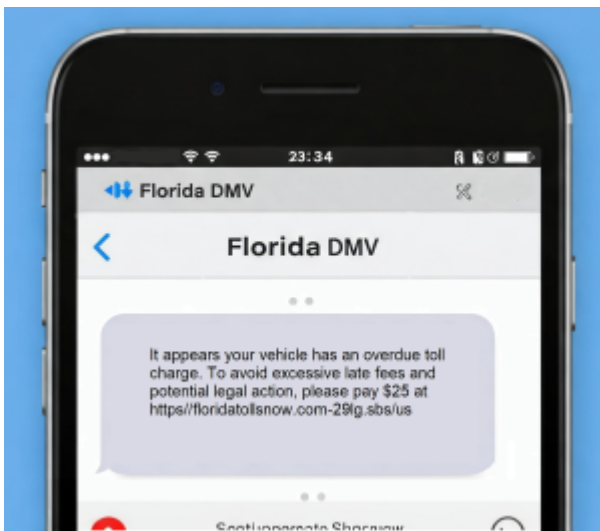


Figure 6.11

Pretexting or Spoofing: A cornerstone of identity theft, pretexting or spoofing involves impersonating a business, institution, or government agency to scam consumers. They use deceptive communications with believable stories to trick victims into giving them money or divulging sensitive information such as credit card and bank account numbers, Social Security number, driver's license, or birthdate. Pretexting has many other names, depending on the media used by the attackers: via email (phishing), text message (smishing), phone call (vishing), or even in person. Some phishing emails and smishing texts trick users to click on links that direct them to bogus websites that look like the real thing. Figure 6.11 shows a smishing text message lying about unpaid tolls. They collect login or credit card information on these fake websites and use that information to access your real bank

or credit card accounts or use the stolen card numbers to make purchases. Some email- or text-attacks trick users to download images or files that contain malicious software (malware). Once installed, malware can steal sensitive data, monitor user activity, and even take control of the device. Keyloggers, a type of malware, record keystrokes, potentially capturing login credentials and other sensitive information.

Criminals often employ manipulation tactics (social engineering), preying on emotions like fear or urgency, or may leverage current events or trends to appear credible. For instance, a criminal may impersonate a law enforcement officer requesting bail money for a loved one. Another common scam is fake fundraisers for disasters or sensational news events. Some tactics are designed to bypass security measures such as multi-factor authentication (MFA), which requires a security code in addition to user id and password. Figure 6.12 shows a fake text message from a bank. If the victim replies with any of the options provided, the criminals will attempt to access the victim's account, triggering a security code to be sent out. The criminals will then call the victim pretending to

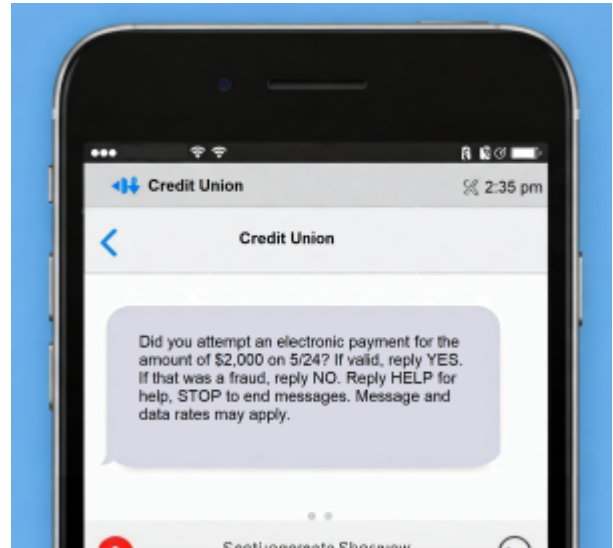


Figure 6.12

be a bank employee helping them resolve the issue and ask the victim to give them the security code, thus gaining access to the victim's account. Do not give out MFA security code to anyone. Legitimate banks and credit card companies will never ask for a MFA security code over the phone.

Skimming and **Shimming**: Skimming devices (called shimmer) are installed on point-of-sale card readers or ATMs to capture credit or debit card information. Criminals often take advantage of unmanned stations such as gas pumps, self-checkout counters, or ATMs to install these devices. A low-tech version of skimming involves criminals posing as employees at a business to steal your credit card information. The stolen information can then be used to create counterfeit cards or make unauthorized purchases.

Dumpster Diving and **Mail Theft**: Rummaging through trash or stealing mail to obtain documents containing personal information does not require any technology. Criminals look for bank statements, credit card offers, medical bills, or other sensitive documents.

Protecting Against Identity Theft

Protecting against identity theft requires a multi-layered approach. Here are some steps you can take to safeguard your sensitive information:

- **Safeguard your Social Security Number (SSN)**: Your SSN is a prime target for identity thieves. Keep items containing your SSN, such as your Social Security card, out of your purse or wallet.

Never have your SSN printed on your checks. Shred any documents that contain your SSN before discarding them.

- **Be wary of unsolicited communication:** Be suspicious of any phone calls, text messages, or emails that ask for your personal information. Legitimate companies will never ask for your SSN, security code, or other sensitive information over the phone or via email or text.
- **Be cautious with emails and texts:** Pay attention to the sender’s email address. Never click on a link in an email from an unknown sender. If you are unsure whether an email or text is legitimate, contact the company directly. Avoid clicking on links. Go to the website directly to login.
- **Secure online shopping:** Only shop online on secure websites. Look for “https://” in the website address.
- **Set up transaction alerts:** Many banks and credit card companies offer transaction alerts. These alerts will notify you when a transaction is made on your account. This can help you quickly identify any fraudulent activity.
- **Monitor your accounts:** Carefully review your bank and credit card statements each month. Look for any unauthorized charges or activity. If you see anything suspicious, contact your bank or credit card company immediately.
- **Place a credit freeze:** A credit or security freeze prevents new credit accounts from being opened in your name without your permission. This can be a powerful tool for preventing identity theft. You must request a credit freeze with each credit reporting bureau separately, Equifax, TransUnion, and Experian. If you place a credit freeze, you must lift it before applying for a loan or credit card. There is no charge for placing or lifting a credit freeze. Watch out for “premium” services, which often have terms like “credit lock” or “credit monitoring,” that require subscription fees. You can do the same things yourself without paying any fee.
- **Follow password security best practices:** Use strong passwords or passphrases that are at least 16 characters long and include letters, numbers, and symbols. Do not use names, birthdays, addresses, or other personal information as part of your passwords. Use a unique password for each account. Enable multi-factor authentication (MFA). Never give security code from MFA to anyone. Regularly update your passwords, especially after a data breach.
- **Have dedicated email addresses:** Have an email address for fun, promotional, or junk emails. Use your personal email address for friends, family, and important business relationships. Consider having an email address for financial accounts only.
- **Beware of public Wi-Fi networks** without protections: Many public networks are poorly secured and hackers can exploit them to intercept your data. Use a Virtual Private Network (VPN) that protects your data when using public networks. Bring your own phone charger and avoid public USB power ports, which can download data from your phone.
- **Update phone and computer system consistently:** Install system updates on your computer and phone regularly. Do not turn off the default virus protection software such as Microsoft

Defender for Windows and XProtect for Mac. This will help protect your computer from viruses and malware that can steal your personal information. Get a new phone when the manufacturer no longer provides system updates.

- **Document your accounts:** Keep a record of all your financial accounts, including bank accounts, credit cards, and investment accounts. This will help you quickly identify any unauthorized accounts when reviewing your credit report.
- **Use online statement delivery:** Download and keep a copy of the recent statements in a secure drive as backup. If you use paper delivery, invest in a shredder and shred any documents that contain your name, address, phone number, and financial information.
- **Protect your mail while on vacation:** Have your mail held at the post office when you are on vacation. This will prevent mail from piling up in your mailbox and becoming a target for thieves.

By taking these steps, you can help protect yourself from identity theft and keep your personal information safe. Sometimes criminals may still succeed despite your best efforts. If you become a victim of identity theft, file a police report right away. Keep a copy of the police report. Contact the creditors and banks for any accounts that have been tampered with or opened fraudulently. Follow up the initial contact in writing and include a brief summary of what was discussed and a copy of the police report. Contact all three credit reporting bureaus and instruct the bureaus to flag your file with a fraud alert, including a statement that creditors should contact you for permission before they open any new accounts in your name. Report the identity theft incident to the Federal Trade Commission (FTC) at <https://identitytheft.gov>. By being proactive as soon as possible, you can minimize the damages.

Exercise 6.5: Place and lift a credit freeze

Choose one of the three credit reporting bureau. Go to its website directly, e.g. <https://www.experian.com> or <https://www.transunion.com/> or <https://www.equifax.com/>. On its website, search for the term “credit freeze.” DO NOT use search engines.

1. Read the instructions on how to place a credit freeze carefully.
2. Place a credit freeze. (Optional)
3. Remember that you must lift the credit freeze if you want to apply for a new credit card or a loan or a rental application.

What to do if you are over your head in debt?

The Federal Reserve Bank defines serious delinquency as payments that are 90 or more days past due. Figure 6.13 shows the percentage of serious delinquency in various types of loans from 2003 through 2024. Notice the high delinquency rate on mortgages during the 2008 financial crisis. Predatory mortgage lending practice was one of the causes of the crisis and led to the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Student loan repayments were paused during the 2020 COVID pandemic, resulting in a significant drop in delinquency rate. Credit cards and student loans are unsecured debts and they have a higher delinquency rate than secured debts such as auto loans and mortgages. During recessions when the unemployment rate is high, more people fall behind in their debt repayment.

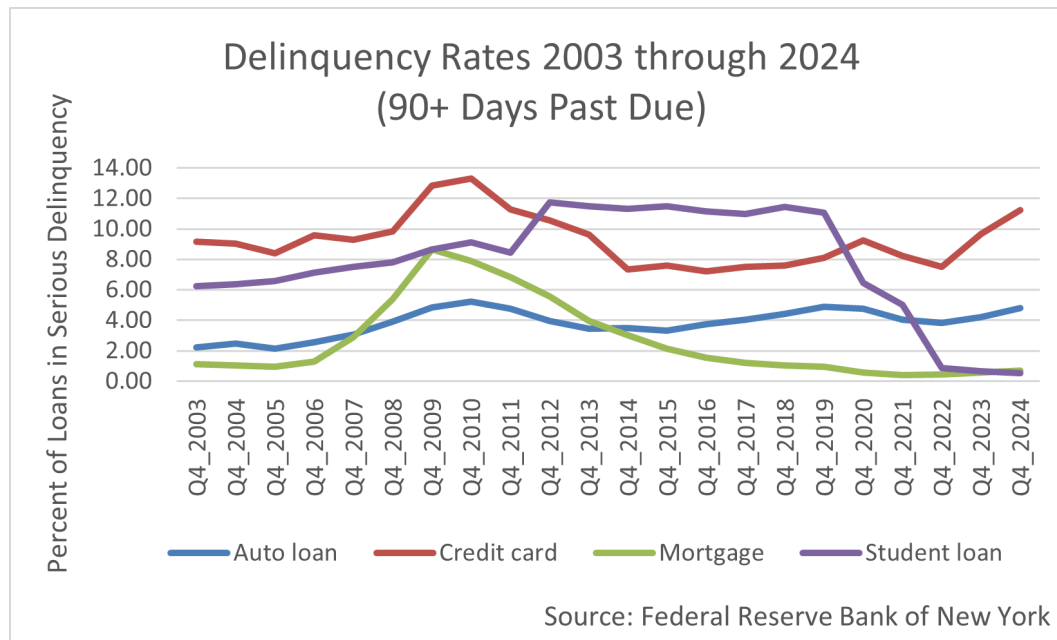


Figure 6.13

If you find yourself overwhelmed by debt, immediate action is crucial. Ignoring the problem will not change the situation. Start by creating a detailed list of all your debts, including the amount owed, interest rates, and minimum payments. Contact your creditors to discuss possible repayment plans to avoid becoming delinquent or having the debt sent out to collection. Consider seeking advice from a reputable non-profit credit counseling agency, which can help you create a budget, consolidate debt, or explore debt management plans. These agencies, such as the National Foundation for Credit Counseling (NFCC) or Financial Counseling Association of America (FCAA), typically do not advertise or reach out to consumers. They emphasize financial education and budgeting and may charge a small administrative fee for supervising debt repayment plans. Be wary of for-profit debt settlement companies that promise quick fixes that come with high fees and can negatively impact your credit score. Stay away from any credit repair or debt consolidation services that require payment in advance.

In extreme cases, bankruptcy may be an option, but it should be considered a last resort due to its long-term negative effects on your financial future. The bankruptcy process can be long and expensive. The number of bankruptcies peaked in 2009, 2010, and 2011 with over 1 million people filing for bankruptcies each year, a result of the 2008 financial crisis (Figure 6.14). The top reasons people gave for filing for bankruptcy are loss of jobs and medical bills. There are multiple types of bankruptcies, with Chapter 7 and Chapter 13 being the most common

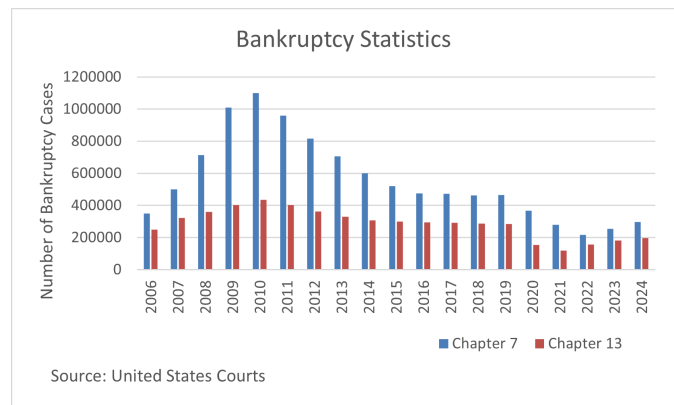


Figure 6.14

for individuals. The names refer to the respective chapter of the United States Bankruptcy Code. Not all debts are eliminated in bankruptcy. Some debts are considered not dischargeable, such as past due taxes, student loans, legal judgements, child support. You may not lose everything after bankruptcy. Some assets are exempt. For instance, you may be able to keep a car, up to a certain value, so you can get to work. Federal law sets the framework for bankruptcy and state law plays a significant role in specifying the details such as the qualification standards for different types of bankruptcy, the types of debts that are dischargeable, and the types of assets that are exempt. These specifics can vary greatly from state to state. You should consult an attorney if you are considering filing for bankruptcy. Some law firms provide pro bono assistance, meaning free or reduced-cost legal help. You can contact your local or state bar association for referrals.

Both Chapter 7 and Chapter 13 bankruptcies require a list of all properties and debts (personal statement of financial positions), and income and monthly living expenses (personal statement of cash flow). Income is a key factor for determining which type of bankruptcy someone is eligible for. To qualify for Chapter 7 bankruptcy, the income must be less than the state median or passes a means test. Chapter 13 bankruptcy requires a regular income and ability to create a repayment plan. In general, Chapter 7 is more suitable for individuals with limited assets and income and want a quick discharge of unsecured debts such as credit cards and medical bills. Under Chapter 7 bankruptcy, assets that are not exempt are sold to pay off dischargeable debts and no further payment is required. Chapter 13 bankruptcy is more complex and better suited for individuals who want to keep their assets and have sufficient regular income to make payments on a debt repayment plan. Individuals must complete credit counseling and develop a repayment plan for 3 to 5 years. Unsecured debts are often discharged after the repayment period. An important provision of Chapter 13 bankruptcy is that it stops foreclosure proceedings on secured loans. Past due mortgage payments can be incorporated in the repayment plan, giving homeowners an opportunity to catch up on missed payments and keep their homes. Chapter 7 bankruptcies stay on credit reports for 10 years whereas Chapter 13 bankruptcies stay on for 7 years. Credit scores will likely decrease to around 500 following a bankruptcy.

Bankruptcies are complicated and stressful. By learning about personal financial planning and applying the tools you have learned, you will reduce the chances of encountering this fate. An ounce of prevention is worth

a pound of cure. Should you find yourself in the unfortunate situation of needing to file for bankruptcy, be sure to consult an attorney.

Types of Bankruptcies

	Chapter 7 Bankruptcy	Chapter 13 Bankruptcy
Income eligibility standard	Below state median or passes a means test.	Sufficient regular income to support a repayment plan.
Assets	Non-exempt assets are sold off.	Assets are generally not sold off.
Unsecured debts	Dischargeable debts are eliminated after non-exempt assets are sold off.	Dischargeable debts are eliminated after the repayment plan is complete.
Secured debts	Limited flexibility on secured debt. Lenders may foreclose homes or repossess cars if payments are not made on time.	Foreclosures are paused. May include past due payments in the repayment plan. Opportunity to renegotiate new payment terms.
Credit report	Stay on credit report for 10 years.	Stay on credit report for 7 years.
Credit score	Decrease to around 500.	Decrease to around 500.

Personal Financial Plan Exercise 6

Evaluate Your Credit Worthiness

1. Evaluate your credit report.
 - Obtain a copy of your credit report from <https://www.annualcreditreport.com/>. Federal law allows each person one free copy of credit report every 12 months.
 - Identify any errors that you need to correct.
 - Identify ways you can improve your credit score.

2. What steps can you take in your life to reduce your exposure to identity theft?

Integrated Case 6

Blake Jackson is half way through her first semester at State University. She enjoyed her classes and made some great new friends, especially her teammates. Things had been going very well until yesterday when her 5-year old computer died completely and suddenly. She is on the University eSport team so she needs a computer with reasonable power. The cheapest model she found that met all her needs cost around \$1800. The store was running a pre-holiday financing special, offering 10 percent off the purchase price and a 6 percent APR for 24 months, for customers opening a new store credit card.

Blake decided to take the special offer and completed the credit card application. To her surprise, her application was declined. She knew that just a few months ago her credit score was in the mid-600's and she had no problem obtaining her student loan. Since then, she had paid off more on her credit card balance and continued to make regular monthly payments. As a full-time student, she did not have to make payments on her student loans until she graduated. Blake was concerned and wondered why her application was not approved. Could she be a victim of identity theft or was the new payment on the computer too high given her income? Blake reviewed her current financial situation.

Personal Balance Sheet

ASSETS		LIABILITIES	
<u>Cash Accounts</u>		<u>Short-term</u>	
Checking accounting	430.00	Credit card balances	1,375.00
Money market account		Other consumer loans	
<u>Total cash accounts</u>	430.00	<u>Total short-term liabilities</u>	1,375.00
 <u>Investment Accounts</u>		 <u>Long-term</u>	
Certificate of Deposits		Auto loan	
Stocks		Real estate mortgage	
Bonds		Student loans	11,000.00
Mutual Funds		<u>Total long-term liabilities</u>	11,000.00
IRA/Roth IRA		TOTAL LIABILITIES	12,375.00
Retirement 401(k)		NET WORTH	<u><u>-3,445.00</u></u>
<u>Total investment accounts</u>	0.00		
 <u>Other Assets</u>			
Car(s)	8,500.00		
Personal property			
Real Estate			
<u>Total other assets</u>	8,500.00		
TOTAL ASSETS	8,930.00		

Monthly Budget

	Monthly Budget Dollar Amount
Cash Inflows	
Gross income	1,600.00
Less: deductions	200.00
Net (take-home) income	1,400.00
Gift and other income	
Investment Income	
<u>Total Cash Inflows</u>	1,400.00
Cash Outflows	
<u>Essential Expenses</u>	
Housing (rent or mortgage and insurance)	600.00
Utilities (heat, electricity, phone, internet)	120.00
Car - gas	70.00
Car - maintenance, insurance, repairs	180.00
Food, grocery, and household supplies	120.00
Medical expenses (drugs, doctor's visits, insurance)	60.00
Credit card payment	130.00
Education expenses (tuitions, books)	0.00
<u>Total Essential Expenses</u>	1,280.00
<u>Optional Expenses</u>	
Restaurant (eating out)	20.00
Leisure (movies, games, travel, streaming)	40.00
Clothing, household items	20.00
Donations and gifts to others	10.00
Other expenses	0.00
<u>Total Optional Expenses</u>	90.00
<u>Total Cash Outflows</u>	1,370.00
Cash surplus (or deficit)	30.00

Figure 6.15

Activities

1. Describe steps Blake should take after the store declined her credit card application.
2. If Blake found evidence of identity theft, what should she do?
3. Explain whether her debt payment to income ratio is a likely reason for her credit card application to be declined.

Chapter Six Summary

Consumer credit refers to borrowing by individuals for personal or household needs.

Good Reasons for Using Consumer Credit:

- Investing in your future: This includes essential purchases like a reliable car for work or student loans for education, which can lead to long-term returns and better employment opportunities.
- Building a good credit score: Timely payments and responsible credit use are needed for establishing and improving credit scores, which in turn can lead to more favorable loan terms in the future.
- Convenience: Credit cards offer convenience, fraud protection, and rewards programs, reducing the need to carry large amounts of cash.
- Emergency planning: Access to credit can serve as a financial safety net for unexpected expenses, helping avoid high-cost alternatives like payday loans.

Bad Reasons for Using Consumer Credit:

- Not considering repayment effects: Borrowing without a clear repayment plan can lead to financial strain.
- Excessive spending: Studies show that individuals tend to spend more with credit cards or Buy Now, Pay Later (BNPL) services than with cash.
- Unintentional debt accumulation: Open-end credit like credit cards can lead to a gradual and unnoticed increase in debt without careful monitoring.

Curbing Excessive and Impulse Spending:

Effective strategies to curb excessive and impulse spending include:

- Using a budget.
- Sticking to a shopping list.
- Setting spending alerts.
- Using the envelope method.
- Applying a “waiting rule” of 3 to 7 days for purchases, considering questions like: “Does the item solve a real problem in your life?” and “Will you buy this item if you need to pay cash for it?”

Types of Consumer Credits

Consumer credits are classified based on their characteristics:

- Secured Credit: Backed by an asset (e.g., car, house). Lower risk for lenders, thus typically lower interest rates. Example: Auto loans, mortgages.
- Unsecured Credit: Based solely on the borrower's promise to pay. Higher risk for lenders, often higher interest rates. Example: Student loans, credit cards.
- Closed-end Credit: The full loan amount is disbursed at the start, with a specified repayment schedule. Examples: Student loans (unsecured), auto loans (secured).
- Open-end Credit (Revolving Credit): Allows repeated borrowing up to a pre-approved limit, with no fixed end date for full repayment. Examples: Credit cards (unsecured), Home Equity Line of Credit (HELOC) (secured).

Factors to Consider When Taking Out a Loan

Before borrowing, evaluate these factors:

- Affordability: Can you afford the monthly payments, including hidden fees and potential interest rate changes? How do these payments affect your budget?
- Variable Interest Rates: Fluctuate with benchmark rates. Be wary of “teaser rates” and consider the lifetime cap as a worst-case scenario.
- Origination Fee: A fee levied when taking out a loan, often added to the loan balance.
- Prepayment Penalty: Charged if the loan is paid off early, reducing flexibility.
- Late Payment Fee (Penalty): Applied for missed payments, increasing loan balance.
- Credit Insurance Premium: Protects the lender if you cannot repay due to specific events. It significantly increases borrowing costs.

Creditworthiness and the Five Cs of Credit

Lenders assess creditworthiness using the five Cs of credit to determine loan approval:

- Character: Refers to a person's moral, ethical, and emotional qualities. The credit report and credit scores are often used as a proxy.
- Capacity: The borrower's ability to make loan payments, often measured by the Debt Payment-to-Income ratio (DTI). Lenders generally look for a DTI less than 35 percent (including housing costs) or 20 percent (excluding housing costs).
- Capital: The borrower's existing equity and debt burden.
- Collateral: The value of the asset securing a loan, relevant for secured loans.
- Conditions: External factors (national, international, industry) that may affect the borrower's ability to make payments or lender's willingness to extend loans.

Credit Reports and Credit Scores

Credit reports and scores are two different things though they are related.

- **Credit Report:** A historical document detailing your past credit activities, compiled by credit reporting bureaus (Equifax, Experian, TransUnion). It includes personal information, public record, credit accounts, collections, soft and hard credit inquiries, and personal statements. Consumers can obtain a free copy weekly from www.annualcreditreport.com.
- **Credit Score:** A numerical prediction of your likelihood to make future payments, computed by mathematical models based on credit report information and other sources. Scores range from 300 to 850.

Key Factors Affecting Credit Scores:

- **Payment history (most important):** On-time payments are crucial. Bankruptcies and collection actions significantly lower scores.
- **Age of accounts:** Longer credit relationships generally have a positive impact.
- **Types of accounts (credit mix):** Having diverse credit (e.g., credit card, student loans, auto loans) can improve your score.
- **Percentage of credit use:** For revolving credit, keep balances below 30 percent of the credit limit.
- **Total debt balances.**
- **Recent credit activities:** Opening many new accounts can temporarily decrease scores.

What is a Good Credit Score?

While no official standard exists, generally:

- Below 600 is considered bad.
- Over 800 can qualify for the best interest rates.
- The national average FICO Score in 2023 was 717.
- “Very good” or “excellent” (FICO) and “prime” or “superprime” (VantageScore) ratings typically secure reasonable interest rates.

Ways to Establish and Improve Credit:

- **Establishing Credit:**

- Start with merchant cards (e.g., gas station cards).
 - Consider interest-deferred federal student loans.
 - Obtain student credit cards or secured credit cards.
 - Establish open accounts in your name (e.g., phone, utility bills).
 - Have a trusted individual cosign a credit card, lease, or loan.
- Improving Credit Scores:
 - Pay bills on time consistently.
 - Pay off credit card balances in full each month.
 - Maintain a diverse set of credit accounts.
 - Limit credit utilization to less than 30 percent of the credit limit.
 - Regularly check your credit reports for errors.

Consumer Rights and Protection

- Truth in Lending Act (TILA) (1968): Requires lenders to disclose the Annual Percentage Rate (APR), finance charges, payment schedule, and other terms clearly. Amended by the Consumer Leasing Act (1976) for leases.
- Fair Credit Billing Act (FCBA) (1974): Provides a process to dispute billing errors, limits liability for unauthorized charges to \$50, and prohibits creditors from negatively affecting credit ratings during disputes.
- Fair Debt Collection Practices Act (FDCPA) (1977): Prohibits abusive, deceptive, or unfair practices by debt collectors.
- Credit Card Accountability Responsibility and Disclosure (CARD) Act (2009): Targets unfair practices by credit card issuers, including restrictions on interest rate increases, late fees, and marketing to young adults.
- Fair Credit Reporting Act (FCRA) (1970): Ensures accuracy of information in credit reports, provides consumers with a free annual copy, and allows error correction. As of October 2023, consumers can access a free report weekly.
- Equal Credit Opportunity Act (ECOA) (1974): Prohibits discrimination in credit based on race, color, religion, national origin, sex (including sexual orientation, gender identity), marital status, age, income from public assistance, or good faith exercise of rights. Creditors must provide specific reasons for denial within 30 days.
- Dodd-Frank Wall Street Reform and Consumer Protection Act (2010): Established the Consumer Financial Protection Bureau (CFPB) as a central point for consumer complaints on financial services, empowering it to set rules and enforce laws to prevent deceptive practices.

Protecting Against Identity Theft:

- Safeguard your Social Security Number (SSN).
- Be wary of unsolicited communications asking for personal information.
- Exercise caution with emails and texts, avoiding suspicious links.
- Shop only on secure websites (“https://”).
- Set up transaction alerts and regularly monitor financial accounts.
- Place a credit freeze with each of the three credit bureaus to prevent new accounts from being opened in your name without permission.
- Follow strong password and cybersecurity best practices, including unique passwords and multi-factor authentication (MFA).
- Use dedicated email addresses for different purposes.
- Be cautious of public Wi-Fi networks; use a VPN.
- Keep phone and computer systems updated with security patches.
- Document all financial accounts.
- Choose online statement delivery or shred paper documents containing personal information.
- Have mail held at the post office during vacations.

If Your Identity Is Stolen:

- File a police report.
- Contact creditors for any tampered or fraudulently opened accounts, following up in writing with a copy of the police report.
- Contact all three credit reporting bureaus to flag your file with a fraud alert.
- Report the incident to the Federal Trade Commission (FTC) at [identitytheft.gov](https://www.ftc.gov/identitytheft).

When Debt Becomes Overwhelming

- Initial Steps: Create a detailed debt list, including amounts, interest rates, and minimum payments. Contact creditors to discuss repayment plans.
- Credit Counseling: Seek advice from reputable non-profit credit counseling agencies (e.g., National Foundation for Credit Counseling, Financial Counseling Association of America). They emphasize financial education and budgeting, and may help with debt management plans for a small fee. Beware of for-profit debt settlement companies that promise quick fixes for high fees and negative credit impacts. Avoid services requiring upfront payment.
- Bankruptcy (Last Resort): A long, expensive process with long-term negative effects on

credit.

- Top reasons for filing for bankruptcy: job loss and medical bills.
- Not all debts are dischargeable (e.g., past due taxes, student loans, legal judgments, child support).
- Some assets are exempt (e.g., a car up to a certain value).
- Chapter 7 Bankruptcy: For individuals with limited assets and income, seeking quick discharge of unsecured debts. Non-exempt assets are sold to pay off debts, with no further payments required. Stays on credit reports for 10 years.
- Chapter 13 Bankruptcy: For individuals with regular income who want to keep assets and can make payments on a 3 to 5 year repayment plan. Can stop foreclosure proceedings. Unsecured debts are often discharged after repayment. Stays on credit reports for 7 years.

End of Chapter Questions

1. Explain the difference between “secured” and “unsecured” credit. Provide an example for each.
2. Explain the difference between “closed-end” and “open-end” credit. Provide an example for each.
3. List three good reasons for using consumer credit.
4. Explain two potential significant pitfalls for using consumer credit.
5. List three strategies to help curb excessive and impulse spending.
6. List and define the “Five Cs of Credit” that lenders traditionally use to evaluate borrowers.
7. How do lenders typically measure a borrower’s capacity today?
8. What is the difference between a credit report and a credit score?
9. What are “soft inquiries” (promotional inquiries) and how do they impact your credit score?
10. What are “hard inquiries” (regular inquiries) and how do they impact your credit scores?
11. What is considered the most important factor affecting your credit scores?
12. What is a general guideline for the percentage of available credit used on revolving credit

accounts, such as credit cards, to avoid negatively affecting your credit score?

13. What is generally considered a “good” credit score range for FICO and VantageScore?
14. List three ways to establish a credit history if you have little to no credit.
15. List three ways to improve your credit score once you have established a credit history.
16. What is the primary role of the Consumer Financial Protection Bureau (CFPB), established by the Dodd-Frank Act?
17. Describe two common tactics used by identity thieves, other than hacking databases.
18. If you suspect you are a victim of identity theft, what are the immediate steps you should take?
19. Explain the difference between Chapter 7 and Chapter 13 bankruptcy.

Appendix 6

Following are sample credit reports from the three major credit reporting bureaus. You can download the files by clicking on the links.

- [Sample Credit Report from Equifax](#)
- [Sample Credit Report from Experian](#)
- [Sample Credit Report from TransUnion](#)

7.

FINANCIAL SERVICES IN YOUR DAILY LIFE: MANAGING CASH AND PAYING BILLS

Chapter Seven Learning Objectives

- Identify commonly used financial services and their roles in your daily life.
- Identify different types of institutions that provide these services.
- Identify resources for help with financial services.
- Evaluate and choose an appropriate bank.
- Apply safe banking practices.
- Evaluate different ways to pay bills.
- Compare the differences between debit and credit cards.
- Evaluate different short-term savings options.

Simply put, cash management involves making sure you have sufficient money to pay bills each month and an emergency fund for unexpected expenses. In Chapter 3, you learned how to prepare a budget, which helps you to forecast your money needs. In this chapter, we will go over the nuts and bolts of implementing the budget effectively and applying best cash management practices to safeguard your money and minimize banking costs.

You interact with a large number of different financial institutions each day. **Deposit institutions** accept deposits, make payments on behalf of their customers, extend loans to consumers, and issue debit and credit cards. **Credit companies** provide loan service but do not accept deposits. **Credit card brand companies** facilitate transactions between consumers and businesses. Popular credit card brands include VISA, MasterCard, American Express, and Discover. While these companies manage the card brands, the credits are issued by banks and other financial institutions. **FinTech** firms develop online and mobile apps that allow you to conduct financial transactions. Some of these firms are part of financial institutions. Others are part of technology companies and some are standalone companies partnering with financial institutions.

Alternative finance companies offer financial services that are not subject to the same level of government

oversight as regulated institutions. These include payday loans, Buy Now Pay Later (BNPL) services, Buy Here Pay Here (BHPH) car financing, rent-to-own contracts, check cashing outlets, pawn shops, and car title loans. These services typically have very high and hidden costs, potentially trapping consumers in cycles of debt. They tend to prey on less knowledgeable consumers or those who have limited access to regulated financial institutions.

Long ago, before 2000, different financial services were provided by separate institutions regulated by their respective state and federal government agencies. Conglomerates were not allowed. **Conglomerates** are holding companies that own subsidiaries encompassing multiple types of financial institutions under a single brand name. The reasons for these separations and regulations were due to painful lessons learned in the stock market crash of 1929, which spread to banks and eventually led to the great depression that lasted 10 years. Financial deregulations began in the early 1980s and culminated with the Financial Services Modernization Act of 1999. These changes removed many regulations, paving the way for mergers, consolidations, and expansion. As a result, conglomerates are now the dominant form of financial institutions. Figure 7.1 shows the top 10 financial institutions in the U.S. in 2024 based on total assets. They are all conglomerates. You will likely interact with one of them in your daily life.

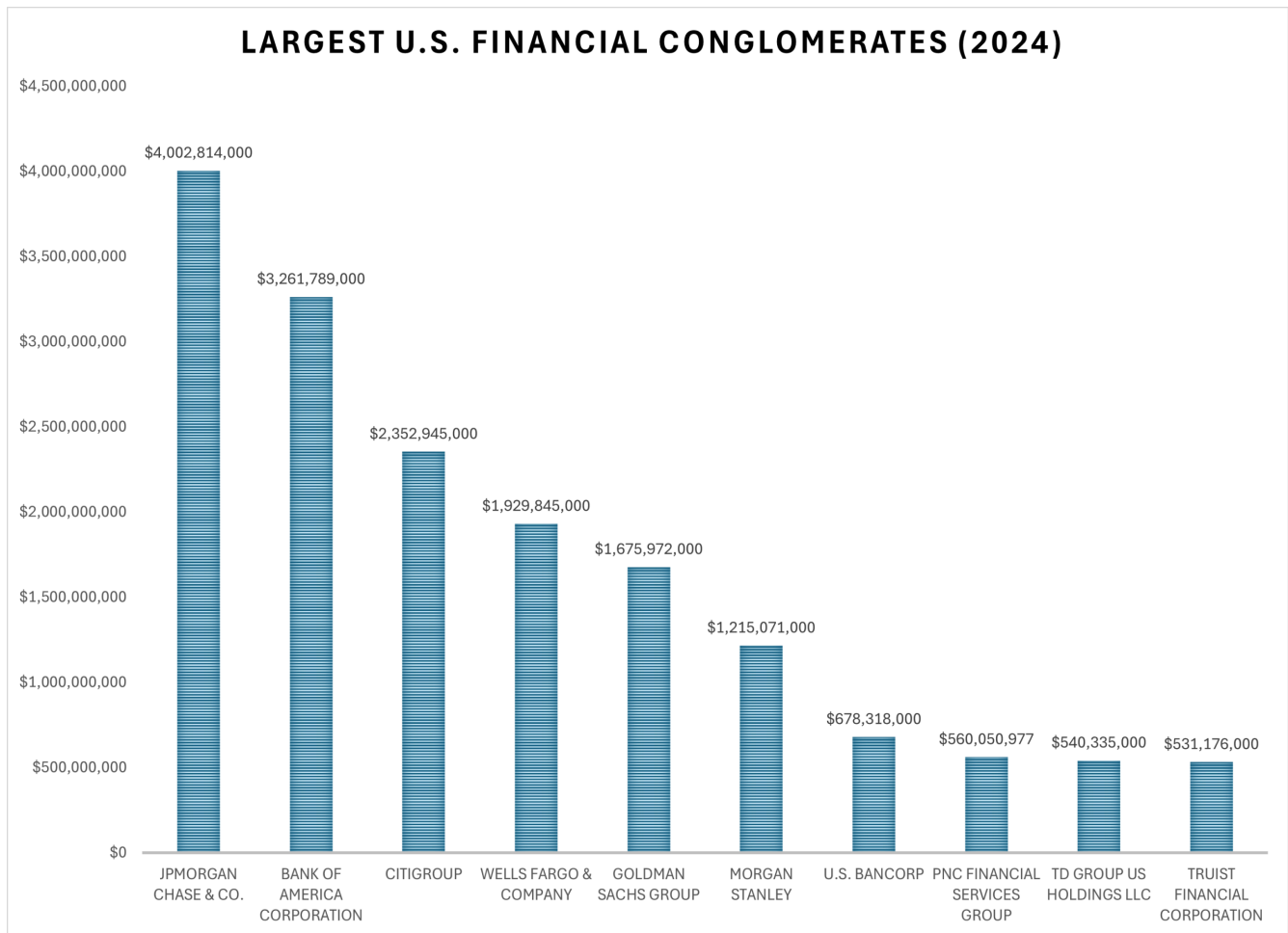


Figure 7.1

Managing Your Daily Financial Needs

Example: Jordan's First Paycheck

Jordan remembered getting their first job at the local ice cream stand at age 14. After scooping ice cream for two weeks, they got their first paycheck, \$300!!! Looking at the check, Jordan wondered how to cash it to get some spending money. Jordan's parents helped them open a bank account and deposited the check. After waiting two weeks, Jordan was able to take out \$50 and bought the video game they had wanted for a while.

The first step in cash management is to choose a deposit institution and open a bank account. Having a bank account provides a number of benefits. First, your money is safe. Without a bank account, you will need to keep your money as cash, which can be lost or stolen. There are two main types of deposit institutions. The first type includes commercial banks and savings & loans and most are insured by the Federal Deposit Insurance Corporation (FDIC) up to \$250,000 per customer per institution. The FDIC was created in 1933, following a cascade of bank failures leading to the great depression, resulting in many people losing their life savings even though they did not speculate in the stock market. Since FDIC insurance began in 1934, no consumers have lost their insured deposits due to bank failure. The second type of deposit institution is credit unions, which are nonprofits that serve their members and most are insured by the National Credit Union Administration (NCUA) up to \$250,000 per depositor per institution. The NCUA functions similarly to the FDIC.

In general, commercial banks are larger, often part of a conglomerate, and have more physical locations nationwide. Savings & loans tend to be regional and have a stronger focus on consumer loans, especially home mortgages. Credit unions are cooperative financial institutions and its depositors are members, sometimes with voting rights. Due to its nonprofit organizational structure, credit unions tend to have lower interest rates on loans, lower account fees, and offer higher interest rates on deposits. Though usually regional, many credit unions are part of the Co-op Shared Branch Network that allows members to conduct transactions, including ATMs (Automated Teller Machines), at any participating branch nationwide without fees. Credit unions are usually not part of a conglomerate and have a focus on the community. Online only banks, as the name indicates, do not have physical branches and are often part of a conglomerate. Since they have fewer expenses by not providing in-person services, they compete by offering lower fees and higher interest rates on deposits. Since financial deregulations in the 1990s these institutions have become more alike and their unique

identities have become less distinct. We will use the word “bank” to refer to all deposit institutions in the rest of this chapter.

A checking account makes paying bills, transferring money to friends and family, and online purchases much easier and safer. The Electronic Fund Transfer Act (EFTA) of 1978 limits the consumer’s liability to \$50 if an unauthorized transaction is reported to the financial institutions within two business days, and to \$500 if reported within 60 days. After 60 days, you will be responsible for the entire transaction amount. The EFTA protection covers debit cards, ATM transactions, online and ACH transfers, direct deposits, online payments, and online or mobile banking activities but not paper checks. Without a checking account, paying bills can be cumbersome and costly. In addition, unlike paying with cash, you have proof of payment on your monthly statement. You do not need to pay check cashing fees to cash your checks if you have a bank account. You can get your money faster if you use direct deposit. Not having a bank account, called unbanked and underbanked, is expensive and inconvenient.

When you apply to open a checking account, the bank will require a government-issued photo identification, social security number, and proof of address such as a rental agreement or utility bill to verify your identity. If you are under 18, you will need a parent or guardian to open the account on your behalf and act as the custodian until you turn 18. Similar to lenders reviewing credit reports to evaluate a loan applicant, the bank will typically request a report from ChexSystems, which collects and reports information on checking accounts. Your checking account application may be turned down if there are many negative actions like bounced checks or unpaid overdrafts. Under the Fair Credit Reporting Act you have the right to request one free report from ChexSystems every 12 months and correct any errors. Appendix 7.1 contains a sample report and contact information for ChexSystems. Lastly, you must have money to deposit into the account.

Factors to Consider When Choosing a Bank

Example: Jordan’s ATM Lessons

When Jordan first started college, they used cash exclusively to pay for daily purchases. There was an ATM in the student union, which was very convenient. Always conservative with money, Jordan only withdrew \$60 at a time. At the end of the first month, Jordan reviewed their bank statement and noticed that there were 6 separate charges for ATM fees. Jordan’s bank charged \$1.00 per transaction for out-of-network ATMs and the ATM operator charged an additional \$3.00, totaling \$4.00 per withdrawal. Jordan spent \$24 on ATM fees in just one month. A most unpleasant surprise and it prompted Jordan to enroll in a personal finance class to learn more about managing money.

The key factors to consider when choosing a bank include safety, fees, minimum balance requirements, online banking and mobile app, convenience, and access to other financial services. You should always choose an institution that is FDIC or NCUA insured. Banks typically display the FDIC or NCUA logo prominently. You can also look up a bank's insurance status on [FDIC.GOV](https://www.fdic.gov) or [NCUA.GOV](https://www.ncua.gov).

Another important consideration is fees. You do not want banking costs to eat up your hard earned pay. A \$25 monthly fee means \$300 per year! Some banks offer free checking accounts with no requirement. Others require a minimum balance or a direct deposit to waive the account maintenance fee. Many banks offer special accounts for students, seniors, or military personnel with lower or zero fees. At the same time, you should choose a bank account with services that are important to you. Take a moment to review your daily life to see when and how you use various bank services.

Exercise 7.1 Evaluating Your Payment Habits

Keep a journal for one month and track your purchases and payment methods.

Date	Purchases	Amount	Payment method
E.g. Jan 1	Breakfast	\$6.50	Cash
Jan 1	Internet bill (auto pay)	\$50.00	ACH
Jan 6	New game on Steam	\$85.00	Credit card
Jan 10	Paid Chris for lunch	\$15.00	Venmo

1. How many payments do you make over the month?
2. Which payment method do you use the most?
3. How often do you withdraw cash?
4. How much cash do you keep on hand?

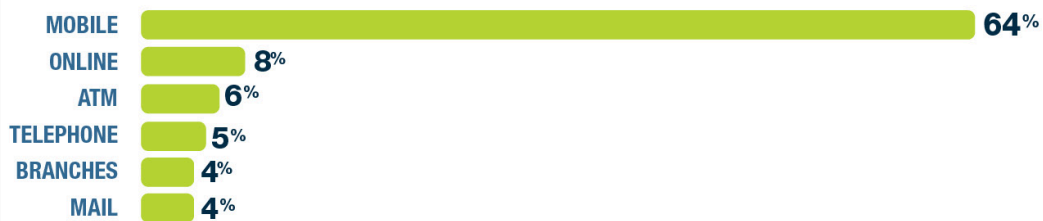
According to the 2024 survey by the American Bankers Association, mobile apps are the most often used banking method, followed by bank websites, and visiting branches in person or using an ATM. This trend is even more evident in younger generations (Figure 7.2). If mobile banking is important to you, then you should choose a bank that offers the service. An important and useful feature of mobile banking is transaction alert, which helps you detect any unauthorized activities early. Even if you plan to conduct most of your banking activities on your phone or online, it is a good idea to select a bank that has a physical branch located near your home or place of work or school for a number of reasons. First, using your bank's ATM will ensure you

will not be charged out-of-network fees. Second, it is easier to resolve issues in person, especially when you are new to managing money. Lastly, you may need other services that must be conducted in person. Many banks offer free notary service, foreign currency exchange, and cashier's checks and money orders to customers at low or no cost. For example, most landlords and rental agencies require the security deposit along with first and last month's rent be paid by cashier's check. Do you need other financial services besides banking? Banks that are part of a conglomerate often have an integrated website or mobile app that allow you to manage your investments in addition to banking activities. The relative importance of these additional services depends on your personal needs, which may change over time. When your financial needs are relatively simple, credit unions may be the best option because they tend to provide friendly, low cost, though limited service. Later, you may need more complex services, such as investing in mutual funds, managing your retirement accounts, or supporting frequent international travels. At that time you may find a commercial bank that is part of a conglomerate a better fit. Once you have selected a bank, the next step is to decide on the bank accounts.

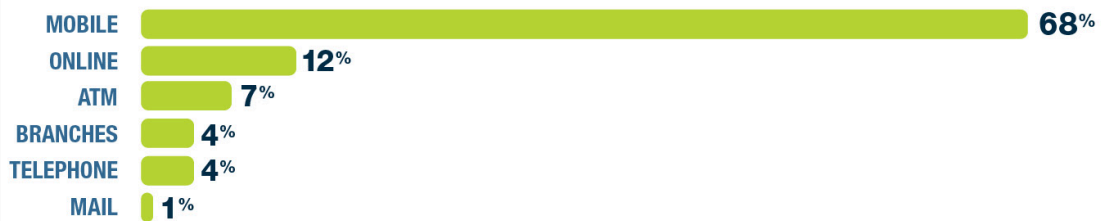
Different Generations Bank Differently



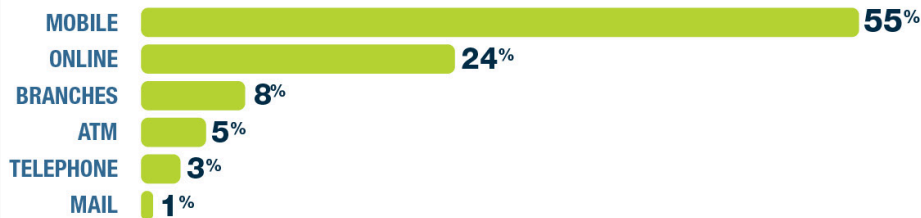
GEN Z (1997–2012)



MILLENNIALS (1981–1996)



GEN X (1965–1980)



BABY BOOMERS (1946–1964)

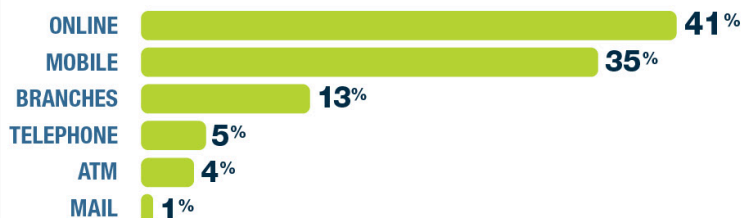


Figure 7.2

Factors to Consider When Choosing a Bank

- Safety
 - Make sure the bank is insured by FDIC or NCUA.
- Convenience
 - Choose a bank with branches and ATMs located close to your daily activities.
- Fees and minimum balances
 - Fees can add up quickly. Pay special attention to overdraft fees and ATM fees in addition to monthly fees.
 - Choose types of accounts with minimum balances that work for you.
 - Many institutions have special accounts for students, seniors, and military personnel including veterans.
- Online banking and mobile app availability
- Other services
 - Safe deposit boxes, cashier's check, money order.
 - Notary public.
 - Having one app or physical location for other financial services.

Types of Bank Accounts

The four main categories of bank accounts are checking account, savings account, money market account, and certificate of deposit. After financial deregulations the boundaries between the different categories are less distinct. If the bank is FDIC or NCUA insured, then all these accounts are insured as well. Note that the \$250,000 limit applies to each consumer per bank, not per account. Within each category there are a variety of features, which involve trade-offs between minimum balance, account maintenance fees, interest

rates, transaction limits, ATM fees, overdraft fees, etc. Let us take a moment to look at these accounts and their features from the banks' perspective and the trade-offs will be obvious. The banks generate revenues by charging fees or by using your deposits to fund loans to other customers. The more money you deposit, the higher the banks' revenues. It costs the banks money to provide features, including offering interest on your deposits. Therefore, accounts with higher minimum balance will have lower fees, more features, and higher interest on deposits. Choosing the right accounts means matching your daily financial needs to the account features.

Checking Account

The primary purpose of a checking account is to facilitate payments. Most checking accounts come with debit cards, paper checks, and ACH transfers (electronic checks) as payment options. Debit cards also function as ATM cards. Checking accounts accept cash and paper check deposits and ACH transfers, including direct deposits. Watch out for fees, including account maintenance fee, ATM fee, overdraft fee, and other transaction fees. Some banks waive account maintenance fee if you maintain a specific minimum balance or if you set up direct deposit into the account. Many banks charge a fee for paper statement delivery. Most checking accounts do not earn interest.

Debits and Credits

In banking lingo, the bank credits your account when you put money into it and debits your account when you take money out. Therefore, a direct deposit into your account is an ACH credit. When you make a cash withdrawal or a payment, including using a debit card, it is a debit transaction. Setting up an automatic payment is an ACH debit.

An important feature to consider for checking accounts is overdraft protection, which prevents transactions from being declined due to insufficient funds in your checking account. The specific overdraft protection arrangement varies by bank and by account type. One common arrangement is to link your checking account to your savings account or money market account. When there is not enough money in your checking account, funds will be automatically moved from these linked accounts to cover the overdraft amount. Some banks offer overdraft protection as a short-term loan, in which case you will pay interest on the loan in addition to the overdraft fee. The benefits of having overdraft protection include avoiding insufficient fund fee and adverse payment history. The downside of using overdraft protection include fees and interests, spending beyond your

means, and accumulating debts that you are unable to repay. Linking to your other accounts also exposes all your money to potential thefts and scams. The best strategy to avoid insufficient funds is to keep track of your bank balance and transactions, especially recurring automatic bill payments. It is important to remember that check deposits, unlike direct deposits, take a few days for the money to be available.

Exercise 7.2 A Tale of Three Checking Accounts

Jordan just celebrated a big milestone, turning 18, which means the ability to vote, not to mention graduating high school in a couple of months and starting college in the fall. It also means time to open an independent checking account. Jordan currently has \$2000 in a minor's account that will be transferred to the new account. Figure 3 shows three checking accounts from BBank. Additional information, including the footnotes, on these accounts are included in Appendix 7.2. The BBank Total Checking account will waive the monthly service fee with monthly direct deposit of at least \$500 or a daily balance of at least \$1500. The BBank Secure Checking account will waive the monthly service fee with monthly direct deposit of at least \$250. The BBank Premier Plus Checking account will waive the monthly fee with minimum daily balance of \$15,000 in combined accounts or a BBank mortgage with automatic payment. Jordan planned to work full-time during the summers and part-time during the school year. Full-time pay would be around \$3000 per month and part-time pay would be around \$500 per month.

1. Which checking account would you recommend for Jordan?
2. What are the top 3 reasons for your recommendation?
3. What additional information would you like to know before making a recommendation?
4. Review the footnotes (fine prints) in Appendix 7.2. Identify the differences in the overdraft policies between BBank Total Checking and BBank Secure Checking.
5. Reflect on your experience of reading the footnotes.

<p>BBank Total Checking®</p> <p>Our most popular checking account with the banking essentials.</p> <ul style="list-style-type: none"> • Comes with BBank Overdraft Assist^{SM1} • Ability to write checks and wire money <p>Monthly Service Fee²</p> <p>\$12 or \$0 Avoid fee</p>	<p>BBank Secure BankingSM</p> <p>A simple checking account with no overdraft fees.³</p> <ul style="list-style-type: none"> • Direct deposits up to two business days early⁴ • No paper checks to manage <p>Monthly Service Fee⁵</p> <p>\$4.95 or \$0 Avoid fee</p>	<p>BBank Premier Plus CheckingSM</p> <p>Save money on non-BBank ATM transactions, money orders and more.⁶</p> <ul style="list-style-type: none"> • The benefits of BBank Total Checking • Perks for military members with \$0 Monthly Service Fee and no minimum deposit required <p>Monthly Service Fee⁷</p> <p>\$25 or \$0 Avoid fee</p>
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Figure 7.3

Savings Account and Money Market Account

Savings accounts, high yield savings accounts, and money market accounts are all good vehicles for investing excess cash and your emergency funds. These accounts accept all forms of deposits. Savings accounts typically require a low minimum balance, low account maintenance fees, but offer a lower interest rate on your deposits. High yield savings accounts are the same as savings accounts except they offer a higher interest rate and usually require a higher minimum balance. Some banks offer tiered savings accounts with interest rates linked automatically to your account balance. Money market accounts provide more features than savings accounts, including debit card, online payments, and often checking writing. They offer higher interest rates than basic savings accounts and require a high minimum balance, often at least \$2500, to avoid maintenance fees. In many ways, a money market account is like a checking account that pays interest. Note that some banks limit the number of transactions per month for free on money market accounts so it is important to check the fine prints.

Certificates of Deposits

Certificates of Deposit (CDs) usually provide a higher interest rate than savings accounts but require the money to be invested for a fixed time period with a penalty for early withdrawal. Therefore money invested in CDs is not as readily available for immediate use. The fixed time period (called maturity or term) ranges from 30 days, 6 months, to multiple years. The interest rate on the CDs is also fixed during that time period. Interest rates on savings accounts and money market accounts change with market interest rates.

CDs are generally considered safe investments because they are insured by FDIC or NCUA up to \$250,000.

They are a good option for short to intermediate-term savings goals. The biggest downside risk associated with CDs is the penalty for withdrawing funds before the maturity date. Therefore, it is important to forecast your financial needs before investing excess cash into a CD. Some banks offer no-penalty CDs which pay a lower interest rate. Another factor to consider is interest rate risk. If interest rates in the market rise substantially during the term of a CD, you may find yourself locked into a lower rate. Conversely, if interest rates fall, you will benefit from having secured a higher rate. The trade-offs between savings accounts, high yield savings accounts, money market accounts, and CDs are minimum deposit amount, flexibility, and interest on deposits. Figure 7.4 shows a bank's promotion on savings accounts and CDs, which illustrates the trade-off between flexibility and interest rate on the deposits. Notice that the bank advertises the APY (Annual Percent Yield) on deposit accounts. Chapter 5 explains the definition of APY and how it is different from APR.



Figure 7.4

Many banks automatically renew your CD at the same term at the new market rate when it matures. This feature can potentially be costly. Once the CD is renewed, you are locked for another term and will need to pay the early withdrawal penalty to use the money. Some banks renew CDs at a less competitive rate than what they offer new customers. Before the maturity date, the bank is required to notify you. Make sure you request your CD not be automatically renewed and make the request before the maturity date. You should review your financial needs and investment options before deciding whether to invest in another CD. You can also purchase CDs through a brokerage firm. These CDs tend to have a higher minimum purchase requirement but also offer higher interest rates. Be sure to check whether they are insured by FDIC.

Example: Jordan's Savings Plan

Jordan graduated from college and armed with knowledge from the personal finance class, they created a budget. They estimated their monthly take-home pay will be \$3,600 and essential expenses will total \$2,385. Jordan budgeted \$400 for optional expenses per month, resulting in \$815 in cash surplus per month. Jordan currently has \$8,000 in a regular savings account after

paying off their student loans. Based on the budget, Jordan wants to have \$12,000 in emergency funds, which they hope to achieve within six months.

Jordan researched savings options and summarized them below.

Account Type	APY	Minimum balance to waive fee	Monthly maintenance fee if not waived
Savings account	3.50 percent	\$50	\$5
High yield savings account	3.75 percent	\$2,000	\$25
CD – 6 month	4.00 percent	\$1,000	n/a
CD – 12 month	4.25 percent	\$1,000	n/a

Jordan decided to put 50 percent of the emergency funds in a high yield savings account (HYSA), 25 percent in a 6-month CD and 25 percent in a 12-month CD. Jordan's emergency fund allocation reflects a balance between risk and return. The longer term CD is less flexible but offers a higher return. The risk is the early withdrawal penalty if Jordan ends up needing the emergency fund before the CD matures. It is a relatively small risk and the penalty is not significant.

Jordan implemented the plan by putting \$4,000 into a HYSA and canceled the regular savings account. They opened a \$2,000 6-month CD and a \$2,000 12-month CD. Jordan plans to add \$2,000 to the HYSA over the next 2 to 3 months, followed by another \$1,000 in a 6-month CD and a \$1,000 12-month CD. Jordan also set up automatic transfer of \$400 from the checking account to the HYSA each pay period.

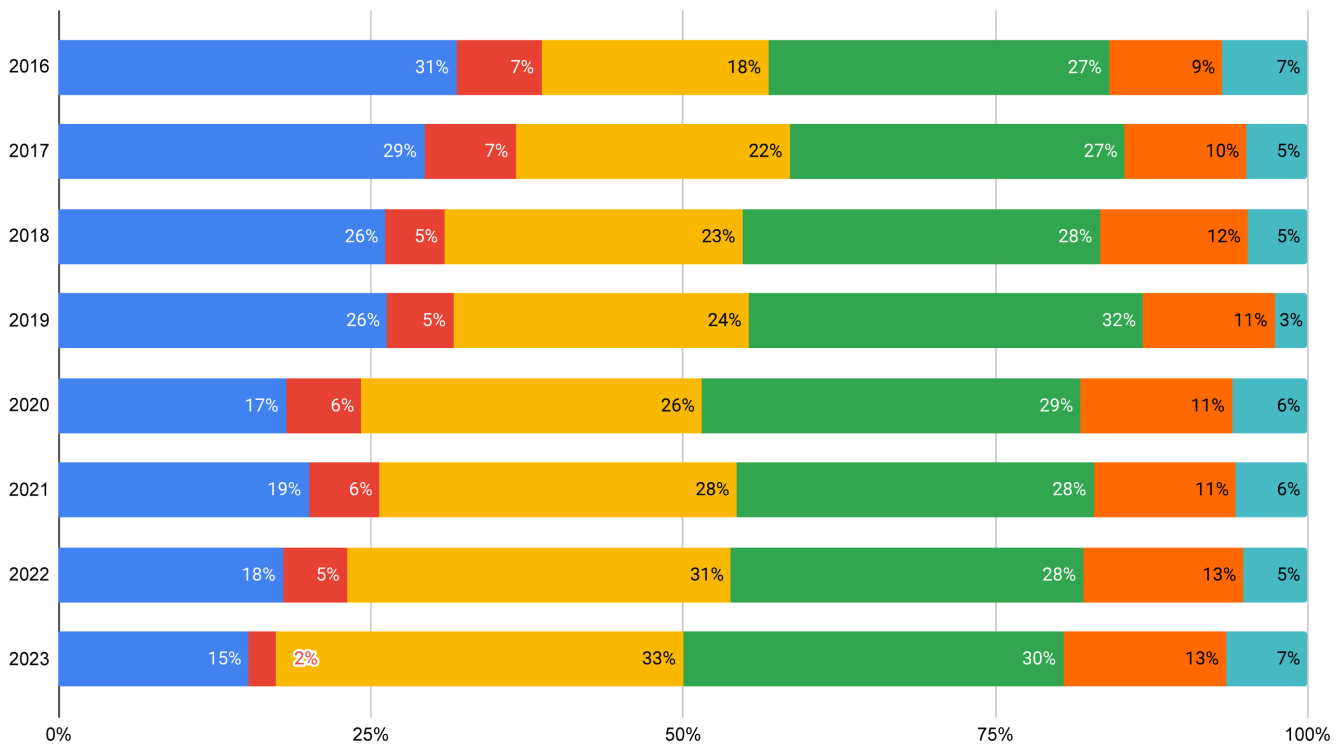
Different Ways to Pay Bills and Receive Money

How often do you find yourself with little to no cash on you? Americans are paying with cash less and less often. According to the 2024 Diary of Consumer Payment Choice, Americans paid with cash 15 percent of the time in 2023, down from 30 percent in 2016. Cash payment is colored blue in Figure 7.5. Even though cash is becoming less popular as a form of payment, it is important to have cash at home, especially in case of

emergencies, including power or network outages. A useful rule is to have enough cash to fill up your car plus two to three days of expenses.

Credit cards and debit cards were the most common form of payments, totaling over 60 percent (yellow and green respectively in Figure 7.5). Electronic transfers, usually referred to as ACH transfers, have also gained popularity. ACH transfers are often used for recurring automatic payments such as rent, utilities, streaming services, and membership fees. More and more businesses offer discounts for ACH payments and charge a processing fee for credit card payments. Paper checks have become less and less popular (red in Figure 7.5). Other payment methods include prepaid cards, money orders, and travelers checks.

Consumer Payment Choice



Source: 2024 Diary of Consumer Payment Choice

■ Cash ■ Check ■ Credit Card ■ Debit Card ■ ACH ■ Other

Figure 7.5

Credit Cards and Debit Cards

The most important difference between a credit card and a debit card is that one is a short-term loan and the other is not. When you pay with a credit card, the issuing bank is loaning you the money, which you need to pay back when you receive the monthly statement. Some credit cards are store specific (called merchant card or proprietary card), which means you can only use them to make purchases at the specific store. Examples

include department store and gas station cards. Most credit cards are general purpose and can be used at any store accepting the card brand, such as VISA or American Express. Recall from Chapter 6 that credit card loans are from the issuing banks, not the store or the card brand. When choosing a credit card, the important characteristics to consider include annual fee, interest rate, credit limit, cash advance terms, and other features such as rewards or cash back. It is best to choose a credit card that has no annual fees. Prestige cards (gold, platinum, sapphire, etc.) are seldom worth the expensive annual fees. Watch out for advertised low “teaser” interest rates that last only a few months. The credit limit is not how much money you have to spend. It is the maximum loan amount the bank will extend to you on the credit card. To improve or maintain your credit score, keep your spending to less than 30 percent of your credit limit. You can monitor your credit usage easily by reviewing your statements, charges, and payments online.

Most credit card companies offer a grace period on regular purchases when you have zero balance on your credit card. A grace period means you do not have to pay interest on purchases until you receive your statement. The exception is cash advances, which means using a credit card to get cash. Cash advances typically have additional fees, a higher interest rate than regular purchases, and do not have any grace period. That means interest starts accumulating the moment you take out cash. Cash advances are an expensive way to get cash. If you do not pay off the entire statement balance, the issuing bank will start charging interest on the average daily balance. This means that new purchases will no longer have any grace period when they are added to the outstanding balance. The average daily balance is computed as a weighted average. The following example illustrates how banks compute average daily balance and interest charges.

Example: Sam’s First Credit Card

Sam was excited to have their own credit card. They had been working at a coffee shop over the summer and would be starting college in the fall. The credit card was another sign of their independence. It was also convenient for their back to school shopping. Due to limited credit history, the APR on the card was 25 percent. Sam knew they had to be careful to avoid paying interest. In July, Sam spent \$245 on the credit card and paid off the entire balance when the statement came. In August, Sam spent \$200. Unfortunately Sam forgot to pay the credit card bill in the middle of moving into college. Sam got a late payment notice with a \$50 late fee on September 5. They paid the \$250 right away. Sam spent \$300 on books on September 15. When the September statement arrived, Sam was surprised to find that interests were charged on the \$300 purchase.

Sam reviewed the statement to understand how interest charges were computed. The bank computed the average daily balance for September as follows (Figure 7.6).

Sept 1	Sept 5	Sept 15	Sept 30
\$250	\$250 - \$250 = \$0	\$0 + \$300 = \$300	
5 days	10 days	15 days	

Figure 7.6

The average daily balance = $(\$250 \times 5 \text{ days} + \$0 \times 10 \text{ days} + \$300 \times 15 \text{ days}) / 30 \text{ days} = \191.66

Finance charges = $\$191.66 \times .25 / 365 \text{ days} \times 30 \text{ days} = \3.94

Sam was not happy about paying the late fee plus the interest. It was another lesson learned. Sam set up a recurring reminder on their calendar 5 days before the end of each month to pay the credit card bill.

Credit cards that offer rewards, especially cash back, is a nice feature to have provided the rewards match your spending habits and do not come with high fees. A credit card is a convenient and safe method of payment if you pay off the balance every month and choose a card with zero or low annual fee.

When you pay with a debit card, money is taken out of your checking account right away. Unless you have overdraft protection, you will not be able to pay with a debit card if you do not have sufficient funds in the checking account. You are less likely to overspend with a debit card. Since a credit card is a loan, using a credit card will help you build your credit history. As explained in Chapter 6, when you use a credit card, you are protected by the Fair Credit Billing Act (FCBA) for unauthorized and disputed charges. Unauthorized and disputed charges include billing errors by merchants and charges for items and services not received or rejected by the consumer. Use of a debit card is protected by the Electronic Fund Transfer Act (EFTA) against unauthorized transactions but not against disputed charges. In other words, both credit cards and debit cards are protected against thefts but only credit cards are protected against bad merchants. Therefore, a credit card is a better choice for online purchases, especially from less well known vendors. The biggest downsides to using credit cards are the potential to overspend, accumulate debt, and incur interest expense.

If your credit card or debit card is lost or stolen, you should report the incident right away to the police and the bank, and follow up in writing to the bank with a copy of the police report. If you report the loss before someone uses it, it becomes the bank's responsibility to stop unauthorized transactions and you are not liable for the criminal's activities. If someone already used the card before your report, the protection is different for credit cards versus debit cards. Under FCBA, the maximum you are responsible for with a stolen or lost credit card is \$50 and you have up to 60 days from the date the wrongful charges appear on your statement to file a report. With a debit card, the EFTA limits your liabilities to \$50 if you report the loss within two business days, and to \$500 within 60 days from the date of your checking account statement. You are responsible for all losses after 60 days of your statement with either cards. However, with a debit card, the funds are immediately withdrawn from your checking account and any linked accounts, such as those linked for overdraft. Criminals can clean out all your money and you must wait for the bank to investigate to recover any stolen amounts. The bank generally has 45 days to resolve the issue but it may take much longer if the criminals move the stolen

money outside the U.S. or into cryptocurrencies. With a credit card, once you file a dispute, you do not have to pay the disputed amount until the credit card issuer finishes the investigation, usually within 90 days. If your credit card or debit cards are not stolen or lost but criminals gain access to your card information in other ways, such as data breaches, you are still protected against unauthorized transactions if you report the incident within 60 days after you receive your statement. The best way to protect against thefts is to keep your debit and credit cards in a safe location and set up transaction alerts. If you discover unauthorized uses, file a police report and alert the bank and credit card company right away. These laws protect you against unauthorized charges, which are thefts, but not against scammers who trick people into sending them money or gift cards under false pretenses. When you send funds to scammers, you initiate the transfers, making them authorized transactions. Scams are illegal and you should report them to the police. Banks and credit card companies are not obligated to investigate scams.

Credit cards versus debit cards

Use a debit card to:

- Limit your spending to what you have.
- Avoid interest payment.

Use a credit card to:

- Build a credit history by paying off the entire balance each month.
- Take advantage of purchase protection programs.
- Protect against unknown vendors, especially online purchases.
- Earn rewards or points.

Exercise 7.3 Compute Average Daily Balance

Finance (interest) charges for credit cards are computed based on the average daily balance and annual interest rate (APR, Annual Percentage Rate).

- Average Daily Balance is a weighted average
 - Average daily balance = (balance x days + balance x days...)/Total days
- Finance (interest) charges = Average daily balance x APR / 365 x 30
 - Assume there are 365 days per year and 30 days per month

Additional information:

- The billing period is 30 days.
- The beginning balance is \$1000.
- Paid \$50 on day 5.
- Spent \$80 on day 15.
- No other transactions.
- APR is 20 percent.

Activities

1. Compute the average daily balance.
2. Compute the interest charge for the month.

Prepaid Debit Cards

Prepaid debit cards are a special form of debit cards. These cards have money loaded on them and are not linked to bank accounts. Store gift cards are an example of prepaid debit cards. You can use these gift cards only to purchase items at the store. Some prepaid debit cards are general purpose cards and can be used at any place that accepts the card brand. This means you can use a VISA prepaid debit card at any store that accepts VISA, and so forth. Some prepaid debit cards can also be used to get cash from ATMs. An employer can pay its employees with a prepaid card, called a payroll card. Some state and federal government agencies use prepaid cards to pay Social Security benefits, veterans' benefits, unemployment benefits, child support, and other government benefits. The cost of using a prepaid debit card varies significantly. Many have initial activation fees, monthly maintenance fees, transaction fees, and fees for loading and withdrawing cash. Some even charge inactivity fees if the card is not used for a certain period. Figure 7.7 shows the fee structure for a general purpose prepaid card from NetSpend and Figure 7.8 shows the fee structure for a benefits card from the state of Michigan. Notice the huge difference in fee structures.

Netspend Visa Prepaid Card

Summary of fees:

Plan fee

Pay-As-You-Go Plan	Monthly Plan
\$0	\$9.95 [†] per mo.

Per purchase

Pay-As-You-Go Plan	Monthly Plan
\$1.50	\$0

ATM withdrawal

Pay-As-You-Go Plan	Monthly Plan
\$2.95	\$2.95

Cash reload

Pay-As-You-Go Plan	Monthly Plan
\$3.95*	\$3.95*

ATM balance inquiry

Pay-As-You-Go Plan	Monthly Plan
\$0.50	\$0.50

Live customer service (per call)

Pay-As-You-Go Plan	Monthly Plan
\$0	\$0

Inactivity (after 90 days w/ no trans.)

Pay-As-You-Go Plan	Monthly Plan
\$5.95 per mo.	\$5.95 per mo.

We charge 8 other types of fees.

[†] \$5.00/mo. w/ payroll/benefits direct deposits of \$500 in 1 calendar month.

* This fee can be lower depending on how and where this card is used.

No overdraft/credit feature.

Register your card for FDIC insurance eligibility and other protections.

For general information about prepaid accounts, visit cfpb.gov/prepaid. Find details and conditions for all fees and services below.

Figure 7.7

Since store bought prepaid debit cards do not have any personal information by default, you have no recourse if they are lost or stolen. They are just like cash. You can register your general purpose prepaid card by providing personal identity information, including your name, phone number, and social security number. For a successfully registered card, you are protected from unauthorized charges if you report the incident within 2 business days, similar to regular debit cards. Prepaid debit cards do not provide monthly statements so the 60 day limit does not apply. If the bank issuing the prepaid debit card is FDIC or NCUA insured, then the registered prepaid debit cards are also insured up to \$250,000 against bank failure. If you use a general purpose prepaid debit card, it is well worth taking the time to complete the registration process for these protections.

Michigan Way2Go Card issued by Comerica

You have options to receive your payments. You may elect direct deposit to your bank account or this prepaid card. You do not have to accept this card.			
Monthly fee	Per purchase	ATM withdrawal	Cash reload
\$0	\$0	\$0 in-network \$1.50 out-of-network	N/A
ATM balance inquiry			\$0.00
Customer service (automated or live agent)			\$0.00
Inactivity (after 180 days of no transactions)			\$1.50
We charge one other type of fee. Here it is:			
Card replacement fee (regular or expedited delivery)			\$0.00 or \$15.00*
* This fee can be lower depending on how and where this card is used. See separate disclosure for ways to access your funds and balance information for no fee			
No overdraft/credit feature.			
Your funds are eligible for FDIC insurance.			
For general information about prepaid accounts, visit cfpb.gov/prepaid .			
Find details and conditions for all fees and services in the cardholder agreement.			

Figure 7.8

Paper Checks and ACH Transfers

You can use paper checks and ACH transfers to pay and receive money. Even though paper checks have diminished in popularity, it is still used quite a bit in business and you should know how to use them. Figure 7.9 shows a typical paper check. Notice the numbers printed at the bottom of the check. These numbers are very important. The number on the bottom left is the bank's routing number. This number is unique for each bank and the information is public. The number in the middle is your checking account number. This number is unique to your bank account. Criminals can use this number to gain access to your money. You should protect your bank account numbers and paper checkbook with at least the same level of precautions as you would your credit card and debit card numbers. The number to the right is the check number and you can use it to keep track of your payment record. To write a check, you specify the date and the name of the recipient, called the payee. In addition to writing out the dollar amount in numerals with two decimal places, you also need to write out the amount in words. Finally, you must sign the check. Your signature authorizes the bank to take money out of your checking account for the payment. To ensure that your payment arrives on time, you need to mail your payment at least 10 days before the due date to factor in mailing time and check clearing time. First class mail is typically delivered within 3 to 5 business days. Once the business receives your check, it can take 3 or more days for the check to clear, which means the money is moved from your account

to the business. Until the check clears, your bank balance will not reflect that a check has been written. It is important to keep track of paper checks that have not been cleared to avoid thinking you have more money than you actually do!

Do you know what to do if you receive a paper check? To use the money from the check, you need to endorse it before depositing it in your bank account or cashing it. First, verify your name is spelled correctly and matches the name you use for your bank account. The date should be accurate and within six months. Of course, the amount should be correct. You endorse a check by signing your name on the back of the check's endorsement area. Figure 7.10 shows several types of endorsements.

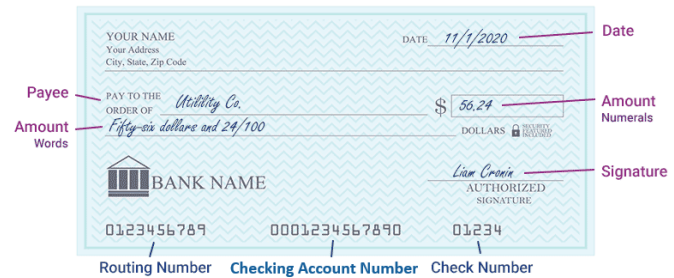


Figure 7.9

The most common ones are restrictive endorsements. To restrict the check to be deposited, write “For Deposit Only” on one line and sign below it. Present the endorsed check to a bank in-person or via an ATM and the money will be deposited into your bank account. To use your bank’s mobile deposit app, write “For (bank name) mobile deposit only” on one line and sign below it. Follow directions on your bank’s mobile app to upload images of the check. An unrestricted or blank endorsement is when you simply sign the back of the check. It is the least secure way to endorse a check because it can be cashed.

After you deposit an endorsed check, you may not be able to use the money right away. Remember that until a check clears, the money is in transit in the banking system. The Expedited Funds Availability Act (EFAA) requires banks to disclose their fund availability policy to consumers. The EFAA also sets the minimum amount of deposits banks must make available to customers over specific time frames. Banks can make more funds available sooner than the EFAA requirements. Each bank’s policy is unique. So be sure to read your bank’s fund

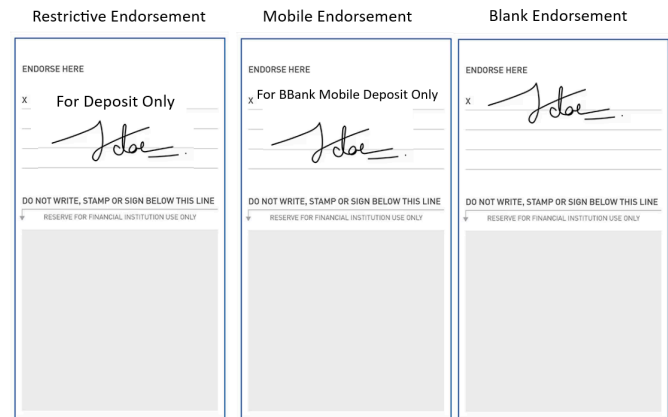


Figure 7.10

availability policy, paying special attention to its cutoff times and definition of business day. Banks can set the cutoff time as early as noon for ATMs and 2 pm for in-person transactions according to EFAA. There is no federal regulation dictating mobile deposit cutoff times. Any deposits received after the cutoff time is considered to occur on the next business day. Note that Saturday is not a business day even though a bank’s branch may be open. The following are common policies many banks follow. In general, direct electronic deposits are available on the same business day or the next business day. Cash, U.S. Treasury checks, checks

drawn on the same bank as the recipient's, and the first \$250 of a check from another U.S. bank are usually available the next business day if the deposit is made in person or at the bank's own ATMs. Yes, you read that right, even cash may not be available for use right away. Remember that EFAA sets the minimum amount and maximum time. Banks can choose to make funds available sooner. If you use an ATM not owned by your bank, it may take 5 business days after the deposit is made. If your account is new, these rules do not apply and your deposits may take a bit longer to become available. Understanding your bank's fund availability policy enables you to better plan how to deposit your money and avoid unpleasant surprises.

Example: Sam's Unpleasant Surprise

After working two weeks at the coffee shop, Sam got their first paycheck, \$1457! It was just past noon on a Friday. Sam was going away with friends for the weekend. They deposited the paycheck on their way out of town at an ATM not owned by their bank. Sam was looking forward to this trip and spending some of the paycheck. When Sam checked their account balance, they discovered that they would not have access to any of the paycheck until two Mondays from now. Sam was surprised and disappointed. What happened?

This is because when Sam made the deposit at 12:30 pm on a Friday, it was past the cutoff time for ATMs so the transaction was considered to occur on the next business day, which was the following Monday. In addition, the ATM was not owned by their bank. This means the deposit would be available after 5 business days, making it the next Monday.

Sam would have access to the paycheck a lot sooner by using mobile deposit or making an in-person deposit at the bank.

Example: The "Infinite Money Machine" Fraud

In August 2024, a number of TikTok videos went viral promising a way to get "free money" at certain ATMs. The scammers exploited the check clearing process by depositing paper checks made out to themselves into the same bank's ATM and withdrawing cash. This scam worked because there was an error in that particular bank's accounting process. The videos presented this scheme

as a glitch or a hack but it was actually check fraud, which can be charged as a felony. The bank sued customers who committed this check fraud to pay back money they illegally withdrew and to pay attorney fees. It turns out there is no “free money” in the world. Any scheme that sounds too good to be true almost always turns out to be a scam.

Instead of writing and mailing paper checks, you can use your bank’s online and mobile bill pay service. Many banks allow you to categorize your online payments and download transaction history, which will make your budgeting process a lot easier. Another advantage of online and mobile bill pay is that your bank will subtract the pending payments from your available balance so you do not have to keep track of outstanding checks. Your bank will require you to sign an agreement, which lays out the terms and conditions for online and mobile bill pay service. Pay special attention to applicable fees, restrictions, payment timing, and who is liable for errors. Once you sign the agreement, you give the bank authorization to withdraw funds from your checking account. The bank may make the payment using a paper check or an ACH transfer. When you add a company as a payee, the bank will give you a list of companies to choose from. If the company you want to add is on the list, the bank will usually send the payment via ACH transfer. Many major companies such as internet providers, credit card companies, national retail stores, and insurance companies are on these lists. If the company or person you want to pay is not on the list, you need to provide the bank with the name of the recipient, their complete address, and phone number. The bank will generate a paper check using information you provide and mail the check to the recipient. It is your responsibility to monitor the payment status to ensure that your bills are paid on time. ACH transfers eliminate mailing time and typically take 1 to 3 business days for the transfer process to clear, much faster than paper checks. Note that some banks may have a daily and monthly cap on how much money you can move using ACH transfers. Usually you cannot use ACH transfers to send money outside the U.S..

In general, paper checks are less secure than ACH transfer because of mail theft. Criminals can steal the checks from your mailbox or your recipient’s mailbox. If your recipient is not on your bank’s list of business, you can still set up ACH transfer to pay them. One option is to obtain the recipient’s bank routing and account number, account type (checking or savings), and whether it is an individual or business account. Use your bank’s online or mobile transfer fund service to send the money. Some banks may charge a fee to send money to an account at a different bank, called external ACH transfers. There is usually no fee for receiving money. In fact, when your employer pays you via direct deposit, they are using ACH transfers to send your pay to your bank account. When you set up direct deposit with your employers, they may ask you to provide a blank deposit slip for a savings account or a voided check for a checking account to verify your bank’s routing number and your bank account number. A voided check is a blank check with the word “VOID” written on it. Figure

7.11 shows a sample direct deposit authorization form. Some employers allow you to split your paycheck to be deposited into more than one bank account.

Another option to pay via ACH transfer is to provide your banking information to the recipient. Some businesses even offer discounts to customers for paying with ACH transfers, especially for recurring automatic payments such as rent, mortgage payments, and subscription services. You will need to sign an ACH authorization form which gives the business permission to electronically take money from your bank account when your payment is due. Businesses have incentive to have customers pay with ACH transfers because the processing fees are usually cheaper than credit cards and until you cancel the authorization, there is no expiration date. The advantages to the consumers are that they will

not accumulate debt and their payments will be on time provided there are sufficient funds in the checking account. The disadvantages are that the businesses have your banking information and you are not protected against bad business practices. If criminals gain access to your banking information, they could steal all your money. For recurring automatic payments, you can cancel the ACH authorization by calling and writing to the company and your bank. Appendix 7.3 contains sample revocation letters suggested by the Consumer Financial Protection Bureau (CFPB).

Stop Payments

If you discover that a paper check is lost or stolen or that you have made a mistake, you can ask the bank to stop payment on the check before it is deposited or cashed. To stop payment on an ACH transaction due to your mistake, you need to contact your bank at least three business days before the scheduled payment date. The fee for a stop-payment order ranges from \$20 to \$30 per paper check and much lower for ACH transfers. Since paper check transactions are not covered by EFTA, there is no limit to your liabilities due to theft once the check is cashed. If your checkbook is lost or stolen or if your checking account number is compromised, it is cheaper and more secure to close the account and open a new one.

Peer-to-Peer (P2P) Payment Systems and Digital Wallets

Peer-to-peer (P2P) payment apps allow individuals to electronically transfer funds to one another without

Direct Deposit Authorization

Employee Name: _____ Employee #: _____
Last First M.I.

ACCOUNT #1

Financial Institution: _____

Routing Number: _____ Account Number: _____

Account Type: Checking Savings Deposit Amount \$ _____ or %

ACCOUNT #2

If more than one account is designated, deposits are to be made in whole percentages of pay to total 100%.

Financial Institution: _____

Routing Number: _____ Account Number: _____

Account Type: Checking Savings Deposit Amount \$ _____ or %

I authorize [Company Name] to initiate credit entries to the account indicated above for the purpose of expense and/or payroll. I also authorize [Company Name] to initiate, if necessary, debit entries and adjustments for any credit entries made in error. This authorization is to remain in force until the Company has received written authorization from me of its termination or change.

Name (PRINT): _____ Date: _____

Signature: _____

Figure 7.11

needing to know each other's banking information. For you to conduct financial transactions on a P2P payment app, you and the recipient must have the same app. What distinguishes these systems is their speed and ease of use. It is much more convenient for two friends to download the same app than the alternatives, such as sending checks or entering routing number and account number into a bank's app. Fund transfers between individuals appear to happen almost instantaneously. These apps' user-friendly design masks complex financial transactions behind the scenes on these systems. You should have a basic understanding of how P2P payment systems operate so you can protect your financial well-being. It is important to distinguish a digital wallet from a P2P payment app. A digital wallet stores your credit and debit card information. Instead of using a physical card to pay at stores or entering your credit card information online, you use a digital wallet app. No money is transferred into the digital wallet, just the card information. There is no regulation governing P2P payment systems or digital wallets. Your data privacy and security depends solely on the discretion of the app providers. Whether your money in these apps are insured against bank failure and whether purchases made through them are protected depends on the legal entities operating behind the scenes and how they are structured.

In general, you can use a P2P payment app by linking it with your bank account or your credit card or debit card. Some of these apps even allow direct deposits. If you use your bank account or debit card to provide money to the P2P payment app, you authorize ACH transfers in the user agreement. This ACH authorization allows the P2P payment app to move money in and out of your bank account or debit card. If you use a credit card, your credit card issuer often treats the transaction as a cash advance and will charge you cash advance fee and interest. When you have a balance on a P2P payment app, how that money is stored depends on the app provider. Some store the money in its own system, which is unregulated and offers no protection against unauthorized charges or bankruptcy. Others store the money in a virtual prepaid debit card. If you register the P2P payment app account, the money in it will be treated as fund balance on a registered prepaid debit card. If the bank that issues the virtual prepaid debit card on behalf of the payment app is insured by FDIC or NCUA, so will your app balance, up to \$250,000. You are also protected against unauthorized charges provided you report the incident within 2 business days. If you do not register your P2P payment app account, the funds will be treated as an unregistered prepaid debit card and there is no protection against unauthorized charges or bank failure. You can transfer funds from the P2P payment app back to your linked bank account or debit card.

If your app account is compromised and it is linked to your bank account, criminals now have access to all your money in that account and any accounts that are linked. After reporting to the police, you should notify the P2P payment app, the issuing bank used by the app, and your bank. Figuring out the legal liabilities can be challenging. The unauthorized charges, which is a theft, occur at the app. Technically no theft occurs at your bank. The transfer from your bank account to the app is authorized when you sign the user agreement. If your app provider uses a virtual prepaid debit card to store funds and your app account is registered, you have protection provided you report the theft within 2 business days. If it is not, then you are likely to be responsible for all losses. The social feature of some P2P payment apps makes them especially appealing to scammers.

When criminals compromise your account or your friends' accounts, you may be tricked into sending them money because they show up as your friends. Remember that current consumer financial protection laws do not protect against scammers if you are tricked. Criminals can also steal money by gaining physical access to your unlocked phone. If you choose to link a bank account or debit card to a P2P payment app, you should set up a separate account for that purpose and keep a low balance in that account. You can also delete the bank account or debit card information from the app after each use. The key is to limit the amount of money that criminals could access.

Some P2P payment apps partner with a single financial institution for each service and the financial transactions are handled by these institutions. One example that uses this structure is Apple. Apple Payments Inc. is the legal entity that is responsible for transmitting the activities but does not hold your funds or make loans. To send money to another individual, you use Apple Cash, which is a virtual prepaid debit card issued by Green Dot Bank, even though it carries the Apple name. Green Dot Bank is regulated. You need to register your Apple Cash account to qualify for FDIC insurance and other consumer protection. Apple Wallet is a digital wallet mobile app. You can store your credit cards and debit cards information in it, including Apple Cash. Apple Payments Inc. and Apple Wallet are unregulated. When you use a credit card stored in the Apple Wallet to make purchases, you have the same protection as you would with presenting the physical card or entering the card information on a merchant's website. If you returned merchandise paid with a credit card via Apple Wallet, the refund goes back to the credit card. If you encounter problems with any transaction or need to report unauthorized charges, you contact the issuing banks of the credit or debit cards, including Green Dot Bank.

Some financial institutions partner with P2P payment apps to take advantage of their user friendly features. For instance, American Express partners with Venmo/PayPal. You can link your American Express app to your Venmo account. "American Send" is a virtual prepaid debit card issued by American Express National Bank that you can use to send cash to individuals. You put money into "American Send" from your American Express credit card. By linking to your Venmo account, you can use the American Express app to send money to individuals who have the Venmo app. The receiving person does not need to have an American Express account. If you encounter any issue, you only need to contact American Express. Since you already provided personal identity information when you apply for the American Express credit card, no additional registration is necessary.

Other P2P payment apps partner with multiple financial institutions, including ones owned by the same conglomerate parents. For instance, Venmo is owned by a conglomerate that also owns PayPal. When you set up a Venmo account, you can link it to a bank account, a debit card, or a credit card. Venmo is not a digital wallet. Venmo automatically withdraws money from the linked bank account or card when you make a transaction. Then Venmo sends the money to the recipients you specify. Venmo currently charges a 3 percent fee for using credit cards. When you send funds to individual Venmo accounts (i.e. not business Venmo accounts) most credit card issuers consider the transaction a cash advance. You should check with your credit card company on how they handle Venmo transactions to avoid surprise fees and interest charges. If you receive

money, the fund is stored as a Venmo balance. In general, Venmo balances are not FDIC insured and not protected against unauthorized charges. Only a limited types of Venmo accounts have their Venmo balance stored in regulated banks and eligible for FDIC insurance. The simplicity of the Venmo app makes using it very convenient when everything works. When there are issues, things can become complicated. Venmo is unregulated and is not required to investigate complaints.

Buy-Now-Pay-Later (BNPL) and Rent-to-Own

Buy-Now-Pay-Later (BNPL) is a relatively new payment option and is gaining popularity. BNPL is an installment loan, a type of unsecured closed-end credit. Figure 7.12 shows a sample BNPL offer. In Chapter 6, we discussed the good reasons and bad reasons for using credit. Studies have found that consumers tend to spend more when they use BNPL as a payment option. Excessive spending is a bad reason for using credit. The zero percent interest offer may sound like a good deal. The truth is that about 70 percent of consumers who use BNPL end up paying interest. Unintentionally accumulating debt is another bad reason for using credit. Before buying an item with BNPL, ask yourself: “Will you make this purchase if you have to pay cash for it?” Taking out a loan is an important decision and you should consider its impact on your budget carefully before committing. An impulse purchase is a bad reason to take out a loan.

Rent-to-own is another form of consumer finance. It is popular with furniture, appliances, and electronics. Rent-to-own is actually a lease agreement with a purchase option at the end of the lease. Many of these programs offer weekly or monthly payment plans. Since this is a lease, you do not own the item. If you fall behind on payments, the rent-to-own company can repossess the item regardless of how much you have already paid. Rent-to-own agreements often do not require a credit check, making them a form of financing available to consumers with low credit scores. The downside is that they come with very high interest rates and fees. A Consumer Reports’ investigation found that some rent-to-own companies charge interest rates as high as 300 percent on appliances and electronics. In one instance, the investigation found that the lease payments on a \$600 computer would total nearly \$1900.


Buy now, pay over time	
Example payments for	\$ 1,499.98 
\$499.99 every month	3 months
Interest (0.00% APR)	\$0.00
Total of payments	\$1,499.98
\$261.04 every month	6 months
Interest (15.00% APR)	\$66.29
Total of payments	\$1,566.27
\$93.57 every month	18 months
Interest (14.99% APR)	\$184.30
Total of payments	\$1,684.28

Figure 7.12

Exercise 7.4 Computer Financing Options

Sam stares at the cracked screen and a computer that refuses to start. Today is not a lucky day. School is only one month away and Sam must have a working computer by then. Sam starts looking for computers on the phone. There are several good options and they cost around \$800, more than what Sam has in the checking account. Sam can put it on a credit card, which has an APR of 25 percent and a minimum payment of \$50. The store offers a BNPL option with zero interest for 4 monthly payments of \$200 each. Sam is working on their financial aid and they qualify for a federal student loan with an APR of 6 percent. Sam expects to continue working part-time during the school year but the pay will barely cover living expenses and not sufficient to cover tuition. The broken computer just added another stress. Sam ponders how to pay for a new computer.

Activities

1. Which of the three financing options would you recommend Sam to take? (The three options are: credit card, BNPL, student loan.)
2. State your reasons for your recommendation.

Safe Banking Practices

The first principle of safe banking is to diversify where you store your money. Avoid keeping large amounts in your primary checking account and any account linked to payment apps and debit cards. These accounts are generally intended for everyday transactions, and concentrating your wealth in them increases your exposure to potential risks associated with fraud and thefts. Instead, take advantage of the security and higher interest rates offered by savings accounts and money market accounts. You can set strict withdrawal and transfer limits on these other accounts. Set up direct deposits into these more secured accounts and transfer only the amount necessary to cover your anticipated expenses plus a safety margin into your checking account. Streamline the transfer process by setting up recurring scheduled transfers. Alternatively you can split up direct deposits into various bank accounts based on expected needs. Having a budget will make this process a lot easier. If you use automatic payment, set up reminders on your calendar 3 to 5 days before the payment date to ensure that you have sufficient funds for each payment. Keeping your money separate reduces the potential impact of unauthorized access to your debit card, checking account, or payment apps.

Set aside a banking hour once a month to take care of your financial needs. Use electronic statement delivery to avoid mail theft. Keep a copy of the last 3 months in secured storage so you have your records. Protecting your financial well-being requires diligent monitoring and proactive security measures. Set up alerts for transactions and regularly review your bank account balance and transaction history. Even seemingly small, unrecognized transactions can be indicators of potential larger fraudulent schemes. Mobile banking apps offer convenient tools for real-time monitoring, allowing you to stay informed about your financial status at your fingertips, no matter where you are. Familiarize yourself with the features of your banking app and configure notifications for various activities, such as credit and debit card payments, online transfers, and login attempts.

In today's digital landscape, robust password security and multi-factor authentication are indispensable. Employ unique passwords for each of your online banking and financial accounts. Make sure the contact information associated with your MFA is up-to-date. Remain vigilant against phishing attempts and scams. Legitimate financial institutions will never ask for sensitive details such as passwords, PINs, or account numbers through email, text, or phone. Stay informed about common scam tactics.

What to Do if You Are in a Financial Jam

We hope this will never happen. Unfortunately, life sometimes throws us curve balls that we cannot dodge. You may find yourself short on funds due to unexpected life events despite careful budgeting and managing your money. It is useful to know your options so you can be prepared. The first obvious step is to reduce spending, followed by using emergency funds. When these efforts are not enough, you may need to consider borrowing money to remedy the situation temporarily while working on longer term solutions. Remember to take into account how to repay these short-term loans, which will be due in the next few weeks or months.

Negotiate

Before looking at loan options, communicate with the party you owe money to. If your financial hardship is due to medical bills, hospitals often have programs available to help patients with financial needs. These programs range from discounts to payment terms over time. If you withheld too little and are faced with a large tax bill, contact the IRS to arrange for payment terms. It is difficult to admit to financial hardship. It may help to know that many people experience similar situations. Facing the problems head on is much, much better than ignoring them.

Credit Card Cash Advance

If you already have a credit card you can get cash from it using the cash advance option. Most credit cards have cash advance fees and charge a higher interest rate on cash advances than regular purchases. Cash advances do not have any grace period and interest charges start to accumulate immediately. Moreover, if you use more than

30 percent of your credit limit, your credit score will decrease, affecting your ability to get other loans. The advantages of this option include speed and that you do not need to submit any applications. There is no fixed repayment date though interest continues to accumulate until you pay off the entire balance.

Personal Loans

Personal loans are unsecured installment credit and usually have terms ranging from one to seven years. Your ability to obtain a personal loan and the interest rate on the loan depend on your credit worthiness. Some personal loans require proof of income. Banks, especially credit unions, are traditional issuers of personal loans. Personal loans may have fixed or variable interest rates. Watch out for lenders that advertise no credit check and no income verification loans. These loans typically have very high interest rates. For more traditional personal loans, the interest rates are usually lower than credit cards. Personal loans are sometimes used to consolidate outstanding credit card balances. If you take out a personal loan, be sure to adjust your budget to account for the new loan payment.

Non Credit Card Cash Advance and Payday Loans

Most non credit card cash advance providers are online or mobile apps. They offer small loan amounts up to a few hundred dollars at very high interest rates and fees. Many of these providers use the term ‘tips’ to avoid labeling the charges as fees or interests. They exclude tips when computing the APR they disclose, hiding the true cost of the loans. They manipulate users into paying these tips through tricky user interfaces or implying repercussions for not tipping. APRs on these cash advance apps can be 100 percent or much, much higher. The repayment terms are short, within a week or a month. Automatic repayment is often required, which usually means you sign an ACH authorization for the lender to withdraw funds from your checking account on the due date. Some of these apps advertise instant approval and funding to appeal to consumers.

Payday loans are usually for \$500 or less and are due on your next payday. Payday loans are regulated by state laws, which vary greatly. Some states have set maximum fee amounts, ranging from \$10 to \$30 per \$100 borrowed. The costs of payday loans are very high. For instance, borrowing \$400 with an \$80 fee for two weeks translates to an APR of 520 percent. Furthermore, some states allow lenders to “roll over” or renew loans, trapping borrowers in a cycle of continuous fees without paying down the loan itself. Payday lenders typically do not verify your ability to repay the loan and do not require a credit check. They do require automatic repayment from your bank account or direct payroll deduction.



Figure 7.13

Payday loans and non credit card cash advances are very similar. Their greatest disadvantages are the high cost and the short due date. One pay period or a month is seldom sufficient time to find a sustainable solution to a significant financial hardship. Consumers of these types of loans are often trapped in an endless cycle. After these lenders deduct the repayment from their bank or paycheck, they may find themselves short on funds again and need another loan.

Example: Chris's Cash Emergency

Chris maxed out their credit cards again. Their roommates reminded them rent was due tomorrow. Chris checked their bank account and found they were short \$500 for their share of the rent. They would not get pay for another week. Panic set in and Chris went online to search for options. Ads for “instant cash” popped up left and right. One of Chris's roommates, Sam, noticed the ads and asked what Chris was doing. Sam took a personal finance course last semester and offered to look through the options with Chris.

They narrowed the search down to three lenders: CashNow, CheapCash, and PayFast. CashNow offered a \$500 loan for 30 days with a \$40 fee. CheapCash offered a \$500 loan for 2 weeks with a \$5 fee and a suggested tip of 15 percent. Both CashNow and CheapCash require automatic withdrawal from the borrower's checking account. PayFast offered a \$500 payday loan with a \$70 fee and the loan would be deducted from Chris's paycheck in one week.

Chris thought CheapCash was the cheapest because the fee was only \$5. Sam read through online reviews and found that the suggested tip was not really 'suggested' and most borrowers ended up paying the 15 percent. Sam calculated the APRs for the three loan options.

- CashNow APR = $(\$40 / \$500) / 30 \text{ days} \times 365 \text{ days} = .9733 = 97.33 \text{ percent}$
- CheapCash APR without tip = $(\$5 / \$500) / 2 \text{ weeks} \times 52 \text{ weeks} = .26 = 26 \text{ percent}$
- CheapCash APR with 15 percent tip = $((\$5 + 0.15 \times \$500) / \$500) / 2 \text{ weeks} \times 52 \text{ weeks} = 41600 = 416 \text{ percent}$
- PayFast APR = $(\$70 / \$500) / 1 \text{ week} \times 52 \text{ weeks} = 72800 = 728 \text{ percent}$

Chris and Sam were both shocked at the costs of these loans. Chris decided to take the loan from CashNow so they could pay the rent tomorrow and would have 30 days to come up with the money to repay the loan. Chris cancelled three of their subscriptions and put their second guitar up for sale. These actions would give Chris close to the \$540 needed to repay the loan. Chris was shaken by this experience. Sam suggested Chris taking a personal finance course to learn the tools needed to take charge of their finances.

Car Title Loan

Car title loan is a form of secured credit with terms ranging from a few weeks to a few months. A borrower who owns their car free and clear can use the car as a collateral. If the borrower fails to repay the loan, the lender takes the car. Car title loans are usually between a few hundred and a few thousand dollars. The maximum loan amount is generally between 25 percent to 50 percent of the market value of the car pledged as collateral. Car title loans typically have very high interest rates and many additional fees. Some lenders require installing a GPS tracker on a car and a device that can remotely disable the car's ignition. The borrower pays for the costs of these devices and their installation. It is difficult for many borrowers to repay a car title loan within the short time period of the loan, forcing them to reapply for another loan and pay additional fees. Car title loans are considered predatory and are outlawed in some states.

What is Unbanked and Underbanked?

As you have seen in this chapter, bank accounts and credit cards are essentials for managing your daily finances. Unfortunately, not everyone in America has full access to banking services. An unbanked household is one where no member has a checking or savings account at a bank or credit union. In 2023, 5.6 million U.S. households were unbanked¹. An underbanked household is one that has a bank account but lacks adequate access to other traditional financial services, such as credit cards and loans. In 2023, 19 million U.S.

households were underbanked. This means that almost one in five households in the U.S. is either unbanked or underbanked.

The primary reasons cited for being unbanked include not having enough money to meet minimum balance requirements and a lack of trust in banks. Unsurprisingly, households with lower incomes are significantly more likely to be in this group. There are also racial disparities, with Black and Hispanic Americans overrepresented. Figure 7.14 shows the unbanked rates by race and ethnicity from 2009 through 2023.

Being unbanked or underbanked are inconvenient and costly. Common services used by these households include prepaid debit cards, payday loans, check cashing services, and buy-here-pay-here car finance. You have seen in earlier sections of this chapter the high interest rates and fees associated with some of these services. In 2018, unbanked and underbanked Americans spent an estimated \$189 billion in fees and interest on non-bank financial products. It is expensive to be poor.

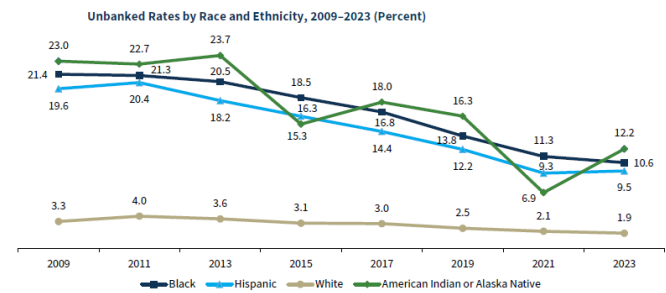


Figure 7.14

Here are some steps you can take to become a banked household. If your reason for not having a bank account is due to lack of trust, information in this book can help you overcome misconceptions about banking complexity. If lack of regular income or money is the cause, look for banks that do not require minimum balances. Some banks have special programs designed to assist unbanked households. You can also seek help from credit counseling services. You can save money and gain convenience by taking the time to set up a bank account.

Personal Financial Plan Exercise 6

Safe Banking Practice

Task: Perform an audit on your banking practices. Use the safe banking tips from Chapter 7 as a guide.

The following questions may help you identify your current banking practices.

- What bank accounts do you have?

- What are the monthly fees on each account?
- What are the balances in each account?
- Is your savings account linked to your checking account for overdraft?
- Do you have transaction notification turn on for your bank accounts?
- Do you use direct deposit?
- Do you have a P2P payment app such as Venmo?
- Do you link your bank account to your P2P payment app? If so, do you have a separate account with low balance for this purpose?

Integrated Case 6

Blake Jackson received a notification that someone named Pat Smith had sent them \$1,500 on their payment app. Blake could not remember meeting someone by that name. Seconds later, they got a message on the app from Pat Smith stating that they had sent money to Blake by mistake. Pat said that the money was for their rent and begged Blake to send the money back to them ASAP.

Activities

1. Should Blake send \$1,500 to Pat? Explain why or why not.
2. Describe steps Blake should take after receiving the text message and the accidental deposit.

Chapter Seven Summary

This chapter focuses on daily money management to help you understand common financial

services, identify providers, choose appropriate banking options, manage payments, evaluate savings, and apply safe banking practices.

Cash Management and Financial Institutions:

- Cash management involves ensuring enough money for monthly bills and an emergency fund.
- Financial institutions:
 - Deposit institutions accept deposits, process payments, and offer loans and cards. Examples include commercial banks, savings & loans, and credit unions. Most are insured by the FDIC or NCUA up to \$250,000 per customer per institution.
 - Credit companies provide loans but do not accept deposits. Examples include mortgage companies and auto loan lenders.
 - Credit card brand companies facilitate transactions, while banks issue the actual credit. Examples include VISA, MasterCard, American Express.
 - FinTech firms develop online and mobile apps for financial transactions. They can be standalone companies or partner with other financial institutions.
 - Alternative finance companies are less regulated and have very high, hidden costs, potentially trapping consumers in debt cycles. Examples include payday loans, rent-to-own, pawn shops.
- Since 1999, financial deregulation has led to the dominance of conglomerates, which are holding companies owning multiple types of financial institutions under one brand.

Choosing a Bank and Bank Accounts:

- The first step in cash management is choosing a deposit institution and opening a bank account for safety and convenience.
 - Commercial banks are generally larger, often part of conglomerates, and have more physical locations.
 - Credit unions are non-profits that tend to offer lower interest rates on loans, fewer fees, and higher interest rates on deposits.
 - Online-only banks have lower expenses, leading to lower fees and higher deposit interest rates.

- Key factors for choosing a bank include:
 - safety (FDIC/NCUA insurance),
 - fees such as monthly fee, ATM fee, overdraft fee,
 - minimum balance requirements,
 - online banking and mobile app availability,
 - convenient branch and ATM locations,
 - and access to other financial services.
- Identity verification is required to open an account, and banks typically check ChexSystems reports for negative banking history.
- The four main categories of bank accounts are checking accounts, savings accounts, money market accounts, and certificates of deposit (CDs).
 - Checking accounts facilitate payments via debit cards, paper checks, and ACH transfers. They usually do not earn interest and may have various fees.
 - Overdraft protection can prevent transactions from being declined due to insufficient funds but may incur fees or interest. Accounts with overdraft protection may increase funds scammers and thefts can access.
 - Savings accounts, high-yield savings accounts, and money market accounts are suitable for investing surplus cash and emergency funds, offering varying interest rates and minimum balance requirements.
 - Certificates of Deposit (CDs) offer higher fixed interest rates but lock money for a set period with penalties for early withdrawal. It is important to prevent automatic renewal of CDs at maturity.

Ways to Pay Bills and Receive Money:

- Debit cards directly deduct money from your checking account. You can only spend what you have unless you use overdraft protection. They are protected by the Electronic Fund Transfer Act (EFTA) against unauthorized transactions, but not disputed charges.
- Credit cards are short-term loans from the issuing bank. They help build credit history and offer purchase protection and rewards. Interest accrues if the full balance is not paid off monthly. Cash advances have higher interest rates, fees, and no grace period. The Fair Credit Billing Act (FCBA) protects against unauthorized and disputed charges.
- Prepaid debit cards are loaded with money and not linked to bank accounts. General purpose cards can be registered for protection against unauthorized charges and FDIC/NCUA

insurance.

- Paper checks require careful tracking and endorsement for deposit.
- ACH transfers (electronic checks) are faster and more secure than paper checks for bill payments and direct deposits. Online bill pay services manage outstanding payments. Consumers can authorize businesses to directly withdraw funds via ACH. Stop payments can be placed on checks or ACH transfers for a fee.
- Peer-to-Peer (P2P) payment apps allow instant electronic transfers between individuals. They can be linked to bank accounts, debit cards, or credit cards. P2P apps are generally unregulated, and protection for funds depends on whether the underlying accounts are registered and FDIC/NCUA insured. Digital wallets store card information but do not hold funds themselves and are also unregulated.
- Buy-Now-Pay-Later (BNPL) services are installment loans. They can lead to increased spending and unintentional debt.

Safe Banking Practices:

- Diversify where you store money. Avoid keeping large amounts in your primary checking account or accounts linked to payment apps.
- Utilize savings and money market accounts for direct deposits and transfer only necessary funds to checking.
- Monitor account balances and transactions regularly.
- Set up transaction alerts
- Use strong, unique passwords and multi-factor authentication.
- Be vigilant against phishing and scams, as legitimate institutions will not ask for sensitive information via email or text.

Financial Difficulties:

- If facing financial hardship, negotiate with creditors or service providers.
- Short-term loan options include credit card cash advances and personal loans. Credit card cash advances have high interest, fees, and no grace period. Interest rates and fees on personal loans vary greatly and depend on your credit scores.
- Non-credit card cash advances and payday loans offer small, short-term loans with extremely high interest rates and fees, often trapping borrowers in debt cycles.
- Car title loans are high-cost, secured loans where the car serves as collateral. Car title loans are considered predatory in some states.

Unbanked Households:

- Unbanked households have no checking or savings account. Underbanked households have a bank account but lack access to other traditional financial services. These households face inconvenience and high costs from using non-bank financial products. In 2023, approximately 5.6 million U.S. households were unbanked, and 19 million were underbanked. Reasons often include not meeting minimum balance requirements or distrust in banks, with racial disparities present. Steps to become banked include finding banks with no minimum balance, seeking credit counseling, or utilizing special programs.

End of Chapter Questions

1. What does cash management involve?
2. Name and briefly describe four types of financial institutions.
3. Define financial conglomerates.
4. What are the two main types of deposit institutions, and how are deposits insured?
5. List at least three benefits of having a checking account.
6. What is ChexSystems, and what rights do consumers have regarding their ChexSystems report?
7. List five key factors to consider when choosing a bank.
8. What are the four main categories of bank accounts, and how does FDIC/NCUA insurance apply to them?
9. Explain the purpose of overdraft protection and its potential downsides.
10. List the advantages and disadvantages of Certificates of Deposit (CDs).
11. Explain the differences between a credit card and a debit card.
12. List the main advantages and disadvantages of using a credit card.
13. How does consumer protection differ for lost or stolen credit cards versus debit cards?
14. What are prepaid debit cards, and what is a crucial step to gain consumer protection for them?
15. What are the key differences between Peer-to-Peer (P2P) payment apps and digital wallets?

16. List risks associated with using P2P payment apps.
17. Explain what Buy-Now-Pay-Later (BNPL) and Rent-to-Own services are, and why consumers should be cautious of them.
18. List three safe banking practices to protect your financial well-being.
19. What are some financial consequences of being unbanked or underbanked?
20. When facing a financial jam and needing to borrow money, what are some high-cost, risky options that consumers should be wary of?

Appendix 7.1

[Link to sample disclosure report by ChexSystems.](#)

Appendix 7.2

[Link to detail information on BBank checking accounts.](#)

Notes

1. 2023 FDIC Household Survey.

PART IV

MODULE FOUR: FINANCING MAJOR PURCHASES

Module Four covers the two most common major purchases in personal finance: automobile and home. Chapter 8 explains how to evaluate car purchase based on your personal values, choosing a financing option, and the basics of auto insurance. Chapter 9 discusses renting versus buying a home, the cost of home ownership, housing affordability, and homeowners insurance. It goes over how to evaluate and choose a mortgage and a lender and each step in home purchase process.

8.

PURCHASING, FINANCING, AND INSURING A CAR

Chapter Eight Learning Objectives

- Identify resources for researching car information.
- Understand the total costs of owning and operating a car.
- Identify the pros and cons of a new car versus a used car.
- Identify factors affecting the cost of automobile insurance.
- Evaluate appropriate automobile insurance coverage.
- Evaluate different options to pay for a car.
- Calculate estimated car payments.
- Evaluate leasing versus buying.
- Develop a smart car shopping strategy.

Buying a car is often the first major purchase in one's life. The car shopping process may be fun and exciting for some, or it may be intimidating for others. Deciding on a car is no easy task. There are so many makes and models. The need to choose a financing option adds to the complexity. In addition to the price of a car, you should look at the total cost of ownership, which includes operating, depreciation, and repair costs. Auto insurance can add a significant amount to your budget. And do not forget opportunity cost. When you miss work or school frequently due to an unreliable car, you could end up losing your job or failing a class. In which case the opportunity cost is very high. When there are a multitude of choices, it can feel overwhelming. In fact, most respondents in a 2014 survey said that buying a car was more stressful than going on a first date. You can apply tools from previous chapters to make the car buying process manageable.

How Much Car Can You Afford?

First, use your budget to help you determine how much car you can afford. As a rule of thumb, keep your car payment to be less than 10 percent of your take-home pay. For instance, if your monthly take-home pay is \$4000, your car payment should be less than \$400. Keep car payment, insurance, gas, and regular maintenance to be less than 20 percent of take-home pay. Then there is down payment. A short cut to estimate how much car you can get given how much you have saved up for down payment is to divide your savings by the down payment percent. A typical down payment on a car loan is 20 percent.

Approximate car cash price you can afford = Down payment savings / Down payment percent

If you have saved up \$5,000, that means you can get a \$25,000 car with a \$20,000 loan, assuming the monthly payment and other car expenses are within the 10 percent and 20 percent guideline. Then rank the various alternatives based on their feasibility and alignment with your personal values and lifestyle. In the following sections we will explore the costs of owning and operating a car, auto insurance, and financing options.

Total Cost of Ownership

Before going to a car dealer, you will benefit from doing some homework first. Your personal values, family situation, and lifestyle will guide your priorities. A family with 3 kids under the age of 10 will need plenty of passenger and cargo space. If you have a long commute or your work involves a lot of driving, fuel efficiency will be important. The internet is a useful resource for researching car information. There are dedicated websites that specialize in car reviews and provide estimates on average operating and repair costs. Examples include Edmunds.com and kbb.com. Operating costs include gas, depreciation, and routine maintenance such as oil change, brakes, and tires. The key is to be informed so you will be prepared. For instance, a single tire can cost from around \$100 to \$3-\$400 or more. Can you afford to replace a tire on your chosen car easily if you are unlucky and hit a pothole?

The advertised prices from car dealers usually do not include all the fees and taxes. Some of these fees and taxes are state mandated such as title and registration fee, sales tax, and inspection. Some dealer fees, charges, and add-ons are optional or negotiable. An example of optional add-ons is the cost of etching the vehicle identification number (VIN) to the windshield. VIN etching is advertised as a deterrent to car thieves. You can decline this service at the dealer and do it yourself or at lower cost somewhere else. Examples of negotiable dealer fees include “market adjustment fees” and “advertising fees”. These fees and taxes can add 8 to 10 percent to the advertised price. To avoid unpleasant surprises, get an “out-the-door” cash price of the cars that interest you in writing via email. That means getting the dealer to send you the total cash price of the car including all taxes and fees. Delay discussing financing and trade-in options at this stage of your shopping process. Having the “out-the-door” price in writing before you go to the showroom will help you compare offers from different dealers on an apples-to-apples basis. It also makes it easier to catch extra charges and add-ons that you do not

want. Ask if you qualify for any available offers such as rebates, discounts, or special prices. Look closely to see if there are restrictions on these offers. Examples of discounts include “new grad” offers for recent college graduates or military discounts for active duty members and veterans. Some offers apply only to specific car models. Do not assume that any rebates have already been included in the price you are offered. You want answers to all your questions in writing. That way, you can evaluate your options at home, a less stressful environment than at the dealer. You can also check the final deal against what you have been quoted when everything is in writing. When you compare your options, include the operating costs in addition to the price. The following example demonstrates the importance of looking at the total cost.

Figure 8.1 shows the operating costs for two comparable new vehicles that have similar cash prices but vastly different operating costs for their first year. The Jeep Compass has a higher maintenance cost than the Honda HR-V. The biggest difference is in the depreciation. The Compass depreciated by \$8,001 in the first year, compared to only \$3,271 for the HR-V.

	Honda HR-V	Jeep Compass
Cash Price	\$29,162	\$29,025
Estimated Operating Cost for Year 1		
Maintenance	\$126	\$301
Depreciation	\$3,271	\$8,001
Fuel	\$1,683	\$1,746
Total Operating Costs	\$5,080	\$10,048

Source: www.edmunds.com

Figure 8.1

New versus Used Cars

Cars are a depreciating asset, which means it loses value over time due to wear and tear. The steep depreciation in the first two years is often cited as a disadvantage of buying a new car. There are pros and cons for both new and used cars. The pros of buying a new car include the manufacturer’s warranty, the latest safety features and technology, and let us face it...shiny and new. It is easier to find the exact features you want and you can even customize a new car to your own specification. New cars tend to be more reliable. Oftentimes, manufacturers offer special low interest rates on new cars as promotions. Even conventional auto loans tend to have lower rates on new cars than used cars. The disadvantages of buying a new car include a higher price and steep depreciation

in the first few years. Depreciation is the greatest with special custom features such as premium paint colors or audio upgrades.

The biggest advantage of a used car is its price. It also has slower depreciation. The cons of buying a used car include lack of manufacturer's warranty, higher maintenance and repair expenses, potential problematic car history, and higher interest rates. There are also rental costs and inconvenience when your car is being repaired. Used cars, especially ones with a lot of miles or problematic repair history, may be unreliable. You do not want to get into trouble at work or school because your car breaks down frequently. It may take longer to find a used car with all the features you want. If you are considering a used car, you should research the car's history, find out costs for major repairs, and have a reliable mechanic to inspect the car. You can find out a car's history using its 17-digit Vehicle Identification Number (VIN) at websites such as [VehicleHistory.gov](https://www.vehiclehistory.gov) or [Carfax.com](https://www.carfax.com). Car history information includes ownership changes, past accidents, flood damage, and whether a car has been declared salvage. A salvage vehicle is a car so extensively damaged that the cost of repair was greater than the value of the car. Such cars can be rebuilt but the values are significantly lower. In addition to Edmunds and KBB, Consumer Reports and NADA Guides are good resources for finding out used car values and major repair costs. Consider having a mechanic you trust perform a pre-purchase inspection. It may cost a few hundred dollars for the inspection but it can prevent you from buying a car with mechanical problems or in need of major maintenance soon. If the seller does not allow a third-party inspection, it is a red flag and you are better off looking for a different car. Some used cars, called certified pre-owned, come with limited manufacturer's warranty and have fewer mileage than typical used cars. Many are less than 5 or 6 years old and have fewer than 60,000 miles. Certified pre-owned cars are more expensive than regular used cars but cheaper than new cars. Figure 8.2 compares the cash price, operating, and repair costs of four vehicles. In this example, the lower depreciation of the used cars are offset by higher maintenance costs. It is interesting to note that the car with the lowest cash price has the second highest operating and repair costs. This example demonstrates the importance of taking into account both price and operating and repair costs when evaluating a car. The relative prices of new versus used cars fluctuate with supply and demand. During the COVID pandemic, supply shortage caused used car prices to soar. In 2025, President Trump imposed a 25 percent tariff on imported cars and car parts, leading to higher prices for new cars. Before you go car shopping, get to know the current car market conditions.

	2024 HR-V	2020 HR-V	2024 Compass	2020 Compass
Cash Price	\$29,162	\$19,773	\$29,025	\$17,470
Estimated Operating and Repair Costs Over 5 Years				
Maintenance	\$4,538	\$4,907	\$4,340	\$5,754
Repairs	\$560	\$2,374	\$807	\$2,690
Depreciation	\$11,864	\$8,711	\$14,171	\$9,950
Fuel	\$8,936	\$8,936	\$9,269	\$9,269
Total Operating and Repair Costs	\$25,898	\$24,928	\$28,587	\$27,663

Source: www.edmunds.com

Figure 8.2

New Car versus Used Car

<p>Pros of buying a new car</p> <ul style="list-style-type: none"> • Newest safety features • Manufacturer warranty • Customizing options • Opportunity for special financing 	<p>Pros of buying a used car</p> <ul style="list-style-type: none"> • Cheaper • Depreciate at a slower rate
<p>Cons of buying a new car</p> <ul style="list-style-type: none"> • More expensive • Depreciate at a faster rate 	<p>Cons of buying a used car</p> <ul style="list-style-type: none"> • No warranty <ul style="list-style-type: none"> ◦ Except certified pre-own cars which have some warranty • Higher repair costs sooner • More difficult to do research • May take longer to find the right car

Consumer Protection of Auto Purchase

Most states have “lemon laws” to protect buyers of new cars. A “lemon” is a car with a substantial defect that

the manufacturer cannot fix after three or four attempts. The buyer is eligible for a refund or replacement under the lemon law. You need to document the repair attempts and the defect to establish the car as a lemon. Keep all repair receipts and if possible, take photos and videos of the defect. A few states extend the lemon laws to used cars. Most states have laws that require “implied warranties of merchantability” to protect buyers of used cars. Dealers have to guarantee that the used car will run – at least for a little while.

The manufacturer’s warranty covers basic parts against defects, including the powertrain in the engine, transmission, drive train, and corrosion. The specific time horizon, mileage, and parts covered vary by manufacturers and car models. The coverage is longer and includes more parts for a new car than a certified pre-owned car. If a part under warranty needs repair or replacement, the manufacturer covers the cost.

Car dealers almost always offer extended warranty, also called service contracts, to buyers. This extended warranty is through the dealer, not the manufacturer. A recent Consumer Reports survey found that 55 percent of owners who purchased an extended warranty did not use it at all. On average, those who did use it spent hundreds more for the price of the contract than they saved in repair costs. Unless your unique situation makes the extended warranty worthwhile, the average consumer does not appear to benefit from buying one.

Auto Insurance

Once you have narrowed down your choices to a few different car models, the next step is to get an estimate on their insurance costs. Some of the car review sites include insurance and financing costs in their estimates, which will likely differ significantly for your actual costs on these two items. The primary purpose of insurance is to protect your net worth against events beyond your control. Many states have financial responsibility laws which require drivers to purchase a minimum amount of liability insurance. Another name for liability insurance is casualty insurance. It covers payments to others when you are responsible for their injuries and damages to their properties. You may be held legally responsible, or considered at fault, even if you think you are not the sole cause of the accident. Negligence on your part is often sufficient ground. The specifics of financial responsibility laws vary by state. If you purchase a car with an auto loan or lease, the lender will require property insurance to cover damages to the car that is pledged as collateral.

Types of Insurance Coverage and How to Read an Insurance Policy

An auto insurance policy is a legal contract specifying how much the insurance company will pay under what conditions. The first page of the policy, called the declaration page, summarizes the coverages, limits, deductibles, and premiums. Coverages describe the type of damage and injuries the insurance company agrees to pay. Coverage limits are the maximum amount the insurance company will pay. Deductible is the amount you owe before any insurance payment. Premium is the price you pay for the insurance policy.

There are four main categories of coverage. The first covers injuries to others when you are responsible for the accident. Injuries include legal and medical expenses, lost wages, and other expenses incurred as a direct

result of the accident. The coverage limit specifies the maximum amount the insurance will pay per person injured and a maximum total per accident. Figure 8.3 shows the declaration page of a sample policy.

Declarations Page

This is a description of your coverage.
Please retain for your records.

SAM SMITH and CHRIS JONES

123 MAIN STREET
SMALL TOWN MM 12345

Email Address: samandchris@mail.com

Policy Number: 9999-99-99-99

Coverage Period:

01-01-25 through 06-30-25

12:01 a.m. local time at the address of the named insured.

Named Insured

Sam Smith
Chris Jones

Additional Drivers

None

<u>Vehicles</u>	<u>VIN</u>	<u>Vehicle Location</u>	<u>Finance Company/ Lienholder</u>
1 2014 Volks GTI	1G1JC6SB4F4115188	SMALL TOWN, MM 12345	
2 2015 Toyota Prius	1G1ZU64874F160516	SMALL TOWN, MM 12345	

<u>Coverages*</u>	<u>Limits and/or Deductibles</u>	<u>Vehicle 1</u>	<u>Vehicle 2</u>
Bodily Injury Liability Each Person/Each Occurrence	\$300,000/\$500,000	\$72.09	\$66.13
Property Damage Liability	\$100,000	\$87.65	\$87.03
Medical Payments	\$10,000	\$9.95	\$8.93
Uninsured Motorists Each Person/Each Occurrence	\$300,000/\$500,000	\$18.32	\$18.32
Comprehensive (Excluding Collision)	\$100 Ded	\$23.17	\$32.76
Collision	\$1,500 Ded	\$39.83	\$45.29
Emergency Road Service	Full	\$4.50	\$4.50
Six Month Premium Per Vehicle		\$255.51	\$262.96
Total Six Month Premium			\$518.47

Discounts

The total value of your discounts is **\$336.30**

Anti-Lock Brake	\$4.48
Good Driver	\$111.62
Continuous Insurance	\$55.76
Restraint	\$8.09
Seat Belt	\$0.99
Sponsored Marketing	\$27.28
Anti-Theft	\$5.99
Multiline	\$22.22
Multi-Vehicle	\$99.87

The following discounts have also been applied

Financial Responsibility	Included
Driving Experience	Included

Figure 8.3

In Figure 8.3 the per person limit is \$300,000 and the per accident limit is \$500,000. The second category covers damage to other people's properties, including their cars. The property damage limit in Figure 8.3 is \$100,000. Sometimes these liability insurance coverage limits are written as XXX/XXX/XXX where the first number describes the per person injury limit, the second describes the per accident limit and the third describes the property damage limit. In the sample policy, these limits will be expressed as 300/500/100. The following two examples illustrate how liability insurance works.

Example: Sam's Unfortunate Run-in

Sam takes pride as a skilled driver. Unfortunately, a text notification distracted them and they did not stop in time when the car in front of them braked suddenly. The insurance company determined that Sam was at fault. Sam had purchased liability insurance coverage with limits of 15/30/5. Luckily no one was hurt but the damage to the other car required \$8,000 in repairs. Sam's insurance paid \$5,000 according to the policy and Sam had to pay the additional \$3,000 out of pocket to the other driver.

Example: Chris's Nightmare

Chris was on a road trip with three friends when their car was struck by a drunk driver. Chris required surgery and two of the friends needed a brief hospital stay. Chris's car, which was worth \$18,000, was totaled. The drunk driver carried liability insurance with limits of 15/30/5. The hospital bill was \$100,000 for Chris and \$10,000 each for the two friends. The insurance company paid \$15,000 to Chris because that was the per person limit. Even though the hospital bill for the other two friends was below the \$15,000 per person limit, they would not receive full payment of \$10,000 each because of the per accident limit. The insurance company paid \$7,500 to each friend. Chris received \$5,000 for the car. Total payout from the insurance company was \$30,000 for injuries (\$15,000 + \$7,500 + \$7,500) and \$5,000 for property. Chris and their friends now faced the

dilemma of whether to sue the drunk driver for damages not covered by insurance. For the two friends, the uninsured damage amount was only \$2,500 each. For Chris, the total uninsured amount was \$98,000 ($\$100,000 - \$15,000 + \$18,000 - \$5,000$).

The third category covers injuries to you and passengers in your car. Uninsured motorist coverage pays the costs of bodily injury to you and your passengers when an accident is caused by another driver who is not insured or if the other driver is not identified (hit-and-run). Underinsured motorist coverage pays for remaining medical expenses when the driver causing the accident has insufficient coverage to pay the full amount. Imagine you are in an accident with someone who has a liability limit of \$50,000, but your medical bills are \$80,000. The at-fault driver's insurance will pay \$50,000, and your underinsured motorist coverage will pay the remaining \$30,000 or up to the limits of your own policy. If you live in a no-fault state, you will need to purchase no-fault insurance, also called Personal Injury Protection (PIP) insurance. In a no-fault insurance state, your own insurance company will pay for your expenses due to injuries sustained in the accident, no matter who is at fault. Note that insurance companies still determine who is at fault after an accident and the driver can still be held liable for property damages and bodily injuries they cause even in a no-fault state. You can purchase "add-on" or "choice" PIP insurance to cover the costs of your own injuries when you are at fault in an accident in some states that are not no-fault states.

The minimum auto insurance coverage under financial responsibility laws varies greatly from state to state. For instance, California requires only liability insurance with the minimum limits set to \$15,000 per person, \$30,000 per accident, and \$5,000 for property damage (15/30/5). Massachusetts is a no-fault state and it requires liability, PIP, and uninsured motorist insurance. The minimum limits for liability insurance is 25/50/30, for PIP is \$8,000, and for uninsured motorist coverage is \$25,000 per person, \$50,000 per accident. New Hampshire, a neighbor to Massachusetts, does not require auto insurance but you must show proof that you are able to pay for the damages if you are at fault in an accident.

The fourth category covers damages to your car. Collision coverage insures against costs of damage to your car resulting from an accident in which you are at fault. Comprehensive coverage insures you against damage to your car that results from floods, theft, fire, hail, explosions, riots, and various other events. If you have a loan or lease on your car, the lender will require collision and comprehensive coverage. If your loan term is long relative to the age of the car, you may want to consider getting GAP insurance. GAP insurance covers the difference between the loan value or remaining lease obligations and what your collision and comprehensive insurance would pay out in case the car is totaled or stolen. Remember that you are responsible for the loan or lease even if your car is gone. For instance, if your loan balance is \$12,000 and the insurance values your car at \$10,000, you are on the hook for \$2,000 to the bank.

There are other items you can add to your policy. A common additional coverage is to pay for rentals when

your car is not usable due to an accident when you are at fault. The rental bill could be hundreds of dollars or more while your car is in the shop. Even if you are not at fault, without rental coverage you will need to wait to get reimbursed from the other driver's insurance. If having use of a car is indispensable you may want to consider adding this to your policy. Most policies have a daily and total claim amount. The daily amount is how much your insurance company will pay per day for the rental car. Anything over that amount will come out of your pocket. The total per claim amount is the maximum you can be reimbursed for each accident. These might be a dollar or a time limit. Another popular option is to insure against towing costs. Towing can be expensive. These additional items add to your premium. They also help you avoid unexpected large expenses.

What To Do If You Are In An Auto Accident

If you are in an auto accident, contact the police immediately. Ask for a copy of the police report. Request information from the other driver(s), including their names, phone numbers, addresses, and their insurance information. If there are witnesses, obtain their contact information. Take pictures of any evidence. Write down details of the accident right away. You will forget important facts if you wait till you have time. Save receipts for all immediate expenses, such as medical bills and towing fees. File a claim with your insurance company as soon as you get home. Include the police report, details of the accident, and photographs with your claim. Arrange to meet with the claims adjuster. A claims adjuster investigates insurance claims to determine the extent of damages and repairs the insurance company will cover. Your insurance company may have preferred garages for auto repairs. You can choose your own auto shop but be aware that the insurance company may not approve the full repair costs even if they are below the limit.

Exercise 8.1 Learn Your State's Financial Responsibility Law

Research your own state's financial responsibility law.

1. Determine whether auto insurance is mandatory in your state.
2. Determine whether your state is a no-fault state.
3. If so, identify the minimum insurance coverage requirement.
4. List other items that are not required by law in your state that you would add to your own policy.

Factors Affecting Your Auto Insurance Premiums

The coverages and limits are only some of the factors that affect your insurance premium. Personal factors play an important role. Insurance companies look at your age, driving record, how much you drive, where you live and work, and even your credit score. Premiums for young drivers under age 25 are usually very high. Speeding tickets and other traffic violations will increase your premiums significantly and a DUI (Driving Under the Influence) offense can more than double it. Consumers with poor credit scores may pay twice as much as consumers with excellent credit scores. Students can get a discount for good grades. Insurance companies often offer discounts for purchasing multiple insurance policies, such as more than one car or combining homeowner or renter insurance. Notice in Figure 8.3 that the biggest discounts are Good Driver discount and Multi-vehicle discount. Other common discounts include safe driver discounts or for belonging to a group, such as alumni of a university. Some companies offer a discount if you agree to install a monitoring app on your phone, which allows insurance companies to have access to your driving habits. When evaluating insurance options, be sure to investigate all available discounts and whether the intrusion to your privacy is worth it.

The year, make, and model of the car will obviously have a significant impact on the premium. Insurers evaluate a car's average repair costs, accident rates, and theft rates. While the repair costs are usually related to the value of a car, the other two factors may vary greatly. For example, a four-door car is usually cheaper to insure than a two-door car. You may be surprised to find that the insurance premium for a cheaper car may be higher than a more expensive car! Another factor that can affect your insurance premium is the amount of deductible. The higher the deductible, the lower your premium. A higher deductible means you have higher out of pocket costs.

Your budget, net worth, and emergency funds can help you decide on the amount of auto insurance coverage you need. In addition to three to six months of living expenses, your emergency fund should be sufficient to cover the deductible amount. If the insurance payout (i.e. the limit amount) is less than the actual costs, the injured party can potentially sue you for the remaining amount. Your bank accounts, home, car, wages, and even retirement accounts may be at risk, depending on your state's specific laws. Consider purchasing sufficient insurance coverage so you would not lose all your money and your home in case of an accident. On the other hand, purchasing too much insurance may signal that you have high net worth and you may become a target for lawsuits. A commonly recommended amount for liability insurance is a 100/300/100 policy, which means \$100,000 per person, \$300,000 per accident, and \$100,000 for property damage. This level of coverage is appropriate if you own a home or have a few hundred thousand dollars in net worth. If you do not have any assets, the minimum required coverages may be right for you.

Shopping for Auto Insurance

After you have decided on the amount of coverage you need, the next step is to shop for a policy. Insurance companies are called underwriters. They underwrite the policies, collect premiums, and make assessments

and payments in case of an accident. Insurance companies range from full service to barebone discount ones. Full service insurance companies have a diverse selection of policies, many optional items, and have physical office locations. Examples include State Farm, Allstate, and Liberty Mutual. They may sell their policies through exclusive agents or independent agents. Exclusive agents handle only one insurance company's policies. Independent agents carry policies from multiple insurance companies. Premiums of policies from full service companies tend to be higher. When you have questions or experience an accident and need help with making a claim, the agent of a full service insurance company can guide you through the process. You can visit the agent in person to resolve any issues. Discount insurance companies typically do not have physical locations and conduct all businesses online or via mobile apps. They offer few policy selections and sell their policies directly to consumers instead of through an agent. Customers of discount insurance companies submit claims online or via mobile apps. If you have questions or need help, you can contact them online. Premiums, especially for policies with minimum required limits, tend to be much cheaper at these companies. Some insurance companies operate primarily online, have a range of policy selections and limited in-person services. They mostly sell their policies directly but also make them available through independent agents. Examples include GEICO and Progressive. Premiums at these companies tend to be cheaper than full service. If you or a member of your family is/was in the military, the USAA insurance is another good option. Beware of advertisements for "no deposit" auto insurance. Such policies do not exist. Legitimate insurance companies will require paid premiums before providing coverage. Many companies offer monthly payment options, making it easier for you to budget. This convenient feature may cost more. You need to decide if the higher price (or forgoing the single payment discount) is worth it.

Price is only one of many factors to consider when choosing an insurance company. Other important factors include the types of policies offered, financial stability, claim payment history, past consumer complaints, and whether you need in-person service. Each state government has a department headed by its insurance commissioner that regulates and issues licenses to insurance companies and insurance agents. This department also examines the financial health of insurance companies. In addition to state oversight, there are independent rating agencies that rate the financial strength of insurance companies. The most well known ones are Moody's, Standard & Poor's, A.M. Best, and Fitch. Each rating agency has its own scale that is not equivalent even when the ratings appear similar. The highest rating is usually labeled AAA, Aaa, or A+++. Avoid insurance companies with ratings less than A, indicating lack of financial strength. Another useful resource is the National Association of Insurance Commissioners (NAIC, www.naic.org). It maintains a database containing the number of complaints, licensing reports, and financial overview reports. You can also file a complaint at the NAIC website if your insurance company is taking an excessive long time to process your claim or declines a legitimate claim. The J.D. Power Auto Claims Satisfaction Study provides more detailed information about customer satisfaction, not just the number of past complaints.

Obtain quotes from multiple companies before deciding on an auto insurance policy. Ask about available discounts. You may be surprised by the various types of discounts insurance companies offer. If you already

have a policy, you may be able to negotiate a lower premium by presenting a quote from a competing company. Always include the cost of insurance when you are evaluating which car to buy.

Exercise 8.2 Auto Insurance Companies

In this exercise, you will research information on insurance companies. Identify two insurance companies, one that has a local office near you and one that operates mostly online.

Activities:

1. Look up the financial rating from Fitch on your companies.
2. Look up the financial rating from Moody's on your companies.
3. Look up the complaint history on NAIC for your companies.

Financing Your Car Purchase

The final piece of the car buying puzzle is how to pay for it. The three options are cash, auto loan, and car lease. Cash is the simplest but very few people have sufficient cash on hand to pay for a reliable car. If you plan to take out an auto loan, get a copy of your credit report before approaching a lender. Review it to make sure there is no error. If your credit score is less than prime, consider adopting some of the suggestions in Chapter 6 to improve your credit score. Credit unions and banks usually have lower interest rates than dealer-arranged financing, especially on used cars. You do not need to borrow from your existing bank. Obtain quotes from different credit unions and banks. When lenders check your credit for pre-approval, it is considered a credit inquiry and if all the inquiries occur within 30 days, it is considered a single inquiry and will not impact your credit score. When comparing the loan offers, pay attention to APR, length of the loan, prepayment option, and other terms. Get a pre-approval from a lender before going to the dealer. Having a loan pre-approval allows you to separate negotiating financing from negotiating on the price of the car. Manufacturers sometime offer low interest rates on new cars as promotions or incentives. This is a special case when the dealer-arranged financing may be a better option. Leasing is generally more expensive than buying a car. There may be unique circumstances where leasing makes sense. The key to comparing financing options is to look at the total payment over the entire loan term, not just the monthly payment. We will explore auto loan and lease in details in this section.

The two most important factors affecting the interest rate on an auto loan are the length of the loan and

your personal financial status including your income, debt level, and credit score. Recall from Chapter 6 that lenders often look for a debt payment-to-income ratio (DTI) of less than 35 percent when housing costs are included. When housing costs are excluded, lenders look for a DTI of less than 20 percent. Compute your DTI with the estimated monthly payment on the desired vehicles. Check that your DTI remains below lenders' requirements. The specific car model can affect the amount lenders are willing to finance, called the loan-to-value (LTV) ratio. Lenders usually allow a higher LTV ratio on new cars than on used cars. The LTV ratio determines the amount of down payment you must come up with. A typical LTV ratio is 80 percent or lower. This means that lenders are willing to lend up to 80 percent of the car's value. If you purchase a \$30,000 car, you can borrow \$24,000, implying you need a \$6,000 down payment. Manufacturers sometimes offer promotions or incentives in financing terms for new cars. Such promotions may include lower interest rates and/or higher LTV ratios. You may have heard advertisements promoting zero down payment, which means the manufacturer is offering a 100 percent LTV ratio. In addition to down payment, you will need to pay fees and taxes up front.

As explained in Chapter 5, longer term loans tend to have higher interest rates. There are other disadvantages to a long-term car loan. First, you end up paying more in total interest payments because the loan is longer. Second, there is a greater danger of being trapped in an “upside down” situation where your loan balance is higher than what the car is worth. This is called negative equity. Remember that cars are depreciating assets. Unless you pay down the loan faster than the car's depreciation, you can end up in such a situation. A rule of thumb is to keep car loans to less than 5 years (60 months) for new cars and less than 4 years (48 months) for used cars. Let us look at an example of two car loans with different terms.

Example: Chris's Choice

Chris was looking at a beautiful used truck. The price was \$25,000. Chris had a credit score of 700, which they had worked hard to achieve. The dealer quoted them an APR of 9 percent for a 48-month loan. With a \$5,000 down payment the monthly payment came to \$497.70. Chris told the dealer that the payment was \$100 more than they had budgeted. Instead of negotiating on the price of the truck or finding a cheaper car, the dealer offered Chris a 72-month loan at an APR of 10 percent. The monthly payment was reduced to \$370.52, well within Chris's budget!

Between work, school, and the occasional road trips and home visits, Chris drove over 20,000 miles per year. The high mileage put a lot of wear and tear on the truck. Chris also had a minor car accident. After 3 years, the truck had over 170,000 miles and was starting to have mechanical troubles. Chris was considering getting another car. They looked up the trade-in value of the truck and found that it was worth \$10,000. Chris had hoped that the trade-in value of the truck would

cover the down payment for the next car. Unfortunately for Chris, with the 72-month loan, the remaining balance after 3 years was \$11,483, more than the value of the truck. This means Chris was upside down on the car loan. If Chris were to trade in the truck, they would have to pay \$1,483 to the lender to make up the difference. Chris would not be able to get another car at this time.

Chris shared their predicament with Sam, who reviewed the original loan offers with them. Sam showed Chris that with the 48-month loan, their total payments would be \$23,889.64 ($\497.70×48). Since the loan was \$20,000, that meant the total interest payments would have been \$3,889.64. With the 72-month loan, the total payments were \$26,677.21 ($\370.52×72) and the total interest payments were \$6,677.21. The interest payments on the 72-month loan almost doubled that on the 48-month loan. Chris realized they were focusing on the monthly payment amount and not the total payment amount. They also did not take into account that a used truck with over 100,000 miles would not be reliable for another 6 years (72 months) without major repairs. It was another painful financial lesson for Chris but they would be better prepared the next time.

In addition to interest rate and loan terms, there are other factors to watch out for when considering a car loan. Avoid loans that have prepayment penalties. If your car loan has a prepayment penalty, it will cost you money if you trade in the car before the loan is fully paid off. You will also be penalized if you want to make extra payments toward the loan or refinance the loan at a lower interest rate. Some financing companies require credit insurance and GAP insurance as part of the loan agreement. Credit insurance pays the lender if you fail to make payments on the loan. These add-ons are common with financing companies working through dealers. GAP insurance can be much, much more expensive (hundreds of dollars more) through a dealer-arranged lender than your existing insurance company. Dealers often work with 4 or 5 different financing companies. You can ask the dealer to negotiate better financing terms on your behalf, including a lower APR and removing add-ons you do not want. The APR you negotiate with the dealer usually includes an amount that compensates the dealer for handling the financing. If you already have a pre-approved financing offer, be sure to compare the APR, loan term, and amount financed to what the dealer offers. You might decide to stick with the financing from your chosen bank if the difference is small. If you decide to go with the dealer-arranged loan, make sure that the terms are final and fully approved before you sign the contract and leave the dealership with the car. If the dealer says they are still working on the approval, the deal is not final. Wait to sign the contract, and keep your current car, until the financing has been fully approved.

Buy-Here, Pay-Here Car Dealers (BHPH)

“Buy-Here, Pay-Here” (BHPH) dealers target consumers with poor credit history. They often advertise “No Credit, No Problem.” These dealers offer financing themselves instead of through an independent lender.

Their inventory includes mostly older, high mileage used cars. They advertise weekly or bi-weekly payment amount instead of cash price, making comparison shopping difficult. BHPH financing is significantly more expensive than traditional car loans. In addition to the add-ons to auto loans described in the last section, some BHPH dealers even require a tracking device to be installed on the vehicle, similar to a car title loan company. Recall that car title loans are considered predatory lending in some states.

Customers of BHPH dealers sometimes get trapped in a car nightmare cycle. Due to their age and high mileage, these cars frequently die before they are fully paid off. The BHPH dealer may offer to add the balance of the loan to the next car the customer purchases. If the customer does not have the money to pay off the loan, they may not have a choice to shop elsewhere. This often means the customer is forced to buy an even older car from the same dealer to keep the payments affordable, increasing the chances of repeating the cycle over and over.

If you have poor credit, do not assume you must go with a BHPH dealer. Some financial institutions may be willing to consider your loan application, especially if you have solid income and sufficient down payment. Try paying down some debts, such as credit cards, before applying for a preapproval. Use the tools described in Chapter 6 to improve your credit score. Getting a small car from a reputable car dealer is a better alternative than a loaded old SUV from a BHPH dealer. You may be surprised how much passenger and cargo space a 4-door hatchback compact car has. If you have had a poor credit history but have worked hard in changing your financial habits, you may consider getting a cosigner for a conventional car loan. Asking someone to cosign a loan is a huge favor. If you fail to make payments, you will affect both the co-signer's and your credit ratings. There are also non-profit organizations focusing on providing affordable vehicles to low-income households. Examples include Vehicles For Change and Working Cars for Working Families. Explore all your options and consider seeking advice from one of the reputable non-profit credit counseling agencies described in Chapter 6.

Exercise 8.3: Sam's Car Shopping Decision

Sam had learned that new cars depreciate quickly in the first year. At the same time, Sam wanted a reliable car. When they went car shopping, they had planned to buy a Certified Pre-Owned Car (CPO) that was 2 to 3 years old with 20-30k miles. Sam got pre-approval from their credit union for a 60-month auto loan up to \$30,000 at 7 percent for a new car and 10 percent for a used car. After reading a number of reviews and comparing total operating costs, Sam decided on a hybrid hatchback.

After contacting the dealer via their website, Sam obtained a written “out-the-door” quote of \$29,000 for a new model and \$24,000 for a 2-year old Certified Pre-Owned (CPO) with 28,000 miles on it. The new car came with a 5-year manufacturer’s warranty whereas the CPO came with only a 3-year manufacturer’s warranty. The price difference of \$5,000 was less than Sam expected. Sam found out that since COVID, used car prices had increased significantly.

Sam was offered a special promotional APR of 2 percent for a 60-month loan on a new car from the manufacturer. The dealer did not have any special offer for used cars and they quoted an APR of 12 percent. Sam had saved \$4,000 to use as down payment. This meant that Sam would take out \$25,000 in loan for the new car and \$20,000 in loan for the used car. Armed with all this information Sam sat down to evaluate their options.

Activities:

1. Compute the monthly payment on the CPO car. (Hint: Review how to compute monthly payment from Chapter 5.)
2. Compute the total payments and total interests on the CPO car.
3. Compute the monthly payment on the new car at the credit union’s APR of 7 percent.
4. Compute the total payments and total interests on the new car at APR of 7 percent.
5. Which car would you recommend Sam purchase based on the credit union’s interest rates?
6. Explain your recommendation.
7. Compute the monthly payment on the new car at the promotional APR of 2 percent.
8. Compute the total payments and total interests on the new car at APR of 2 percent.
9. Explain whether the lower APR changes your recommendation.
10. What other additional information would you want before making a final decision?

Lease versus Buy

When you lease a car, you do not own the car at the end of the lease. Your payments are for the use of the car, like a long-term rental. That means you are paying for the car’s expected depreciation during the lease period, plus a rent charge, taxes, and fees. Even though you do not own the car, you are responsible for all repair and maintenance during the lease. The specifics of the terms and conditions are listed in the lease agreement. These include the monthly costs, the length of the lease, restrictions, additional fees, and other important items. At the end of the lease, you have the option to purchase the car at a predetermined price (called the residual value) per the lease agreement. The leasing company determines the residual value by subtracting the expected depreciation from the original price. A common restriction is a predetermined mileage limit, often set between 10,000 to 15,000 miles per year but can vary. If you exceed this limit, you will have to pay an excess mileage

fee, which typically ranges from 10 to 30 cents per mile. This fee can add up very quickly. In addition, you will have to pay an excess wear-and-tear fee if the car's condition is worse than what is considered "normal" per the lease company. This often means performing all recommended scheduled maintenance according to the manufacturer. If you do not perform these services at the dealer, be sure to keep all receipts as documentation. The car exterior needs to be free of dents, scratches, or rust and the interior stain free. If you are not careful, these excess fees can amount to thousands of dollars at the end of the lease. If you want to terminate the lease early, you will have to pay an early termination penalty. The size of the penalty depends on the number of remaining payments on the lease, depreciation of the vehicle, and excess mileage and wear and tear. If the value of the vehicle has depreciated below the residual value, you may be responsible for the difference if you end the lease early. You may also be charged administrative fees to process the early termination. The earlier into the lease, the higher the penalty. Early termination penalties can be tens of thousands of dollars.

An often cited advantage of leasing is lower monthly payments compared to buying a car with a loan. Lease payments are lower because you do not own the car. The residual value in the lease agreement has a great impact on the monthly payment amount. Generally you do not need a down payment on a lease. You need to pay the first month's lease payment and any registration fees and taxes when you sign the lease. If the dealer suggests a down payment to reduce the monthly payment, that may be a red flag. This is because unlike a loan, any money you put down is treated as prepaid lease payments, not equity. The disadvantages of leasing include the lack of flexibility, no equity in the car, and high costs when you fail to meet any of the lease terms. A lease is less flexible because of the significant early termination penalty. People end their leases early usually due to unforeseen circumstances such as job loss, income changes, or life changes. Leasing may be an appropriate option if you want a new car every few years, not planning to own a car outright, and always drive under the mileage limit. The following example illustrates leasing versus buying a car.

Example: Pat's Leasing Adventure

Pat was excited to go car shopping. As a newly minted nurse practitioner with more than \$7,000 per month in take-home pay, Pat's salary would allow them to own a new car for the first time. They fell in love with a beautiful brand new SUV. The dealer quoted the cash price to be \$45,000 and the manufacturer was offering a special incentive of 5 percent down. Pat had excellent credit and qualified for a 60-month loan at 6 percent APR. With the special incentive, the down payment was only \$2,250. Pat had sufficient savings to make the down payment and other upfront costs. The monthly payment on the \$42,750 loan turned out to be \$826.48, much higher than Pat expected. Sensing Pat's sticker shock and reluctance, the dealer suggested Pat consider leasing.

The dealer quoted Pat a zero percent down 3-year lease for \$683.99 per month on the same vehicle, more than \$140 “cheaper” than the loan payment. Pat was ready to sign on the dotted line and drove the new car home. Pat brought their roommate Sam with them as their car shopping wingman. Sam suggested Pat asked the dealer to put in writing the loan contract and the lease agreement and took them home to review. Pat took Sam’s advice.

Once home, Sam helped Pat look over both documents. The car loan was through the manufacturer’s affiliated bank and did not have prepayment penalty or any add-ons. The \$826.48 payments over 60 months would total \$49,588.64. This meant the total interest on the \$42,750 loan was \$6,838.64 ($\$49,588.64 - \$42,750$).

The lease agreement contained a lot of information Pat was not familiar with. Pat wondered how the dealer was able to reduce the monthly payment by such a large amount with leasing. Sam explained that when Pat leased the SUV, they did not own it. The lease payments covered rental charges and depreciation. If Pat wanted to keep the car at the end of the lease, they would need to pay the residual value of \$29,250. This implied the leasing company expected the car to depreciate by \$15,750 ($\$45,000 - \$29,250$). Since the lease payments over 36 months would total \$24,623.56, this meant rental charges of \$8,873.56 ($\$24,623.56 - \$15,750$). The rental charges on the lease were actually higher than the interest charges on the loan (Figure 8.4).

Interest versus Rental Charges	Loan	Lease
Downpayment	\$2,250.00	\$0.00
Monthly payment	\$826.48	\$683.99
Term (in months)	60	36
Total payments	\$49,588.64	\$24,623.56
Loan amount/Depreciation	\$42,750.00	\$15,750.00
Interest charges/Rental charges	\$6,838.64	\$8,873.56
Ending loan balance/Residual value	\$0.00	\$29,250.00

Figure 8.4

Sam pointed out the excess mileage and excess wear and tear fees on the lease agreement. The lease allowed 10,000 miles per year with a 30 cent per mile excess mileage fee. Pat lived 45 miles from the hospital. Just the work commute would put over 9,000 miles per year on the car. Pat

estimated they drove close to 15,000 miles per year. That could result in \$4,500 of excess mileage fees at the end of the lease. The excess wear and tear fee depended on the condition of the SUV at the end of the lease and could range from \$1,000 to \$5,000. Pat realized that with the potential additional fees, the lease was not as cheap as it first appeared. A little disappointed, Pat was glad they took the time to review the options at home before signing a document they did not fully understand. Pat wanted to keep the car payment to be less than \$700 per month, 10 percent of their take-home pay. That meant looking at models with fewer options. Sam suggested that Pat emailed dealers to get the quotes in writing before going to the lot next time.

Trading in Your Old Car

If you plan to trade in your old car, look up its value before going car shopping. Edmunds, KBB, and NADA Guides are good resources for finding out trade-in values. Wait to discuss the possibility of a trade-in until after you have negotiated the best possible price for your next car with the dealer. You want to be sure the dealer does not adjust the sales price of the car to make up for a generous trade-in offer. If you have a loan on your old car, find out how much you still owe. Your loan balance is available in your monthly statement. You can also look it up on the bank's website. If your trade-in value is greater than the loan balance, you can use your equity in the car as part of your down payment on the next car. If you owe more than the car is worth, you have two options. You can pay off the difference between the trade-in value and the loan balance. In other words, you need to put more cash down. Alternatively, you can increase the loan on the next car to cover the negative equity. This will increase your monthly payment. If you are upside down on your current car, you may want to wait until you have paid down the existing loan more before shopping for another car.

A Car Shopping Game Plan

Most people find negotiating at the dealer's showroom a very stressful experience. You can reduce that stress by having a solid game plan. You have learned all the important issues relating to car purchase in this chapter. Now is the time to put them together into practice. First and foremost, know your car budget and stick to it. Avoid accepting a longer loan term or leasing to lower your monthly payments. Do most of your car shopping research at home. Following is a suggested to-do checklist before visiting a dealer in person.

- Review your budget to determine how much car you can afford.
- Get a copy of your credit report.
- Get quotes and shop for the best auto loan deals from credit unions and banks.

- Get an auto loan pre-approval.
- Get quotes and shop for the best auto insurance policy.
- Research the trade-in value of your existing car.
- Get an “out-the-door” price for the desired cars in writing from different dealers via email. Check fees, taxes, and add-on’s. If you are shopping for used cars, confirm that a third-party inspection is allowed.
- Ask the dealers about incentives, promotions, rebates, discounts, and special prices and have them in writing.
- If you want any add-ons, get their prices in writing.
- Know your total cost, not just the monthly payment.
- Check the estimated car payment, insurance, fuel, maintenance and repair costs against your budget. Confirm that you have sufficient savings to cover all the upfront costs, including prepaid insurance premium. Figure 8.5 shows a sample template for comparing the feasibility of different vehicles.

	Vehicle 1	Vehicle 2	Vehicle 3
<i>Up Front Cash Outlay</i>			
Down payment			
Fees and tax			
Prepaid insurance premium			
Total Up Front Cash Outlay			
<i>Annual Cash Outflow</i>			
Car payment			
Insurance premium			
Gas			
Maintenance			
Repair			
Total Annual Outflow			
Annual take-home pay			
Annual car payment to take-home pay			
Total car relate outflow to take-home pay			

Figure 8.5

When you visit a dealer, bring your loan pre-approval, the dealer's written quotation, estimated trade-in value of your existing car. If you are shopping for a used car, arrange for a third-party inspection and bring the car's history. Confirm with the dealer that the "out-the-door" price and all the terms in the written quotation are still valid. Test drive the car and if you are satisfied, negotiate on the trade-in. If it is a used car, get it inspected by your own mechanic.

Review the terms before you sign for the purchase and if applicable, financing. Do not be rushed. Ask the dealer to slow down, especially if they are moving quickly and only showing you the agreement on a screen, instead of in print that you can read at your own pace. Tell them you want to see the terms clearly before you agree, especially all the fees and charges in the deal. That way, you know the dealer did not include charges for

any extra items you do not want. Carefully compare what you are seeing at the time of signing to what the dealer sent you beforehand. Decline any add-ons that you have decided you do not want.

If you are financing through the dealer, do not leave the dealership without a copy of the completed loan contract or lease agreement signed by both parties. Make sure you understand whether the deal is final before you leave. Occasionally customers are called back to the dealership because the financing was not final or did not go through even though they already took the car home. Do not panic if that happens. Carefully review any changes or new documents you are asked to sign. If you do not like the new terms, tell the dealer you want to cancel and ask for your down payment and trade-in back. Get confirmation from the dealer in writing that the loan application and contract have been canceled. If the loan was being arranged by a financing company, call that financing company to confirm. Keep copies of your paperwork. If you agree to a new deal, be sure you have a copy of all the documents. Such potential back and forth is why arranging your own financing directly with a credit union or bank is preferred. The dealer may initially quote you a financing offer slightly cheaper than your pre-approved loan but later it may turn out your application is declined. With a pre-approval, you can decline the dealer's later offer and stay with your chosen financial institution.

This chapter provides you with the tools and knowledge to help you reduce the stress of car shopping and avoid expensive financial mistakes. Do not be pressured by sales tactics. You can be confident that you can always find a car that meets your needs.

Personal Financial Plan Assignment 8

Total Cost of Car Ownership

Choose a car you are interested in. Be specific about the make, model, and options. Research the cost of ownership for a new car and a 2-year old used car of the same make and model.

Activities

1. Choose a website to research the total cost of ownership.
2. Compare the list price of a new car and a 2-year old used car of the same make and model.
3. Assume \$1000 down payment, an APR of 6 percent and 5 year financing. Compute the monthly payment for a new car and a 2-year old used car of the same make and model.
4. Compare the total cost of ownership: insurance, maintenance, repairs, financial, depreciation and gas (fuel) for a new car and a 2-year old used car of the same make and model.
5. Assuming you can afford the monthly payments, explain whether you would purchase the

new car or the used car.

Integrated Case 8

Choosing and Financing a Car

Blake Jackson closed her laptop, a huge grin on her face. She did it! She officially accepted the job offer, ready to put her knowledge and newly minted degree to work. She did not plan to make any major changes in her lifestyle right away except for her car. It had over 180,000 miles and last year the mechanic told her it would likely need major repairs to pass the next inspection. Besides, she needed reliable transportation with her new job.

Her gross income would be \$60,000 per year (\$5,000 per month) before tax. She wanted to take advantage of her company's matching program and planned to contribute 10 percent of her gross income to the 401(k) plan. Her tax withholding amounted to approximately 20 percent of gross income. She would also need to begin paying \$472 per month on her student loans. Blake had not forgotten her dream to own a house one day and would like to begin saving for the down payment. Figure 8.6 shows Blake's current monthly budget.

Blake wanted to be prepared before visiting a dealership. She planned to do most of her research online. Opening up a new spreadsheet, she set to work.

Monthly Budget

	Monthly Budget Dollar Amount
Cash Inflows	
Gross income	5,000.00
Less: 401(k) contribution	500.00
Less: tax withholding deductions	1,000.00
Net (take-home) income	3,500.00
Gift and other Income	
Investment Income	
<i>Total Cash Inflows</i>	3,500.00

Cash Outflows

Essential Expenses

Housing (rent or mortgage and insurance)	600.00
Utilities (heat, electricity, phone, internet)	120.00
Car - gas	140.00
Car - maintenance, insurance, repairs	180.00
Food and grocery for home	120.00
Medical expenses (drugs, doctor's visits, insurance)	150.00
Student loan payments	472.00
Car loan payments	0.00
<i>Total Essential Expenses</i>	1,782.00

Optional Expenses

Restaurant (eating out)	100.00
Leisure (movies, games, travel, streaming)	80.00
Clothing, household items	120.00
Donations and gifts to others	50.00
Other expenses	0.00
<i>Total Optional Expenses</i>	350.00
<i>Total Cash Outflows</i>	2,132.00

Figure 8.6

Activities

1. Identify resources Blake can use to do research on her next car.
2. Identify the most important types of ownership costs.
3. Review Blake's budget which was based on her old car before major repair costs. How much would you recommend Blake to budget for her next car's total cost of ownership per month?
4. Would you recommend Blake to get a used car or a new car? Explain your recommendation.
5. Would you recommend Blake to lease or finance the car purchase? Explain your recommendation.
6. Blake decided to finance the car purchase. Describe steps Blake should take before visiting the dealerships.

Chapter Eight Summary

This chapter provides tools and knowledge to make the car buying process manageable and help avoid expensive financial mistakes.

Understanding Affordability

- Begin by using your budget to determine how much car you can afford.
- A general rule of thumb is to keep your car payment less than 10 percent of your take-home pay.
- Additionally, the total of your car payment, insurance, gas, and regular maintenance should be less than 20 percent of your take-home pay.
- The approximate cash price you can afford can be estimated by dividing your down payment savings by the typical down payment percentage such as 20 percent.

- Consider how the car loan will affect your debt-to-income ratio.

Total Cost of Ownership

- Beyond the advertised price, always consider the total cost of ownership, which includes financing, operating, depreciation, and repair costs, as well as insurance. Opportunity costs, such as losing work or school due to an unreliable car, can also be very high.
- Operating costs encompass gas, depreciation, and routine maintenance such as oil changes, brakes, tires.
- Always ask for an “out-the-door” cash price in writing via email or in print, as advertised prices often exclude state-mandated fees and negotiable dealer fees. These can add 8 to 10 percent to the price.
- Delay discussing financing and trade-in options until you have the final “out-the-door” price for comparison.

New vs. Used Cars

- Cars are a depreciating asset, losing value over time, with the steepest depreciation occurring in the first two years for new cars.
- Pros of buying a new car include manufacturer’s warranty, the latest safety features and technology, customization options, and potential for special low-interest financing. New cars also tend to be more reliable.
- Cons of buying a new car are a higher initial price and rapid depreciation.
- Pros of buying a used car include a lower price and slower depreciation.
- Cons of buying a used car can be a lack of manufacturer’s warranty, higher maintenance and repair expenses, potential problematic car history, and higher interest rates. It may also take longer to find a used car with desired features.
- When considering a used car, research its history using its VIN at [VehicleHistory.gov](https://www.vehiclehistory.gov) or [Carfax.com](https://www.carfax.com). Find out major repair costs, and have a reliable mechanic perform a pre-purchase inspection. Refusal for inspection is a red flag.

Consumer Protection and Warranties

- Many states have “lemon laws” to protect new car buyers from substantial, unfixable defects. Some states extend this to used cars.
- Most states require “implied warranties of merchantability” for used cars, guaranteeing they

will run for at least a short period.

- Manufacturer's warranties cover basic parts and vary by time, mileage, and parts covered.
- Extended warranties (service contracts) are offered by dealers, not manufacturers. A Consumer Reports survey found 55% of owners who bought one did not use it, and those who did often spent more on the contract than they saved in repairs.

Auto Insurance

- The primary purpose of auto insurance is to protect your net worth. Most states have financial responsibility laws requiring minimum liability insurance.
- Types of Coverage:
 - Liability (Casualty) Insurance: Covers payments to others for injuries and property damage you are responsible for.
 - Uninsured/Underinsured Motorist Coverage: Pays for bodily injury to you and your passengers if the at-fault driver is uninsured, unidentified (hit-and-run), or has insufficient coverage.
 - No-fault Insurance (Personal Injury Protection – PIP): Required in no-fault states, your own insurer pays for your injuries regardless of fault. You can still be held liable for property damages and injuries you cause.
 - Collision Coverage: Covers damage to your car from an accident where you are at fault.
 - Comprehensive Coverage: Insures against damage to your car from non-collision events (e.g., floods, theft, fire, hail).
 - If you have a loan or lease, lenders usually require collision and comprehensive coverage.
 - GAP Insurance: Covers the difference between your car's value and your loan/lease balance if the car is totaled or stolen.
- Factors Affecting Premiums: Age, driving record, mileage, location, credit score, student discounts, multi-policy discounts, vehicle year/make/model (including repair/accident/theft rates), and deductible amount (higher deductible typically means lower premium).
- Shopping for Insurance: Obtain quotes from multiple companies. Consider financial stability, claim payment history, consumer complaints, and whether you need in-person service from a full-service insurer or prefer online discount providers.
- If you are involved in an Accident: Contact police immediately, get a police report, collect information from other drivers/witnesses, take photos, write down details, save receipts, and

file a claim with your insurer promptly.

Financing Your Car Purchase

- Payment options include cash, auto loan, or car lease.
- Auto Loans:
 - Get a copy of your credit report and your credit scores. Improve your score if needed, as it significantly impacts your interest rate.
 - Obtain a loan pre-approval from banks or credit unions before going to the dealer; they often offer better rates than dealer-arranged financing.
 - Key factors affecting interest rates are the length of the loan and your financial status (income, debt, credit score).
 - Lenders consider Debt-to-Income (DTI) and Loan-to-Value (LTV) ratios.
 - Avoid long-term loans as they result in more total interest and increase the risk of being “upside down”. A rule of thumb is less than 5 years for new cars and less than 3 years for used cars.
 - Watch out for prepayment penalties and expensive add-ons like credit insurance or GAP insurance through dealers.
- “Buy-Here, Pay-Here” (BHPH) Dealers: These target consumers with poor credit, offer their own financing, and are significantly more expensive than traditional loans. They often advertise weekly/bi-weekly payments, making comparison difficult, and may require tracking devices. Customers can get trapped in a cycle where old, unreliable cars die before they’re paid off, leading to more expensive loans for even older cars.
- Leasing vs. Buying:
 - Leasing means you pay for the car’s expected depreciation and a rent charge, plus taxes and fees, but you do not own the car.
 - Advantages of leasing can include lower monthly payments (as you only pay for depreciation) and the ability to drive a new car every few years.
 - Disadvantages of leasing include no equity in the car, lack of flexibility due to significant early termination penalties, and potentially high costs for exceeding predetermined mileage limits or for excess wear-and-tear. You are still responsible for maintenance, damages, and insurance.

Smart Car Shopping Strategy

- Do your homework at home to reduce stress at the dealership.
 - Review your budget, get your credit report, shop for and get auto loan pre-approval, get insurance quotes, research trade-in value, and get “out-the-door” prices in writing from multiple dealers.
- Know your total cost, not just the monthly payment.
- When visiting the dealer, bring your pre-approval and written quotes. Test drive the car, and if buying a used car, arrange a third-party inspection.
- Review all terms carefully before signing, especially fees and charges. Decline unwanted add-ons.
- If financing through the dealer, ensure the deal is final and fully approved before leaving with the car.
- Don't be pressured by sales tactics. You can always find a car that meets your needs.
 - Watch out for salespersons asking “How much can you afford per month?”, offers to hold a vehicle for a small deposit, attempts to upsell features/service contracts, and efforts to lengthen the loan term to lower monthly payments.

End of Chapter Questions

1. What is the general rule of thumb for your car payment relative to your take-home pay?
2. What does the “total cost of ownership” of a car include, beyond the advertised price?
3. Why is it important to ask for an “out-the-door” cash price in writing from car dealers?
4. List the advantages and disadvantages of buying a new car.
5. List the advantages and disadvantages of buying a used car.
6. What steps should you take when considering a used car before purchasing it?
7. Why are extended warranties (also called service contracts) generally not recommended for the average consumer?

8. What does liability (casualty) insurance cover in an auto accident?
9. What is “no-fault” insurance (Personal Injury Protection – PIP)?
10. Explain the difference between collision coverage and comprehensive coverage.
11. What is GAP insurance?
12. Name three personal factors that can significantly affect your auto insurance premiums.
13. Why is it advisable to obtain a loan pre-approval from banks or credit unions before visiting a car dealership?
14. What is a major financial risk associated with taking out a long-term car loan such as 72 months?
15. What are “Buy-Here, Pay-Here” (BHPH) car dealers, and why are they generally considered a poor financing option?
16. List the advantages and disadvantages of leasing a car.
17. What is a recommended strategy to reduce stress when car shopping at a dealership?
18. What are some “red flags” to watch out for from salespeople at a car dealership?

9.

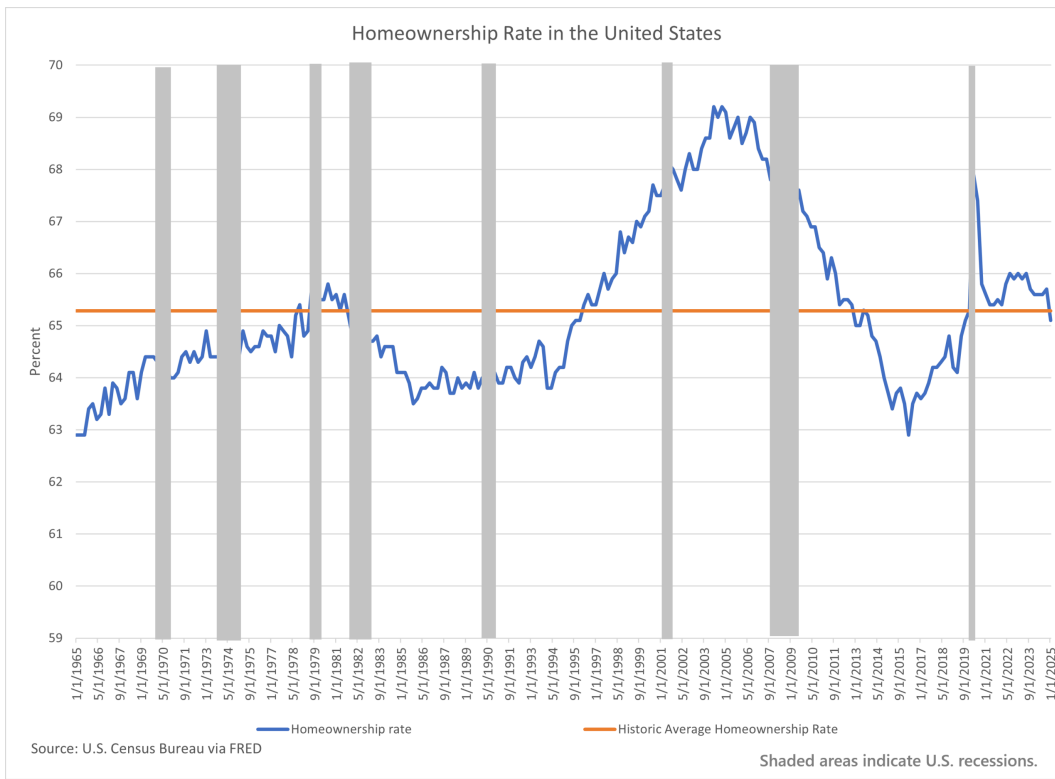
PURCHASING, FINANCING, AND INSURING A HOME

Chapter Nine Learning Objectives

- Determine how much house you can afford.
- Evaluate different types of mortgages.
- Calculate estimated mortgage payments and amortization table.
- Understand closing costs.
- Identify important factors to consider when selecting a house.
- Understand all the steps involved in buying a house.
- Evaluate the advantages and disadvantages of buying versus renting.
- Explain the purpose and types of renter's and homeowner's insurance.

Owning your home is an American dream for many people. In the United States, around 65 percent of people owned their own homes in 2025, similar to the historic average since 1965 (Figure 9.1). Notice that the homeownership rate tended to fluctuate with economic conditions, with more people owning homes during economic expansions and fewer homeowners following recessions. This pattern of reversal was especially significant in the 2000s. From the late 1990s through the mid 2000s, the homeownership rate accelerated to historic heights during the housing bubble. When the bubble burst in 2007, followed by the great recession in 2008 and unprecedented number of home foreclosures, the homeownership rate plummeted.

Figure 9.1



Homeownership patterns also vary greatly by geographic region and by race. Homeownership rates in the Midwest and the south consistently exceeded those in the west and the northeast (Figure 9.2).

The contrasts among racial groups are even more striking. The homeownership rate among Whites nearly doubled that of Blacks and Hispanics (Figure 9.3).

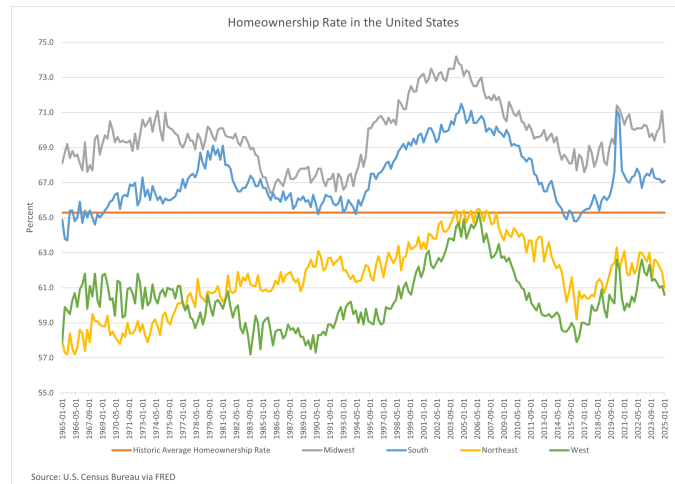


Figure 9.2

Achieving and maintaining the American dream of owning a home appears to be more and more difficult as housing prices increasingly outpaced wages over the past 40 years. As shown in Chapter 5, the median house price was 3.51 times median annual household income in 1985. This ratio has increased to 5.17 times in 2025. The cost of housing, both rent and mortgage, has become an important issue. In one survey, 82 percent of respondents agreed that housing affordability is a problem where they live¹. Federal housing policies define housing to be “affordable” if rent or mortgage plus utilities cost no more than 30 percent of the household income after adjusting for family size². In 2023 almost half of renter households and nearly one quarter of owner households were considered housing cost burdened (Figure 9.4). That was 22.6 million renter families and 20.3 million owner families. About half of these households were considered severely cost burden, meaning they spent more than half their household income on housing. This situation could generate severe financial stress, especially for two-income households. If one of the earners were to lose their job, the family could become homeless.

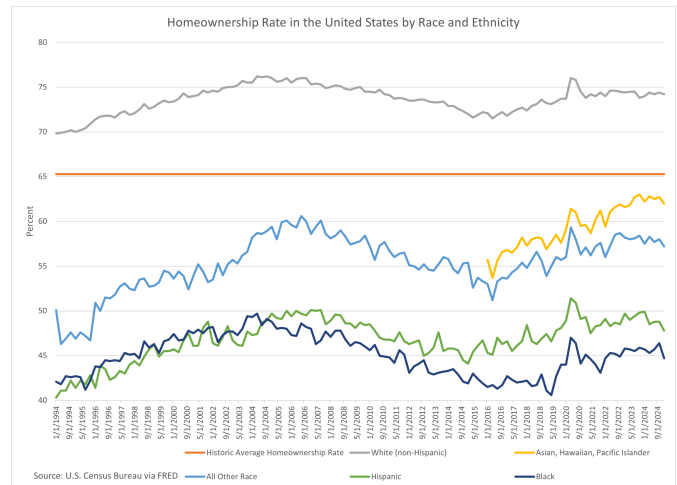
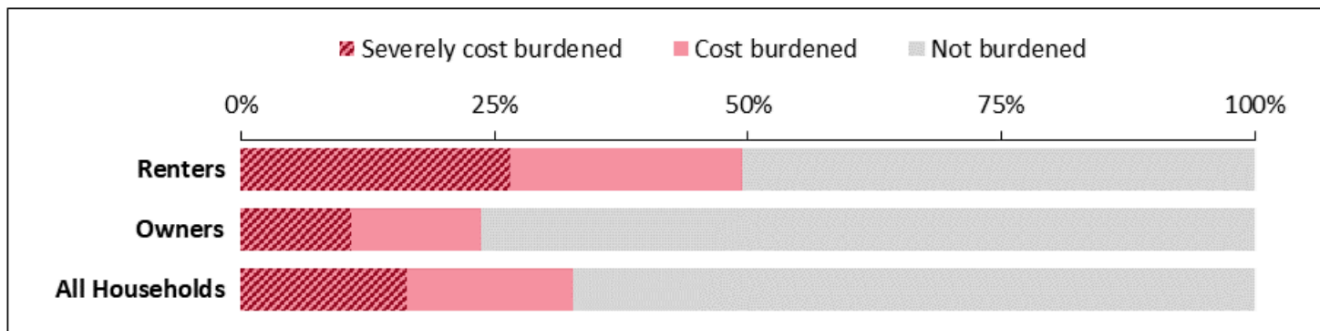


Figure 9.3

Housing Cost Burden, 2023



Source: Created by CRS, using the 2023 American Community Survey 1-Year Public Use Microdata Sample, available at <https://www.census.gov/data/developers/data-sets/census-microdata-api.html>.

Notes: For the estimates presented in this figure, “cost burdened” is defined as spending more than 30% of household income on housing costs, and “severely cost burdened” is defined as spending more than 50% of household income on housing costs.

Figure 9.4

Solving the housing affordability problem requires changes in national and local policies and is beyond the scope of this textbook. Your own personal values, family background, economic conditions, and cultural

beliefs will likely affect how important homeownership is to you. With careful and strategic financial planning, you can improve your chances of achieving your housing goal, whether it is renting or owning. In this chapter, we will examine the trade-offs of renting versus owning a home, different types of mortgages, the total cost of home ownership, and renters and homeowners insurance.

Exercise 9.1: Housing Affordability for You

Activities: (Use data for your city or town if possible. Otherwise, use county or state data.)

1. Find the median rent in your city or county or state.
2. Explain whether you are ready to move out on your own. Your explanation should include affordability based on your budget. Include non-monetary factors in your decision.
3. Find out the median house price in your city or county or state. (Hint: The National Association of Realtors conducts regular surveys on housing prices. <https://www.nar.realtor/research-and-statistics/housing-statistics/county-median-home-prices-and-monthly-mortgage-payment>)
4. Compute the ratio of the median house price to your household gross income. (Ratio = Median house price / Household gross income)

Are You Ready to Rent Your Own Place?

Moving out on your own is a huge step for young people. Some even consider it a transition marker to adulthood³. Living independently from your family gives you more freedom and opportunities for personal growth by taking on financial and daily life responsibilities. It is normal to find such a big step intimidating. Acknowledge your needs and identify people within your network (friends, family, mentors) who can provide support and guidance. Creating a detailed plan to manage potential challenges can increase your chances of success and boost your confidence. The good news is that you have already learned many of the tools needed. The first step is to review your budget so you can determine how much you can realistically afford on rent and other living expenses. Chapter 3 explained the steps to create a budget. By keeping your rent, utilities, and renters insurance premium to be less than 30 percent of your gross income, you can avoid becoming housing cost burdened. This is important because these expenses are essential and fixed, therefore difficult to adjust if unexpected job loss or medical problems happen suddenly.

In addition to ongoing expenses, it costs money to begin the rental search process. Landlords often charge an application fee, which is non-refundable whether your application is accepted or not. The national average was

\$50 per applicant and the fee was intended to cover background and credit checks. Some states have regulations on the amount of application fees. To avoid unpleasant surprises it is a good idea to review your credit report to ensure its accuracy before submitting a rental application. Chapter 6 detailed how to obtain and read your credit report and to request error corrections if necessary. Some landlords even list the credit score they require from their tenants. You may need a cosigner if your credit history or credit score is insufficient.

Most rental agreements require a significant initial financial commitment. This typically includes the first month's rent, the last month's rent, and security deposit. For instance, if the rent is \$2,000 per month, you may need \$6,000 up front at the time of the lease signing: \$2000 (first month) + \$2000 (last month) + \$2000 (security deposit) = \$6000. If you plan to move out of your family home, saving sufficient funds for the initial financial commitment, in addition to an emergency fund, will be one of your short-term financial goals.

Some landlords require tenants to purchase renters insurance. Renters insurance policy covers losses of personal assets, limited coverage on loss of use of the residence, and liability from injury to others on the property. It is important to understand what events are covered. For instance, the insurance will pay for temporary stay at a hotel if there is a fire. Another example is the loss of a laptop, which is a personal asset. The insurance may cover a laptop if it is damaged in a fire or if it is stolen. Be sure to file a police report to document the event. It will not cover the laptop if you dropped it or if your roommate stole it. The last case is not covered because your roommate has easy access to your personal assets. The premiums on renters insurance is usually relatively inexpensive and is worth getting even if you are not required to. In 2025, the national average cost for renters insurance is around \$14 per month. Of course, the exact amount for you will be different depending on your location and individual circumstances. Obtain a quote from an insurance agent so you can include it in your budget.

The next step is researching available apartments or houses. Websites such as [Realtor.com](https://www.realtor.com), [Zillow.com](https://www.zillow.com), or [Apartments.com](https://www.apartments.com) are popular resources. Important factors to consider include location, the monthly rent amount, which utilities are included, tenant responsibilities, and lease term. Other items that may be important include parking, storage, laundry facilities, and overnight guests and pet policies. If utilities are not included in the monthly rent, you can request that information from the landlord for your budget. Many rentals have fixed-term leases, usually one year. Some offer a month-to-month term at a higher rent. Shorter lease terms provide more flexibility if you expect to move soon. The rent is usually higher for shorter terms to compensate the landlord for the increased turnover risk. This is the risk that the rental remains vacant after a tenant moves out. If you sign a one year lease, you may be responsible for rents for the entire year, even if you move out before the lease ends. Ask the landlord about the penalty for breaking the lease and how much notice you need to give before moving out. Write down detailed notes for each rental unit you visit so you can compare them at home. Below are some suggested questions to ask potential landlords.

Questions to ask the landlord when shopping for a rental:

Financial and legal questions

1. How much is the application fee?
2. What is the monthly rent, and what is included in it (utilities, etc.)?
3. What is the average cost of utilities not included in the rent?
4. What is the security deposit amount and when is it due?
5. Is renters insurance required?
6. What is the total amount due at lease signing?
7. What appliances are included in the unit?
8. Are there any additional fees for other amenities such as laundry, storage, pool, etc.?
9. Are there any move-in specials or discounts?
10. What is the policy on late rent payments and the amount of late fees?
11. What is the duration of the lease?
12. What are the options for lease renewal?
13. Are there any penalties for breaking the lease early?
14. Can the lease be sublet, and if not, what are the penalties?
15. What are the rules for adding or removing roommates?
16. What is the process for moving out at the end of the lease?

Other questions:

1. How are maintenance requests handled?
2. Who is responsible for repairs, and how quickly are they addressed?
3. What is the process for reporting maintenance issues?
4. Are there any plans for building maintenance or renovations?
5. What is the pet policy?
6. What is the overnight guest policy?
7. How are trash and recycling handled?
8. What is the parking arrangement for tenants and guests?
9. What is the building's security like?
10. Are the locks changed between tenants?
11. How is the neighborhood (noise levels, safety)?
12. What is the overall community like?

Are you Ready to Buy a House?

Buying a home is the biggest financial decision for most people and perhaps one of your financial goals. It is common to have rented your own place before considering buying a home. You will have learned many valuable lessons and time to build up your credit history by renting first. Owning a home is a lot more complicated and comes with a lot more responsibilities than renting. We will discuss all aspects of the home purchase process in this chapter. The first step is to review your budget and your account balances to determine how much house you can realistically afford. There are three criteria you can use as guidelines. The first is to keep the house value to be less than 3 to 5 times your annual household income. The second is to avoid house cost burden by keeping mortgage, property taxes, utilities, homeowners insurance premiums, and other housing costs to be less than 30 percent of gross monthly income. Other housing costs may include Home Owners Association (HOA) fees, condo fees, membership fees, etc.. The third criteria is to maintain a debt payment-to-income ratio (DTI ratio) to be less than 30 to 35 percent of gross monthly income. Chapter 6 explained how to compute the DTI ratio, which is defined as monthly total debt payments divided by monthly gross income.

The amount of down payment will have a great impact on the monthly mortgage amount. We will discuss different types of mortgages later in this chapter. There are government programs to help first-time and low to moderate income homebuyers. In this section, we will use conventional mortgages as the default. If the down payment is less than 20 percent, lenders will usually require the borrower to purchase Private Mortgage Insurance (PMI) or Mortgage Insurance (MI). Mortgage insurance is an expensive additional cost and the premium can range from 0.5 to 1.5 percent of the outstanding loan amount. As an example, with a 1 percent MI premium on a \$360,000 loan, you will need to pay an extra \$300 per month (MI premium = $\$360,000 \times 0.01 / 12 = \300).

In addition to down payment, you will need to pay closing costs which include prepaid interest on the mortgage, escrowed property taxes, escrowed homeowners insurance premium, and other expenses when you buy a house. The term escrowed means that you are putting money into a special account managed by your lender to pay these expenses. These costs can range from 4 to 6 percent of the loan amount. The key takeaway is that you need more than just the down payment at the closing. Most conventional loans typically require a down payment of at least 5 percent. To avoid the PMI premium, you need a down payment of 20 percent or more. According to the National Association of Realtors, the median down payment for all homebuyers was 18 percent in 2024.⁴ For first-time homebuyers, the median down payment was 9 percent. If buying a house is something you want to plan for, an intermediate-term financial goal would be to save sufficient funds to cover down payment and all the associated costs at closing.

$$\text{Down Payment Amount} = \text{Loan Amount} \times \text{Down payment percent} / (1 - \text{Down payment percent})$$

$$\text{Total Closing Expenses} = \text{Loan Amount} \times 4 \text{ to } 6 \text{ percent}$$

$$\text{Total Amount Needed at Closing} = \text{Down Payment Amount} + \text{Total Closing Expenses}$$

For instance, if you plan to put down 10 percent and you qualify for a \$360,000 mortgage, your down payment amount will be around \$40,000. Total closing expenses will be \$18,000 assuming they are 5 percent of the mortgage amount. You will need to save \$58,000. If you want to eliminate the PMI premium, you will need 20 percent as a down payment, which will be \$90,000. The total amount you need to save will be \$108,000.

- Estimated loan amount = \$360,000
- Total closing expenses = $\$360,000 \times 0.05 = \$18,000$
- Down payment amount at 10 percent = $\$360,000 \times 0.1 / (1 - 0.1) = \$40,000$
- Total amount needed at closing = $\$40,000 + \$18,000 = \$58,000$
- Down payment amount at 20 percent = $\$360,000 \times 0.2 / (1 - 0.2) = \$90,000$
- Total amount needed at closing = $\$90,000 + \$18,000 = \$108,000$

Another very important factor to consider when deciding to buy a house is your job stability. This is not just the risk of losing your job. You may need to relocate due to a promotion, corporate reorganization, or change of company for a better job. Moving is extremely expensive for homeowners. The average seller pays 8 to 10 percent of the house value in commissions, fees, and other costs. The average buyer pays 4 to 6 percent of the house value in closing costs and fees. This means that if you sell and then buy another house, both at \$375,000, transaction costs alone can be over \$50,000.

How Much House Can You Afford?

Now let us look at the mechanics of how to apply the above housing affordability criteria to estimate your target house buying budget. Applying the first criteria is very straightforward. Simply multiply your gross annual income by 3⁵. To apply the other two criteria, you need to collect housing related costs. Before shopping for a house, you should first shop for a mortgage and get a loan pre-approval. You are not guaranteed a loan nor are you committed to a lender with a loan pre-approval. When you get a loan pre-approval, the lender typically includes an estimated maximum loan amount, an estimated interest rate, and the loan term. Based on this information you can estimate the monthly mortgage payment using the time money of value tools from

Chapter 5. This estimate does not include PMI. If your down payment is less than 20 percent, you need to add PMI to your estimate. Housing related costs include property tax, homeowners insurance premium, HOA or condo fees, and utilities. You can get this information from a realtor and an insurance agent or use the median values for your city or town. You will also need other monthly debt payments from your budget for criteria 3. To apply criteria 2, compute the total housing costs by adding the estimated monthly mortgage payment and all housing related costs including utilities. Divide the total housing costs by the monthly gross income to obtain the housing cost ratio. If this ratio is greater than 30 percent, reduce the loan amount and recompute the estimated monthly mortgage payment until the ratio is 30 percent or less. This is the affordable loan amount based on criteria 2.

$$\begin{aligned} \text{Total Housing Costs per Criteria 2} &= \text{Estimated monthly mortgage payment including PMI} + \\ &\text{property tax} + \text{Homeowners insurance premium} + \text{HOA or condo fees} + \text{Utilities} \\ \text{Estimated Housing Cost Ratio} &= \text{Total Housing Costs per Criteria 2} / \text{Monthly Gross Income} \end{aligned}$$

To apply criteria 3, compute the total debt payment by adding the estimated monthly mortgage payment and housing related costs excluding utilities to other monthly debt payments. Divide this total debt payment by the monthly gross income to obtain the DTI ratio. If the DTI ratio is greater than 35 percent, reduce the loan amount and recompute the estimated monthly mortgage payment until the DTI ratio is 35 percent or less. This is the affordable loan amount based on criteria 3.

$$\begin{aligned} \text{Total Debt Payments per Criteria 3} &= \text{Estimated monthly mortgage payment including PMI} + \\ &\text{property tax} + \text{Homeowners insurance premium} + \text{HOA or condo fees} + \text{Other monthly debt} \\ &\text{payments} \\ \text{Estimated DTI Ratio} &= \text{Total Debt Payments per Criteria 3} / \text{Monthly Gross Income} \end{aligned}$$

To determine the affordable loan amount under criteria 2 and criteria 3 is a trial-and-error process. You will need to try different loan amounts to find the value that satisfies each criteria. Using a spreadsheet will make the trial-and-error estimation process much easier. The following example provides a detailed step-by-step illustration of this process. It includes a spreadsheet template complete with formulas to help you create your own.

Example: The First Step of the Homeownership Journey of Maya and Isis

Since their wedding 3 years ago Maya and Isis had been saving for their dream of owning their own home. Instead of a lavish wedding and yearly vacations, Maya and Isis put aside money towards the down payment for their future home. They had accumulated \$40,000 and believed they were ready. Their combined gross annual income was \$132,000. They had heard of the 3 times gross income rule of thumb. According to this criteria, they could afford a \$396,000 home. Maya and Isis had been careful with debt and credit card payments and both had credit scores over 750. They contacted their credit union and were pre-approved for a \$360,000 30-year mortgage at a 6 percent interest rate. With \$40,000 as down payment, they could get a \$400,000 house. Everything appeared to be lining up perfectly.

To better prepare themselves Maya and Isis studied up about home purchase. They realized they had missed some important costs in their original estimates. For instance, since their down payment would only be 10 percent of the house price they had hoped to be able to afford, they would need to pay a PMI premium. They also learned about house burden and did not want to become another statistic. Maya and Isis created a spreadsheet to help them analyze the house purchase decision in more detail. They collected data from their town's website, the realtor, and insurance agent. Figure 9.5 shows the area of the spreadsheet containing the data they collected and the calculations for their monthly gross income and the estimated mortgage payments based on the pre-approved loan amount.

Legend			
	Recommended criteria value		
	To be inputted by user		
	Change loan value to meet criteria		
	A	B	C
1	Criteria		
2	Criteria 1: House value to gross income multiple	3.00	times
3	Criteria 2: Housing cost ratio	30%	of monthly gross income
4	Criteria 3: Debt payment-to-income (DTI) ratio	35%	of monthly gross income
5			
6	Data from budget, mortgage lenders, real estate listing, public tax data, insurance agent		
7	Household annual gross income (from W2)	\$132,000	per year
8	Other monthly debt payments (auto loan, student loan, etc.).	\$800	per month
9	Cash available for down payment and total closing costs	\$40,000	
10	Utilities	\$600	per month
11	HOA or Condo fee	\$80	per month
12	Homeowners insurance premium	\$125	per month
13	Property tax	\$400	per month
14	Estimated Private mortgage insurance (PMI)	1%	of loan amount
15	Estimated Mortgage interest rate (APR)	6%	of remaining loan balance
16	Estimated Length of mortgage	30	years
17	Estimated Total closing costs as a percent of loan value	5%	of loan amount
18	Loan amount to be determined (use pre-approved amount to start)	\$360,000	
19	Compute estimated monthly mortgage payment amount and monthly gross income		
20	Estimated monthly mortgage payment without PMI	\$2,158.38	=PMT(B15/12,B16*12,-B18)
21	Estimated PMI premium per month	\$300	=B18*B14/12
22	Estimate monthly mortgage payment including PMI	\$2,458	=B20+B21
23	Monthly gross income	\$11,000	=B7/12

Figure 9.5

Maya and Isis applied three criteria to determine how much house they could afford. The first criteria was a house less than 3 times their combined annual gross income. The second was to limit the total housing costs to be less than 30 percent of their combined monthly gross income. The third was to limit the DTI ratio to less than 35 percent. Figure 9.6 shows the three criteria and the calculations for the housing cost ratio (criteria 2) and the DTI ratio (criteria 3).

	A	B	C
1	Criteria		
2	Criteria 1: House value to gross income multiple	3.00	times
3	Criteria 2: Housing cost affordability ratio	30%	of monthly gross income
4	Criteria 3: Debt payment-to-income (DTI) ratio	35%	of monthly gross income
5			
26	Monthly total housing costs per criteria 2	\$3,663	=B22+B10+B11+B12+B13
27	Estimated housing cost ratio	33.30%	=B26/B23
28			
30	Estimated total monthly debt payments per criteria 3	\$3,863	=B22+B8+B11+B12+B13
31	Estimated DTI ratio	35.12%	=B30/B23

Figure 9.6

Using the pre-approved loan amount of \$360,000, Maya and Isis found that the resulting housing cost ratio would be 33.30 percent, higher than their target. The DTI ratio was 35.12 percent, just around their target. Maya and Isis did not want to have such a high housing burden. They tried different loan amounts in their spreadsheet model to determine how large a mortgage they could

afford. Figure 9.7 shows the resulting housing cost ratios and DTI ratios at the various loan amounts. Based on their analysis, Maya and Isis felt comfortable taking out a mortgage between \$300,000 and \$306,500.

Different loan amounts used in the trial-and-error estimation process	\$350,000	\$330,000	\$300,000	\$306,500
Estimated monthly mortgage payment without PMI	\$2,098.43	\$1,978.52	\$1,798.65	\$1,837.62
Estimated PMI premium per month	\$292	\$275	\$250	\$255
Estimate monthly mortgage payment including PMI	\$2,390	\$2,254	\$2,049	\$2,093
Estimate affordable loan amount per criteria 2: Change the loan amount value in B18 until housing cost ratio is at most 30 percent				
Monthly total housing costs per criteria 2	\$3,595	\$3,459	\$3,254	\$3,298
Estimated housing cost ratio	32.68%	31.44%	29.58%	29.98%
Estimate affordable loan amount per criteria 3: Change the loan amount value in B18 until DTI ratio is at most 35 percent				
Estimated total monthly debt payments per criteria 3	\$3,795	\$3,659	\$3,454	\$3,498
Estimated DTI ratio	34.50%	33.26%	31.40%	31.80%

Figure 9.7

Note: Here is the [link](#) to the spreadsheet template. You can download the template or make a copy in Google Sheets and try out this example on your own.

After you have identified the affordable loan amount, you can estimate how much house you can purchase. As noted earlier, aside from down payment, you also need to pay closing costs up front. Your lender may give you an estimate of these costs. Generally these costs can range from 4 to 6 percent of the loan amount. If you do not have an estimate from your lender, you can estimate on your own. Most people are limited by the amount of money they have saved. Once you figure out your affordable price range based on your savings and budget, stay in your range no matter what.

$$\text{Estimated total closing costs} = \text{Affordable loan amount} \times \text{Total closing costs percent}$$

$$\text{Affordable house price range} = \text{Affordable loan amount} - \text{Estimated total closing costs amount} + \text{Available savings}$$

Quite often people are surprised at how large the closing costs are. Some lenders advertise “zero closing costs mortgage”. These lenders either charge these loans a higher interest rate or they roll the closing costs into the mortgages. In both cases, the borrower ends up paying more in interest payments. Note that even with a zero

closing costs mortgage, the borrower still needs to pay some of the escrowed expenses up front. Let us continue with the example for Maya and Isis to illustrate how they arrived at their house purchase budget.

Example: The Homeownership Journey of Maya and Isis Continues – Deciding on a house budget

After careful analysis, Maya and Isis decided to limit their mortgage to \$305,000. During their study, they learned that closing costs plus escrows often ranged between 4 to 6 percent of the mortgage. This meant the \$40,000 they had saved would not all go toward the down payment. Based on their target loan amount, they estimated the amount needed at closing to be around \$15,000. This left \$25,000 for down payment. Maya and Isis set their house budget to be \$330,000.

- Estimated mortgage amount = \$305,000
- Estimated total closing costs = $\$305,000 \times 0.05 = \$15,000$
- Available down payment = $\$40,000 - \$15,000 = \$25,000$
- Affordable house price = $\$305,000 + \$25,000 = \$330,000$
- Down payment percent = $\$25,000 / \$330,000 = 0.075 = 7.5$ percent

Their target house budget was less than 3 times their annual gross income. With \$25,000 as down payment, their down payment percent was around 7.5 percent. This is lower than they had planned but still sufficient for conforming-conventional loans. Maya and Isis were glad they took the time to do the analysis before setting a house budget. They felt comfortable and confident that they could afford a \$330,000 home.

During their analysis Maya and Isis noticed how significant the PMI premium was. They wondered how much would a 20 percent down payment be for a \$305,000 loan. Using the formula they learned, they estimated the amount to be \$76,250.

$$\text{Down Payment Amount} = \text{Loan Amount} \times \text{Down payment percent} / (1 - \text{Down payment percent})$$

$$\text{Down Payment Amount at 20 percent for Maya and Isis} = \$305,000 \times 0.2 / (1 - 0.2) = \$76,250$$

Adding the down payment to \$15,250 in total closing costs meant they would need \$91,500 up front. That was more than double their current savings. Maya and Isis decided not to wait till they had sufficient savings for a 20 percent down payment.

Exerciser 9.2: Compute monthly mortgage and PMI payments, target house budget, and closing costs

Assume the mortgage loan amount is \$300,000 and the loan term is 30 years with fixed monthly payments. The interest rate is 6 percent per year. The PMI premium is 1 percent of the outstanding loan balance. The borrower plans to make a 5 percent down payment. The total closing costs will be 5 percent of the loan amount.

Activities:

1. Compute the monthly mortgage payment before PMI premium.
2. Compute the monthly PMI premium.
3. Compute total monthly mortgage payment including PMI premium.
4. Compute the down payment amount.
5. Compute the target house budget.
6. Compute the estimated total closing costs.
7. Compute the total amount needed at the closing.

Choosing a Mortgage and a Lender

There are many types of mortgages in today's financial market. Banks and mortgage companies use a lot of acronyms, making the process of researching mortgage information challenging. In this section, we will explain

these acronyms and terms, the key differences between different types of mortgages, and how to select the option that best meets your needs.

Types of Mortgages

Mortgages are usually classified based on two factors. The first is whether the loan is insured or guaranteed by the government. Mortgages not insured or guaranteed by the federal government are considered conventional loans. The second is the size of the loan amount. When the loan exceeds the limits set by the Federal Housing Finance Agency (FHFA), it is considered a jumbo loan. Loans below the FHFA limits are called conforming loans. The FHFA sets these limits each year. In 2025, the limit on loan amount for a single-family home in most areas is \$806,500 and up to \$1,209,750 in some high-cost areas (Figure 9.8). Jumbo loans have higher qualification and down payment requirements and higher interest rates due to higher risk to the lenders. The focus of the discussion in this chapter is on conforming mortgages below the limits set by the FHFA.

The three main sources of funding for conventional mortgages are government sponsored enterprises (GSE), lending institutions (Portfolio), and private-label securities (PLS). The Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) are the main suppliers of funds for GSE mortgages. Though the names of these enterprises contain the word “federal”, these are private corporations. They set rules and guidelines for lenders to evaluate borrowers. Mortgages meeting the GSE guidelines are considered conforming-conventional loans. The current GSE guidelines require the loan amount to be below the limits set by FHFA (conforming), credit scores of at least 620, DTI ratios of less than 36 percent, two or more years of consistent income and employment history, and down payment of at least 3 to 5 percent. Conforming-conventional loans (GSE loans) are the most common type of mortgages and usually the best option for borrowers who meet the guidelines.

Portfolio mortgages are funded directly by the lenders and have the potential for negotiation on terms, fees, rates, and non-traditional income sources. This type of mortgage may be considered by borrowers with unique financial situations such as self-employment or the need for a jumbo loan. Funding for PLS loans comes from private investors. PLS loans tend to be non-conforming mortgages including jumbo loans and subprime (sometimes called Alt-A) loans. For borrowers whose credit scores and income do not meet the GSE guidelines, the FHA and USDA loans described in the next section are usually better options than non-conforming conventional loans.

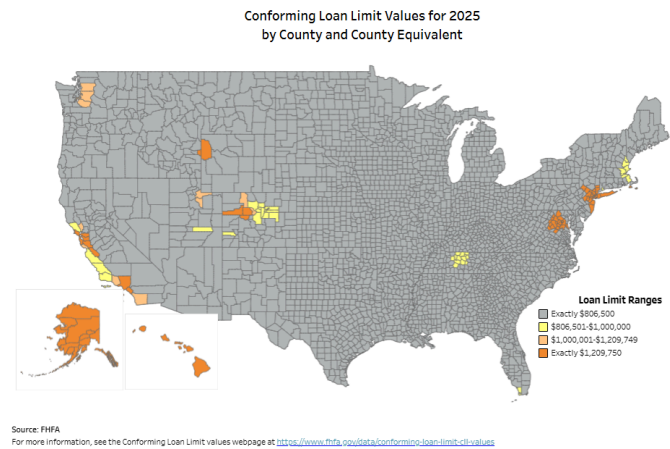


Figure 9.8

The federal government has four main programs that insure or guarantee mortgages to make homeownership accessible to homebuyers who may not qualify for conforming-conventional mortgages. VA loans are guaranteed by the U.S. Department of Veterans Affairs (VA) and FHA loans are insured by the Federal Housing Administration (FHA). USDA Guaranteed loans are guaranteed by the U.S. Department of Agriculture (USDA) and USDA Direct Loans are given directly through the USDA rural development agency. Except for USDA Direct loans, these loans are provided by private lenders such as banks and mortgage companies. The government insurance or guarantee lowers the qualification requirements and/or interest rates by reducing the risks to the lenders.

VA loans are available to veterans, active service members, and eligible surviving spouses. The main benefits of VA loans include zero down payment and no mortgage insurance regardless of the down payment percent. There are few restrictions on VA loans. They are a great option even for those who qualify for conventional mortgages.

FHA loans have lower credit scores and down payment requirements than conventional loans. In 2025, FHA loans require a minimum 3.5 percent down payment if the borrower has a credit score of 580 or higher. Borrowers with credit scores as low as 500 can qualify for a FHA loan with a 10 percent down payment. The borrower must use the property as their primary residence, move in within 60 days, and occupy it for at least a year. FHA loans have a maximum loan amount that varies by county. All FHA loans require borrowers to pay an upfront and an annual mortgage insurance premium. In 2025, the upfront premium is 1.75 percent of the total loan amount to be paid at closing. The annual premium rate varies with an average rate of 0.55 percent of the remaining loan balance. These insurance premiums are comparable to private mortgage insurance (PMI) premiums. If you have good credit and a reasonable down payment, FHA loans may be more expensive than conventional loans for you. For borrowers with low credit scores or a small down payment, FHA loans may be cheaper. The mortgage loan market fluctuates quite a bit and it is important to check all your options.

USDA Direct Loans are for low- and very-low-income homebuyers. Unlike the other government mortgage programs, USDA Direct Loans are provided by the USDA rural development agency, not through private lenders. There are many restrictions and qualification requirements for USDA Direct Loans. These include income limit, location and condition of the property, property size, and other household characteristics. The household adjusted income must be at or below the low-income limit for the area. The homebuyer must be a U.S. citizen or qualified noncitizen, currently living in unsafe and unsanitary housing, and is unable to obtain a loan from other sources. The property must be in an eligible area and must not exceed 2,000 square feet. USDA Direct Loans have zero down payment, no closing costs, and payment assistance to reduce monthly mortgage amounts. If your income is very low but you have the ability to make reasonable payments, USDA Direct Loans may enable you to become homeowners.

USDA Guaranteed Loans are available to low- and moderate-income homebuyers whose household income is below 115 percent of an area's median income. Unlike USDA Direct Loans, USDA Guaranteed Loans are provided by private lenders. There are much fewer restrictions on USDA Guaranteed Loans. In addition to the income limit, the property must be in an eligible area and be the primary residence. Benefits of USDA

Guaranteed Loans include lower credit score requirement, zero down payment, and instead of PMI premium, the homebuyer pays a guarantee fee equal to 1 percent of the loan amount at closing and an ongoing fee of 0.35 percent of the remaining balance each year. You can check your income and property eligibility for both types of USDA loans at the [USDA rural development website](#).

In addition to federal programs, there are state specific programs to help low- and moderate-income homebuyers and first-time homebuyers. The National Council of State Housing Agencies (NCSHA) has a listing of state housing finance agencies in all 50 states⁶. These state programs include affordable mortgages and down payment assistance. For instance, Massachusetts offers the ONE Mortgage Program which provides low interest rates, no mortgage insurance requirements, and mortgage payment assistance. Other states, such as Arizona, California, Alabama, have programs to help first-time homebuyers with down payment. If your household income is below your state's median, you may qualify for these programs.⁷

Mortgage Requirements by Loan Type (Data from 2025)

	Conforming-Conventional Loan	VA Loan	FHA Loan	USDA Guaranteed Loan
Minimum Down Payment	3 to 5 percent	Zero	3.5 (10) percent	Zero
Minimum Credit Score	620	620 (some flexibility)	580 (500)	None officially. 620 to 640 preferred.
Actual Average Credit Score (2023)	738	692	645	684
Mortgage Insurance	PMI if down payment is less than 20 percent. 0.5 to 1.5 percent per year.	None	1.75 percent up front + 0.5 to 0.55 percent per year.	1 percent up front + 0.35 percent per year.
Maximum Loan Amount	Below jumbo limits set by FHFA.	None	Set by FHA. Varies by county.	Set by USDA. Property must be in an eligible area.

When a homebuyer takes out a mortgage, it is called a loan origination. Figure 9.9 shows the number of mortgage originations and the dollar amount (volume \$) by loan type since 1998. The majority of mortgages have been conforming-conventional (GSE) loans, followed by FHA/VA/USDA loans. In 2023, over 3 million loans were originated and lenders loaned out over \$1 trillion in mortgages, almost half of which were conforming-conventional loans. Among first-time homebuyers, 52 percent used conventional loans, 29 percent used FHA loans, and 9 percent used VA loans. The number of subprime mortgages funded by PLS dropped significantly following the 2008 financial crisis after anti-predatory mortgage lending laws were enacted. In general, lending standards have become stricter since 2008.

Figure 9.9

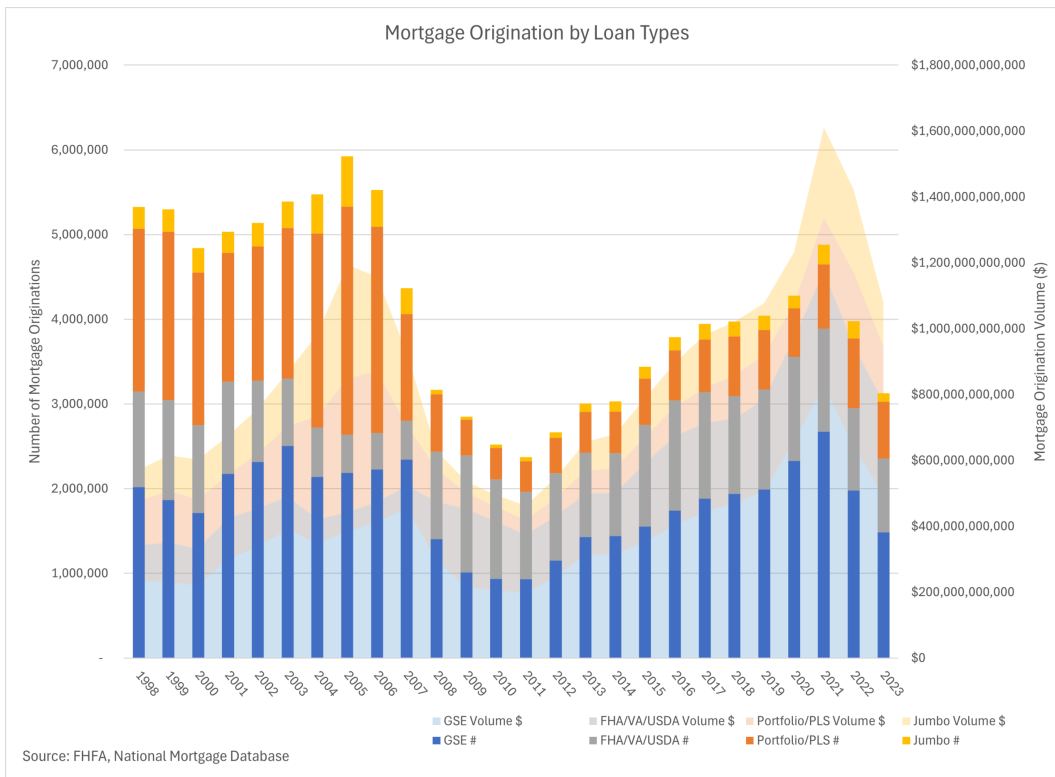


Figure 9.10 shows the average credit scores and average loan amount by loan type in 2024. The actual average credit scores were quite a bit higher than the stated minimum requirements for all loan types. The average loan amounts reflected the characteristics of each loan type. Since housing prices vary greatly in different parts of the country, so do the loan amounts.

Loan Type	Average Loan Amount	Average Credit Score	Stated Minimum Credit Score
Conforming-conventional Mortgages	\$333,000	738	620
FHA Mortgages	\$315,977	645	500 to 580
VA Mortgages	\$388,320	692	620
USDA Mortgages	\$180,400	684	None. 620 preferred.
Jumbo Mortgages	\$1,351,000	774	

Source: Home Mortgage Disclosure Act (HMDA) Data Browser (2022), FHFA, National Mortgage Database (2024)

Figure 9.10

Figure 9.11 shows the average conforming-conventional loan size by region. Knowing the historic average

numbers will help you with your financial planning and setting your expectations.

Average Conforming-conventional Loan Amount (2024)	
East North Central	\$264,000
East South Central	\$297,000
Middle Atlantic	\$364,000
Mountain	\$398,000
New England	\$410,000
Pacific	\$509,000
South Atlantic	\$349,000
West North Central	\$272,000
West South Central	\$321,000
<i>National Average</i>	<i>\$333,000</i>

Figure 9.11

Exercise 9.3: Mortgage sizes, conforming and FHA loan limits in your neighborhood

You have found out the median house price in your neighborhood in Exercise 9.1. In this exercise, you will research the average mortgage sizes and loan limits in your county (or state if county level data is not available).

Activities:

1. Look up the conforming loan limit in your county. (<https://www.fhfa.gov/data/dashboard/conforming-loan-limit-values-map>)
2. Look up the FHA loan limit in your county. (https://www.fha.com/lending_limits)
3. Look up the average new mortgage loan amount in your county or state. If county or state data is not available, use the average regional loan amount from Figure 9.11.

Important Mortgage Attributes Affecting Your Monthly Payment Amount

For any given loan size, there are three key factors that affect the monthly mortgage payment amount. The first is the interest rate. Interest rate can be fixed throughout the life of the loan (fixed rate mortgage, FRM)

or can change with market interest rate (adjustable rate mortgage, ARM). You can also pay points (sometimes called discount points) to get a lower interest rate. Points are stated as a percent of the loan amount and is paid up front. One point is one percent. You can think of points as prepaid interest. The second is the length of the loan, called loan term. The third factor is whether the loan is fully amortized. With a fully amortized loan, if you make the specified monthly payment, the loan will be paid off at the end of the loan term. This is because each payment contains an equity (principal) portion that reduces the remaining balance of the loan. Lenders are required by law to provide you with an amortization table showing all the monthly payments and their interest and equity portions, and remaining balances throughout the life of the loan. You can compute the same information using the following formulas. We will use an example to illustrate how to apply these formulas.

$$\text{Monthly interest portion} = \text{Previous remaining balance} \times \text{interest rate per year} / 12$$

$$\text{Monthly equity portion} = \text{Monthly payment} - \text{Monthly interest portion}$$

$$\text{New remaining balance} = \text{Previous remaining balance} - \text{Monthly equity portion}$$

Example: Creating an amortization table

This example is based on a 30-year fixed rate mortgage with an interest rate at 6 percent per year. The initial loan amount is \$300,000.

The first step is to compute the monthly payment amount using a spreadsheet function. Review Chapter 5 on how to compute fixed payment amounts if you need a refresher.

The spreadsheet formula is `=PMT(0.06/12, 30*12, -300000)`.

Monthly payment = \$1798.65

- Interest portion in the first month = $\$300,000 \times 0.06 / 12 = \$1,500$
- Equity portion in the first month = $\$1,798.65 - \$1,500 = \$298.65$
- New remaining balance at the end of first month = $\$300,000 - \$298.65 = \$299,701.35$

- Interest portion in the second month = $\$299,701.35 \times 0.06 / 12 = \$1,498.51$
- Equity portion in the second month = $\$1,798.65 - \$1,498.51 = \$300.14$
- New remaining balance at the end of the second month = $\$299,701.35 - \$300.14 = \$299,401.21$

Notice that the interest portion is much larger than the equity portion in the above calculation. This is true in the early years of a mortgage. After 19 years, the equity portion will become larger than the interest portion. Figure 9.12 shows the interest and equity portions of the monthly mortgage payment overtime.

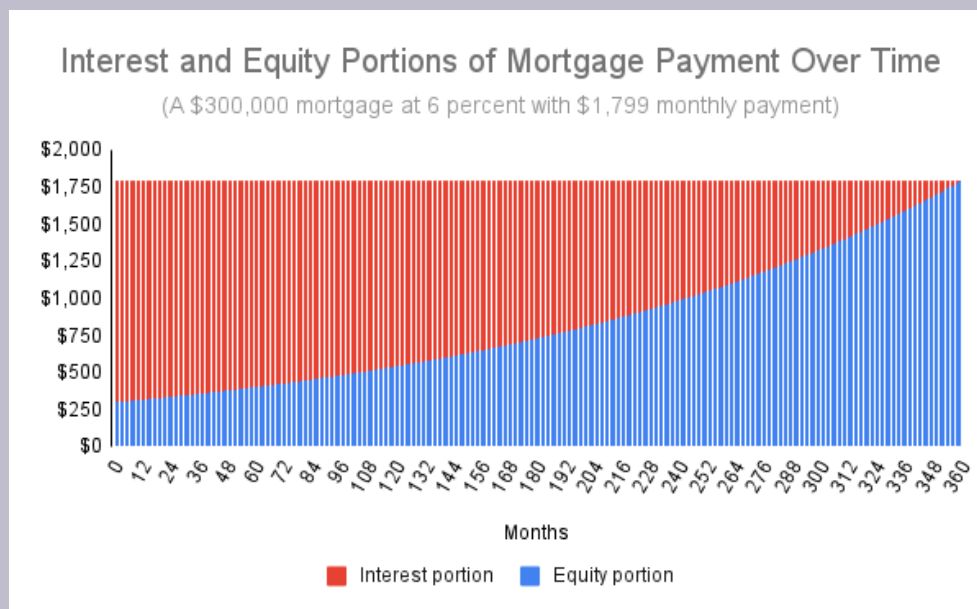


Figure 9.12

Computing the amortization table month by month is a tedious process and best handled by using

a spreadsheet. Here is the [link](#) to a spreadsheet containing an amortization template. You can download the template or make a copy in Google Sheet and try out this example on your own.

Points or no points?

Your credit history, DTI ratio, and down payment percent will be the most important determinants of your mortgage interest rate. A high credit score (780+), low DTI ratio (< 30 percent), high down payment (20+ percent), and a long stable employment history will qualify you for the lowest interest rates. Is it worthwhile to pay points to get a lower interest rate? The answer depends on a number of factors. The most important factor is how long you plan to hold the mortgage. You may pay off a mortgage early because you sell the house or to refinance because the interest rate decreases. The second factor to consider is how much reduction in interest rate you will get per point. A point is one percent of the loan amount. One point on a \$350,000 mortgage will be \$3,500. In the past, one point will often reduce the interest rate by 0.25 percent. If this trend holds, a rule of thumb is that you will break even if you hold the mortgage for more than 7 years. This is assuming you pay the points up front and not roll them back into the mortgage, increasing the loan amount. If you roll them back into the mortgage, the break even time will be 12 years. Points must be paid up front. This means money that you spend on points can be used to increase the down payment. If your down payment is less than 20 percent and you have a conventional mortgage, you may be better off using the money toward down payment so you can eliminate PMI premium faster.

Fixed rate or adjustable rate?

Fixed rate loans have dominated the mortgage market in the past decade because interest rates have been at their historic lows. Figure 9.13 shows 30-year and 15-year fixed mortgage rates since 1970. Adjustable rate mortgages (ARMs) were popular when interest rates were high. There are three important characteristics to consider when evaluating an ARM. The first is the length of the fixed period and adjustment frequency. The label for ARM includes 2 numbers, the first indicates the length of time the rate is fixed and the second indicates how often the interest rate will change after the fixed period ends. A 5/1 ARM means that the rate is fixed for the first 5 years and will change every year thereafter. A 3/6m ARM means that the rate is fixed for the first 3 years and will change every 6 months thereafter. The second characteristic of an ARM is the index and the margin. The interest rate on an ARM is the index rate plus the margin. The index is usually the Secured Overnight Financing Rate (SOFR), the Constant Maturity Treasury (CMT) rate, or the Moving Treasury Average (MTA) rate. These indexes are benchmarks used by financial institutions and published daily online. For instance, if the current index rate is 4 percent and the margin is 3 percent, the initial interest rate on a 5/1 ARM will be 7 percent. After 5 years, the interest rate can change, depending on the index rate. The

last factor to consider is the caps. The first adjusted interest rate cap is how much interest can increase when the fixed period elapses. The subsequent adjusted interest rate cap is how much interest can increase at each adjustment frequency. The lifetime rate cap is how much interest rate can increase during the term of the loan. For instance, the above 5/1 ARM has an first adjusted cap of 2 percent, subsequent adjusted cap of 1 percent, and lifetime cap of 5 percent. After 5 years, the maximum interest rate possible will be 9 percent (7 percent initial rate + 2 percent first adjusted cap). The maximum interest rate possible for this loan is 12 percent (7 percent initial rate + 5 percent lifetime cap).

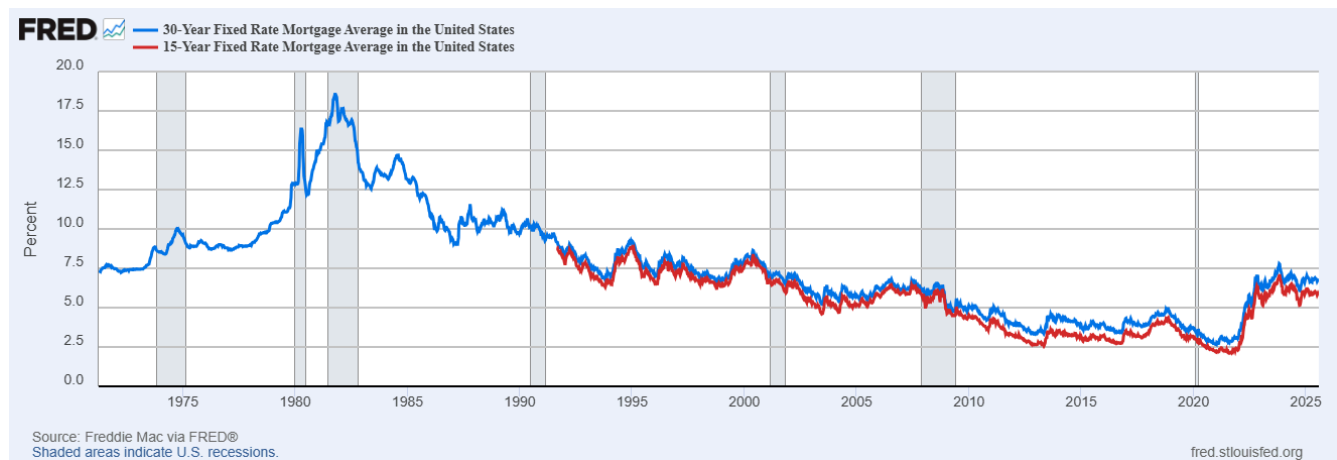


Figure 9.13

Initial Low Payment Options – Opportunity or trap?

Some mortgages are designed such that monthly payments in the first few years of the loan are lower than fully amortized loans. Interest-only mortgage allows borrowers to pay only interest on the mortgage initially. This means that the loan balance remains unchanged during this period. To fully pay off the loan, borrowers must make higher payments in subsequent years. A graduated payment mortgage is a mortgage where the payments in the early years are very low, often less than the interest on the loan, and rise to higher levels over time. This kind of mortgage has negative amortization, meaning the loan balance actually increases during the early years because the payment is not sufficient to cover interest due. It is similar to making only the minimum payment on a credit card and the balance continues to increase. A balloon mortgage is a mortgage whose monthly payment is computed assuming a 30-year loan but the loan and the remaining balance is due much sooner, usually 5 to 7 years. Remember that most of the payments during the first years of a 30-year loan go toward interest payments. Typically less than 5 percent of the loan would have been paid off after 5 years. If the homebuyer is unable to get another mortgage (refinance), they will lose the house when the balloon mortgage is due. These mortgages were popular before the 2008 financial crisis and many borrowers were lured into loans by the initial low payments. They found out that they could not truly afford these loans once the higher payments kicked in. These mortgages are considered riskier than fully amortized loans.

15 years or 30 years?

The most common loan term is 30 years with fixed interest rate and fully amortized. In 2023, 96 percent of conforming-conventional mortgages and 99 percent of VA/FHA/USDA mortgages were in this category. The advantages of a 15 year loan include lower interest rate and paying off the mortgage faster. The downside is higher monthly payment. Take a \$300,000 loan. If the interest rate on a 15-year mortgage is 6 percent, the monthly payment will be \$2,531.57. The total interest over 15 years will amount to \$155,683. For the same loan, if the interest rate on a 30-year mortgage is 6.5 percent, the monthly payment will be \$1,896.20. Over the 30 years, interest payments will total \$382,633. You could save a lot in interest with the 15 year loan. Unfortunately few borrowers will be able to afford the higher monthly payment. If your budget improves and you can afford to pay more, you can make additional payment on a 30 year mortgage. If you pay \$200 per month extra, you can reduce the interest costs to \$244,800 and pay off the loan in approximately 23 years. When you make extra payment on your mortgage, use a separate check and clearly indicate that the money should be used to pay off the loan balance.

Example: Maya and Isis Chooses a Mortgage

After deciding on a house budget of \$330,000, Maya and Isis began shopping for mortgages. Their budgeted loan amount was \$305,000. They expected to pay 0.60 percent in PMI and approximately \$1,200 per month in other housing costs. They saw the following advertisement online (Figure 9.14).

They ruled out ABC Loan Corp because of the high interest rates and high fees. They liked the lower interest rates offered by Reliable Mortgage but noticed that it required points. The monthly payment for Reliable Mortgage would be \$1,945 and for First Bank would be \$1,846, both before the PMI premium. The difference was \$99 per month. Reliable Mortgage charged 1.567 percent as points, which would total \$4,757. It also charged \$6,995 in fees whereas First Bank indicated zero fees. However, First Bank's disclosed APR

Advertisement

Current Mortgage and Refinance Rates

Purchase		Refinance		Zip Code	Property Value
Loan Amount		Percent Down		06419	\$ 330,000
\$ 303,600	8 %	Loan Term		Credit Score	
		30 year fixed		740 - 759	
Show more options					
Lender	APR	Rate	Mo. Payment		
RELIABLE MORTGAGE 30 Year Fixed NMLS: # 102589 ★★★★★ 4.56	6.77%	6.13%	\$1,994	Next →	
	Aug 6, 2025	Points: 1.567	Fees: \$6,995		
FIRST BANK 30 Year Fixed NMLS: #15285 ★★★★★ 4.82	7.05%	6.63%	\$2,093	Next →	
	Aug 6, 2025	Points: 0.000	Fees: \$0		
ABC Loan Corp 30 Year Fixed NMLS: #50394 ★★★★★ 4.63	8.22%	7.50%	\$2,272	Next →	
	Aug 6, 2025	Points: 1.985	Fees: \$7,421		

Figure 9.14

is 7.05 percent, higher than the advertised rate of 6.63 percent. Maya remembered from their personal finance course that APR included fees, points, and other loan costs. This suggested that First Bank might not use the term “fees” for these charges, but the amount was not zero. The APR from Reliable Mortgage was lower than the APR from First Bank. Maya and Isis knew from their car shopping experience that what was advertised almost always differed from the actual offer. They decided to contact both banks to obtain quotes with specific information on loan fees and closing costs. They requested interest rates on loans with zero points so they could make a better comparison. They also planned to visit their credit union to obtain the same information. Maya and Isis preferred to work with their credit union if the loan offers were comparable. They knew they needed to decide on a lender before getting a mortgage preapproval.

Anatomy of the Closing Costs

You now know that closing costs can be expensive. This section explains the details of closing costs, which have three main components. The first are fees charged by the lender for processing and underwriting the loan. These fees include origination fee, discount points, and other processing fees such as credit report and appraisal fee. Origination fees typically range from 0.5 percent to 1.0 percent of the total loan amount. We discussed points in an earlier section in this chapter. Other processing fees can vary from \$1000-\$1500. The second component is related to title and settlement fees. These include costs for title search and title insurance for the lender and the homeowner, recording fee and transfer tax paid to the local government, and escrow fee to the escrow company for handling the closing process and managing escrow funds. These fees can total \$4000-\$5000. You may be able to negotiate with the seller of the property to have them pay part of these fees such as transfer tax. Lenders should be able to provide you with the estimated costs of the first two components based on the loan amount without needing specific information on the property.

The last component includes prepaid expenses and escrows, which is often the least understood and warrants more explanation. Prepaid expenses consist of accrued interest, initial premium on homeowners insurance, and prorated property taxes due at the time of the closing. First let us take a look at accrued interest. Your first monthly mortgage payment is typically due at the beginning of the second month after closing. For instance, if you close on a mortgage on April 10, your first mortgage payment will be due on June 1. The June payment will cover interest for the month of May. At the time of closing, you need to pay the interest from April 10 through the end of April, called accrued interest. Most insurance companies require one year or 6 months of premium when you take out the policy. This amount is due at closing. Cities and towns usually assess property taxes yearly and require quarterly or bi-annual payments. When the closing occurs between payment dates, the taxes are prorated between the buyer and the seller. If the seller has prepaid taxes that cover a period beyond the closing date, the buyer will need to pay the seller for the portion of the taxes after

the closing date and vice versa. Sometimes prorated property taxes are handled through the escrow account. The escrow account is managed by the escrow company independent of the lender. Its purpose is to cover the future payments for expenses such as property taxes and homeowners insurance premiums. The escrow account usually requires 2 to 3 months of these expenses to be deposited at the time of closing. Since property taxes and homeowners insurance premiums vary greatly by location, the amount needed for this component depends on the specific property.

More on Escrows (Avoid Unhappy Surprises)

As indicated in the last section, the purpose of the escrow account is to accumulate funds for future payments of expenses to protect the lender's interest. The property is a collateral for the lender. If the homeowners fail to pay property taxes, the local government can sell off the property. After taxes have been paid off the amount left may not cover the loan balance. If the homeowners insurance policy lapses and the property is damaged, its value may drop significantly. Therefore, many lenders require estimated property taxes and homeowners insurance premium to be paid into an escrow account. In addition to prepaying 2 to 3 months of these expenses as part of closing costs, an estimated monthly amount is added to the mortgage payment. For many borrowers the mortgage payment has 4 components. The interest portion paid to the lender, the equity portion used to reduce the loan balance, the PMI/mortgage insurance portion paid to the mortgage insurer, and the escrow portion deposited into the escrow account.

When the homeowners insurance policy or property taxes are due, the escrow company pays these bills with money in the escrow account. If the actual amount is greater than the estimation, the escrow company will increase the future escrow payment, resulting in higher monthly payment. To avoid unhappy surprises, you can keep abreast of changes to property taxes and adjust your budget accordingly. If your homeowners insurance premiums increase significantly you can shop for another provider. We will discuss homeowners insurance in a later section of this chapter. On the other hand, if the actual amount of these expenses is less than the estimation, the escrow company will send you a check for the difference. This may seem like a happy surprise. You may not want to spend that money right away. There is a good chance that the excess may be due to a quirk in the proration calculation rather than a decrease in property taxes or insurance premium. If that is the case your next escrow adjustment will be revised upward again. You will be better off saving that money for future escrow revisions.

Important Lessons from the Financial Crisis

Many people believe that a house is a good financial investment. Like all financial investments, there is risk. Figure 9.15 shows the quarterly percent change in median house prices. In most years, house prices increase but not always. Homeowners discovered that economic downturn can result in significant drop in house prices. The cumulative decrease in median house prices between 2007 and 2011 amounted to 19 percent. In

some areas, the price drop was much greater. Prices in Las Vegas fell by 59 percent in that period. A large number of homeowners ended up with a loan balance greater than the value of the house. Risky mortgages and associated financial products were part of the causes of the 2008 financial crisis. Congress responded by passing laws to improve consumer protection in the mortgage application process. Lenders now must show that they have made reasonable effort to ensure that borrowers have the ability to repay the mortgages. This is called the Ability-to-Repay (ATR) standard. Many lenders meet the ATR standard by issuing “qualified mortgages”. Qualified mortgages have three main features. The first is that lenders verify income, assets, debt, and other obligations to ensure borrowers have the ability to make monthly mortgage payments based on DTI ratio or the APR of the loan. The second is that the mortgages must not have risky features such as negative amortization, interest-only payments, balloon payments, or loan terms longer than 30 years. Lastly, points and fees must not exceed 3 percent of the loan amount. Qualified mortgages are cheaper than non-qualified mortgages due to their lower risk. When shopping for mortgages, you can and should ask your lender whether a mortgage is qualified.

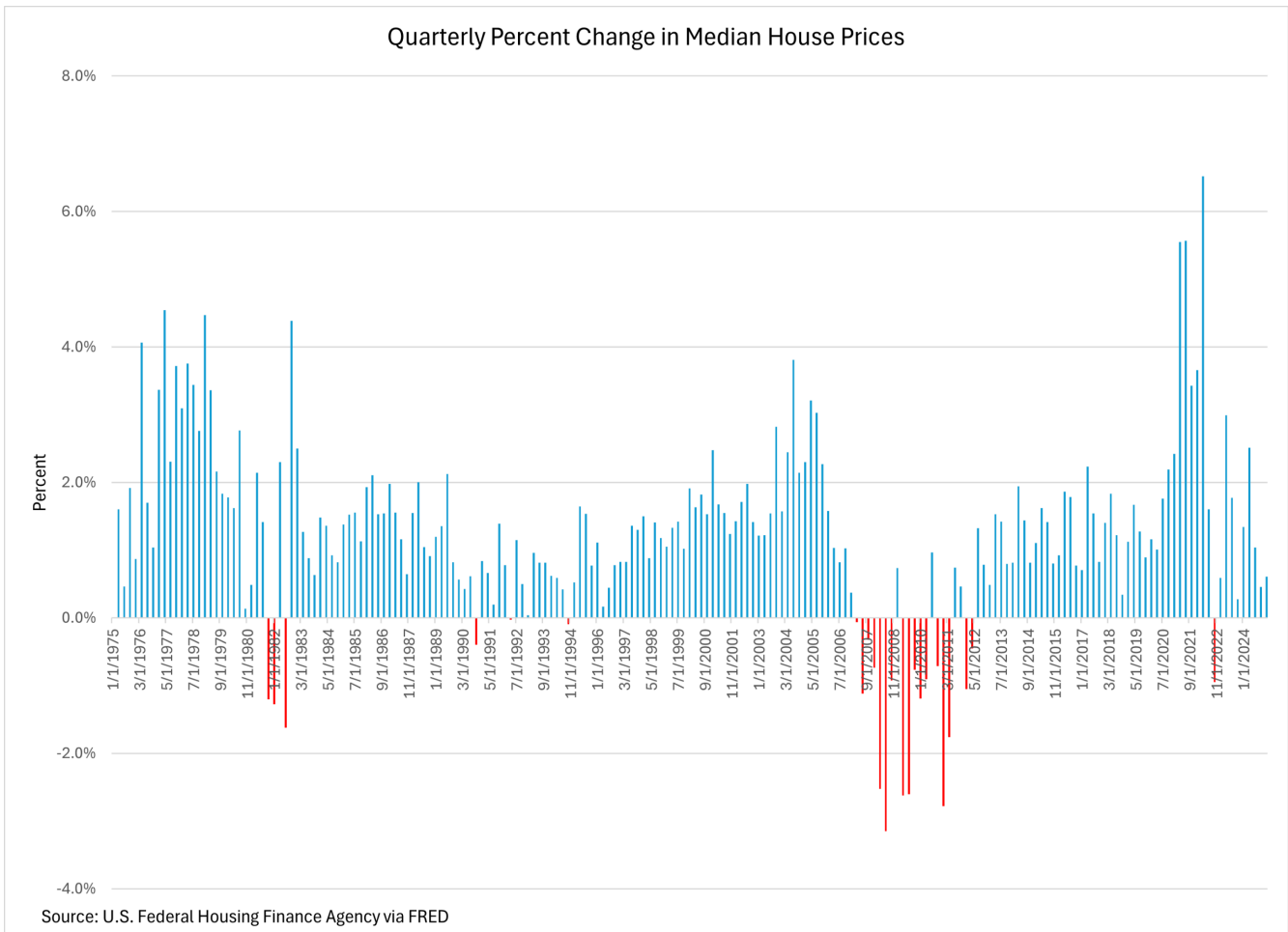


Figure 9.15

Another useful legal provision after the financial crisis is the standardized loan estimation form. Appendix 7.1

contains a sample loan estimate. The Consumer Financial Protection Bureau has [a loan estimate explainer](#) that helps you understand different parts of the form. A loan estimate should include the loan term, the interest rate type, the loan type, estimated monthly payments, and details on closing costs. Lenders are required by law to provide loan applicants with the standardized loan estimation form within 3 days after receiving the following information:

- your name,
- your income,
- your Social Security number (so the lender can pull a credit report),
- the property address,
- an appraised value of the property, and
- the desired loan amount.

Credit Unions, Banks, Online Only Lenders, and Mortgage Brokers – Which Is Right For You?

Many of the considerations discussed in Chapter 7 for choosing a bank also apply to choosing a mortgage lender. The key determinants are fees, in-person communication, physical location, and reliability. Credit unions tend to have lower fees, lower interest rates, and personal services. In addition to common mortgages such as conforming-conventional loans, FHA loans, and VA loans, credit unions may have some flexibility in considering alternative income sources such as self-employment income. Credit unions are less likely to sell the mortgages they originate than other types of lenders. This means that as long as the credit union remains the servicer, you can contact them throughout the life of the loan if you have questions. Credit unions are a good option for first-time homebuyers. The main advantage of national banks is to have a single app and physical location for all your financial services. They also have more mortgage product offerings, including jumbo loans.

Online only mortgage lenders who do not offer other banking services compete by reducing overhead costs or specializing in niche markets. These lenders often advertise fast preapproval and processing time because the entire process is done digitally. For some homebuyers, especially first-time ones, the house hunting and mortgage application process can feel overwhelming and the absence of in-person discussions can be a significant disadvantage.

Some of these online only lenders are able to offer lower interest rates and lower closing costs due to automation. A small number of them offer subprime mortgages or non-qualified mortgages to borrowers with poor credit history or lacking verifiable income. As discussed in an earlier section, FHA loans are usually a better option for those with poor credit. Most online only lenders sell their loans soon after origination because servicing loans add to their overhead. If you are comfortable with minimum guidance and value speed and digital convenience, online mortgage lenders may be right for you.

Mortgage brokers are licensed professionals who are not lenders. They work with multiple lenders and have

access to a wide range of loan options. They manage the paperwork and maintain communication with the homebuyers throughout the application process. Since the mortgage brokers are not the lenders, they do not service the loan after the closing. Some brokers charge a fee directly to the borrower. Most brokers are paid part of the origination fee or a commission as their compensation. If you want a wide variety of loan choices or have unique financial needs, mortgage brokers are more likely to be able to find a mortgage that will fit your requirements.

Shopping For A Mortgage

Before shopping for a mortgage, you should do some preparation. This includes reviewing your credit report, checking your credit score, reviewing your budget, computing your DTI and house cost ratios, and gathering financial documents such as W-2s, payroll records, and bank statements. Next, decide on the loan term and the type of interest rate. For most people, a 30-year fixed rate mortgage is the best option. Start with zero point loans in your initial inquiry to make the comparison easier. Lastly, review the criteria for different types of mortgage including conforming-conventional, FHA, or VA loans. Decide which mortgage type best fits your situation.

When you are ready, obtain quotes from at least 3 lenders. If the loans are conforming conventional mortgages, ask the lenders whether these are qualified mortgages. Be sure to verify that the lenders only conduct soft inquiries to provide you with the estimates. Soft credit inquiries do not affect your credit score. Non-financial factors to consider include the lender's reputation, availability of in-person service, and accessibility. The key financial factors are closing costs and interest rate. Lenders may not use the standardized estimation form in Appendix 7.1 for quotes, making the comparison trickier. Check that the quote includes all the closing costs listed on the standard form except property taxes and homeowners insurance premium. If you have a preferred lender but their quote is less competitive, you may be able to get them to match another lender.

Once you have chosen a lender, the next step is to get a preapproval, which usually requires a hard credit inquiry. Your credit score will go down temporarily after a hard credit inquiry. Check the preapproved loan amount against the amount you estimated based on the affordability criteria. If the preapproved amount is lower than your estimate, you need to revise down your house price range. Do not increase your house price range if the preapproved amount is greater than your estimate. You may consider paying a fee to lock in the interest rate if you are worried that the interest rate will go up before you close on the house.

Redlining, What is It and How May It Affect You

The term "redlining" originated from discriminatory practices in the 1930s. Color-coded maps were created by government agencies to assess the perceived risk of different neighborhoods for mortgage lending. Areas marked in red were deemed high-risk and unworthy of inclusion in homeownership and lending programs.

These redlined areas were overwhelmingly Black neighborhoods, systematically denying Black Americans access to financial resources for homeownership and wealth building.

This practice created a stark disparity: white consumers disproportionately benefited from government housing programs and access to low-interest mortgages, enabling them to purchase homes and build equity. Black consumers were largely excluded, leading to segregated communities and a widening racial wealth gap that persists to this day.

In response, the Fair Housing Act was enacted in 1968 to eliminate discrimination in housing by prohibiting bias based on race, religion, national origin, sex, sexual orientation, gender identity, disability, and familial status. While the Act made redlining and other discriminatory housing practices illegal, research and investigations have repeatedly revealed ongoing, widespread, and unequal treatment in real estate services.

Even with legal protections in place, various forms of discrimination continue to disadvantage protected groups in their pursuit of homeownership:

- **Steering:** This practice involves real estate agents or brokers intentionally directing prospective homebuyers toward or away from specific neighborhoods or areas based on their characteristics⁸. For example, a Black homebuyer might be subtly discouraged from looking at homes in a predominantly white neighborhood, while a white homebuyer might be steered away from a diverse community.
- **Bias in Home Appraisal:** Appraisals can affect mortgage approval and loan amounts. Studies have found evidence of racial bias influencing home appraisals⁹. In one example, a home's appraised value dramatically increased from \$472,000 to \$750,000 after a "whitewashing" experiment, where the Black homeowner removed personal items that could signal their race and had a white friend stand in during the appraisal.
- **Bias in Mortgage Lending:** Studies have consistently shown that Black and Hispanic borrowers continue to face discrimination in mortgage lending¹⁰. Even after controlling for risk factors such as credit scores and debt-to-income ratios, research indicates that these groups pay significantly higher interest rates on loans, including GSE FHA loans.

New technology relying on algorithms with no face to face interaction also showed bias. These modern forms of discrimination perpetuate the legacy of inequity in housing and homeownership.

Buying a House

Buying a house involves many steps. A real estate agent can help, especially for first-time homebuyers. However, remember that real estate agents work for the seller. Even buyer agents have incentive to close the deal or sell you a more expensive house because they work on commissions. Once you have determined your affordable house budget, stay in your price range. Tell the agent your target price range, not your loan preapproval

amount. There are many hurdles in the home buying process. Do not get emotionally attached to a property too early. It is very common for an offer to be rejected or for an accepted offer to fall through.

Location, location, location! You and your family preferences are the key determinants in your location choice. Keep in mind commute time to work, school for children, and your own lived experience. Moving to a new environment means learning new skills and an adjustment period. Moving from the country to the city may mean learning the public transportation system or complex parking regulations. Moving from the city to the country may mean learning about septic systems and wells.

Your lifestyle and family situation will affect the type of housing you prefer. Single family houses are the most common form of housing in the U.S., especially outside of cities. They typically have more space than condos and townhouses and offer more privacy and freedom to modify and customize the property. Single family houses are usually more expensive and require more upkeep. You should budget 1 to 2 percent of the home value per year for regular upkeep. This amount will be higher for older homes. Condos tend to offer more amenities and much maintenance is usually done by the condo association. This convenience comes at the expense of more fees, less privacy, and more restrictions.

If you are buying a condo or a house in a homeowner's association (HOA), be sure to review their bylaws. These bylaws govern many things, from yard maintenance standards to building materials and color choices. Most importantly, these bylaws specify what are considered common areas and common structures. The associations can levy special fees, in addition to regular monthly fees, to repair common structures. You may want to contact a board member of these associations and inquire whether there are pending major repairs and the status of reserve funds. Remember to update your budget with the monthly fees if they were not in your original analysis.

Making The Offer

Making the offer on a house means you are signing a purchase agreement. It is a legally binding contract and a deposit is required. The purchase agreement includes the offer price, which can be higher or lower than the asking price along with any stipulations (called contingencies). The most common contingencies are the approval of financing, a satisfactory home inspection, and an appraisal value at or above the offer price. Another frequent contingency is the home sale contingency, which gives the buyer time to sell their current home. Make sure you understand all the information in the purchase agreement before signing. You are likely making the biggest purchase of your life. Do not be pressured or rushed into it.

The seller can accept your offer, reject it, or make a counter offer. If the seller accepts your offer, both parties are committed. If you withdraw from the accepted agreement, you will forfeit the deposit. If the seller rejects your offer, you can make another one and the old offer is void. If the seller makes a counter offer, you can accept or reject it. Your old offer is also void.

After The Offer

The next steps following an accepted offer include home appraisal and home inspection. A home appraisal is a professional assessment of a property's market value based on recent comparable sales, property condition and size, its features and amenities, and market trends. Lenders require an appraisal before formally approving a mortgage loan. The primary purpose is to protect the lender by ensuring the loan amount does not exceed the property's actual worth. Ideally, the appraised value of the home will be equal to or greater than your offer price. If the appraised value comes in lower than your offer, you have three options. You can negotiate a lower price with the seller or walk away, assuming your contract has an appraisal contingency. The last option is to come up with more cash for down payment. However, buying a house above the appraised value is usually not a good idea.

Some lenders also require home inspection. In many states, home inspectors are licensed and regulated. The goal of a home inspection is to identify potential current and future problems with the property. This can include:

- Structural issues: Problems with the foundation, roof, or walls.
- Major systems: The heating, ventilation, and air conditioning (HVAC) system, plumbing, and electrical systems. For example, a 20-year-old furnace, while still operational, will likely need significant repair or replacement in the near future, representing a substantial potential cost.
- Appliance functionality: Checking major built-in appliances.
- Safety concerns: Issues like faulty wiring, carbon monoxide risks, or inadequate ventilation.
- Water intrusion: Signs of leaks or moisture problems in the basement, attic, or other areas.

In addition to a general inspection, some states or lenders may require specific inspections for:

- Pests: To certify the absence of termites or other wood-destroying insects.
- Radon: A naturally occurring radioactive gas that can accumulate in homes and is a health hazard.
- Mold: Identification and assessment of mold growth, which can cause health issues and structural damage.

The home inspection report provides a detailed overview of the property's condition, often with photographs and recommendations for repair. If significant problems or defects are discovered during the inspection, the buyer typically has four options. You can ask the seller to fix the issues before closing. You can ask the seller for a credit at closing to cover the cost of repairs or negotiate a lower price. If the problems are too extensive or the seller is unwilling to negotiate, you can walk away, provided there is an inspection contingency.

After the lender receives copies of the appraisal and home inspection report, you should receive the final approval for the mortgage, assuming nothing significant has changed in your financial situation since the loan

preapproval. The lender is required by law to provide you with the finalized loan estimate, including closing costs details. Check this information against the quote you have received. There should not be large differences. The mortgage approval will satisfy the financing contingency in the offer.

The closing is when the entire real estate transaction is finalized. At the closing, be sure to check that information in the closing documents matches the finalized loan estimate. You are signing a 30 year financial contract!

Essential Steps to Buying a Home

Preparation phrase

- Gather financial documents such as W-2s, payroll records, and bank statements.
- Review your credit report and check your credit score.
- Review your budget.
- Compute your DTI ratio.
- Compute your house cost ratios.
- Determine your target loan amount and house price range.

Mortgage shopping phase

- Decide on the loan term (how long) and the type of interest rate (fixed or variable).
- Decide which mortgage type (conforming-conventional, FHA, or VA loans) best fits your situation.
- Obtain quotes from 3 lenders. Be sure they do only soft credit inquiry.
- Negotiate with your preferred lender if necessary.
- Choose a lender and obtain a preapproval.

Home shopping phase

- Choose a real estate agent.
- Choose a location and type of housing.
- Stay within your target price range!
- Make an offer and include important contingencies.
- Negotiate if necessary.
- Be prepared for an offer to be rejected or an accepted offer to fall through.
- Obtain quotes and choose a homeowners insurance policy.
- Check loan and property documents carefully for accuracy at closing.

Red Flags to Watch Out For

Real estate agents

- Requesting loan pre-approval before showing you listings.
- Pushing you to make decisions more quickly than you are comfortable with.
- Pushing you to accept terms you do not fully understand.

Mortgage lenders

- Not requiring or doing a credit check.
- Making unrealistic promises.
- Rushing you through the process.
- Asking you to falsify or leave out financial or personal information.
- Dodging your questions.
- Offering lower interest rates without disclosing points.
- Printed documents differ from verbal promise.

Renting versus Owning

Perhaps you have heard that owning a home will build equity and long-term financial security whereas paying rent is like throwing money away. This statement is an over simplification. The financial reality is more complicated. Owning a home is actually more expensive than renting in a large number of scenarios. The New York Times (NYT) first created a [“Rent vs. Buy Calculator”](#) in 2007 and last updated it in 2024¹¹ The key factors used in the calculator include:

- Price of the potential home
- Potential monthly rent
- Years you plan to stay at the place
- Inflation rate
- Rate of return on investments
- Marginal tax rate
- Details about owning:

- Mortgage rate, length of mortgage, private mortgage insurance cost
- Down payment percentage
- Estimated house price growth rate
- Property tax rate
- Closing costs of buying a home
- Closing costs of selling a home
- Home maintenance/renovation cost
- Homeowners insurance
- Extra monthly utilities
- Common fees such as homeowner's association fees or condo fees
- Details about renting:
 - Rent growth rate
 - Security deposit
 - Renters insurance

The large number of factors used by the NYT Calculator reflect the complexity of the buy versus rent analysis. The saying that “all real estate is local” is true, making it difficult to come up with a simple rule of thumb calculation. Most people focus on the price of the home, and the monthly mortgage payment versus the monthly rent. An often overlooked, yet very important factor, is the opportunity cost of investment return on savings from renting.

As noted earlier, moving is much, much more expensive for homeowners than renters. Transaction costs of selling one house and buying another can total 12 to 16 percent of the home price. When you relocate to a new city or town, it may be a good idea to rent initially to get to know the neighborhood. If your chances of moving are high within 5 to 7 years, renting is the better financial choice.

Financial benefit is only one of many factors in the rent versus own decision. A home usually has more living space and amenities than a rental. It is difficult to find two identical units for the rent versus buy comparison. Your personal values affect whether home ownership will be a source of pride and a personal accomplishment. Owning your home often provides a sense of permanence and stability and of belonging within the community. These other benefits are valuable even though they cannot be measured in dollars. Only you can decide how much they are worth.

Home Equity Lines of Credit (HELOCs)

A Home Equity Line of Credit, commonly known as a HELOC, is a revolving line of credit secured by your home. The interest rate is variable and tied to a benchmark rate such as SOFR. A HELOC has a draw period and a repayment period. During the draw period you can use money from this line of credit as needed, a bit like using a credit card to make purchases. The draw period typically lasts for 5 to 10 years. Interest is computed on

the outstanding balance. You have to pay the minimum monthly payment during the draw period, which may be as low as just the interest amount.

Once the draw period ends, the repayment period begins and you can no longer borrow money from this HELOC. You must begin making the required monthly payments, which include both principal and interest. The payment term is usually 10 to 20 years. Since HELOCs have variable interest rates your monthly payments can fluctuate over time as benchmark interest rates change. There are interest rate caps similar to Adjustable Rate Mortgages (ARMs). Some HELOCs have early prepayment penalties. The closing costs for HELOCs are usually quite a bit lower than for mortgages. However, HELOCs often have annual fees, inactivity fees, transaction fees, and early termination fees.

What a HELOC is Good For

The primary advantages of a HELOC are its flexibility in borrowing and repayment during the draw period and often lower interest rates compared to unsecured loans like personal loans or credit cards. Some common uses include:

- **Home Repairs:** Home repairs can be very expensive. It is better to take out a loan to repair a leaky roof or flooding basement than to let the damages escalate.
- **Educational Expenses:** HELOCs can be a supplemental source of funding for college tuition.
- **Debt Consolidation:** If you have high-interest debts, such as credit card balances, a HELOC can be an option to correct your past spending mistakes. It is important to have a plan and budget to change your spending habits before doing a debt consolidation.

What to Watch Out For

Before taking out a HELOC, you should evaluate your ability to make the monthly payments, including those during the repayment period and the maximum potential interest rate based on the lifetime cap. Consider the following risks carefully when deciding whether to use a HELOC for financing:

- **Your Home is the Collateral:** If you are unable to make your payments, the lender can foreclose on your home.
- **The Temptation to Overspend:** The ease of accessing a large line of credit can lead to borrowing for non-essential purchases and accumulating more debt than you can comfortably repay.
- **Low Initial Payments Can Be Deceiving:** The low payments during the draw period may seem manageable. When the repayment period begins, your monthly payments will increase substantially as you start paying back the principal.
- **Fees and Closing Costs:** Be aware of potential costs such as application fees, appraisal fees, closing costs,

annual fees, transaction fees, inactivity fees, and prepayment penalty.

- Risk of an “Underwater” Mortgage: If the value of your home declines, you could end up owing more on your mortgage and HELOC combined than your home is worth.
- Variable Interest Rates: If benchmark rates rise, the monthly payments can increase significantly.

Homeowners Insurance

The home is usually the most valuable asset and worth being insured. If you have a mortgage, the lender will require homeowners insurance. This section explains the terms used in homeowners insurance policies and the important factors to consider when choosing one. The key elements of a policy include the types of coverage, the types of perils, and actual cash value versus replacement cost.

Types of coverage include the dwelling and other structure such as a detached garage or barn, personal property, loss of use, and personal liability. The personal property component protects everything inside the home, from heating system, appliances, furniture to clothing, and can be supplemented with “floaters” to cover especially valuable items like jewelry or fine art. When your home is uninhabitable, the loss of use coverage pays for additional living expenses such as hotel stays. The personal liability portion covers legal fees and medical expenses if someone is injured on the property.

The term ‘perils’ refers to the dangers that can cause damages protected by the insurance policy. Named perils policies will only cover dangers that are specifically listed in the policy. Basic perils include fire, smoke, explosions, lightning, hail, windstorm, theft, vandalism, vehicle, aircraft, riots, and volcanic eruptions. Broad perils expand the list to ice, snow, sleet, freezing of plumbing, falling objects, and artificially generated electricity. Open peril policies cover all dangers except those specifically excluded in the policy. Open peril policies are more common. Typical excluded perils include earthquakes, floods, landslides, nuclear accidents, war, mold and fungus, pests, neglect, general wear and tear. You can purchase special flood insurance through the National Flood Insurance Program.

Actual cash value provides compensation for the depreciated value of an item, which may be far less than the cost to replace it. Most homeowners opt for replacement cost coverage, which reimburses the full current market value.

Homeowners insurance policies have standardized forms based on the type of coverage, perils, and replacement cost options. The most common forms are the comprehensive form (HO-5) and the condominium form (HO-6). The comprehensive form (HO-5) is an open peril type policy covering the dwelling, other structures, and personal property at replacement costs, plus loss of use, and personal liability. The condominium form (HO-6) has similar coverage as HO-5 except it only covers the interior of your unit, including drywall, fixtures, cabinetry, and flooring but not the exterior of the building that is considered common property and common areas.

The key determinants for the cost of homeowners insurance are the location and value of the house, the value of personal property, the amount of personal liability coverage, and the deductible amount. The

recommended coverage is 100 percent of the estimated cost to rebuild your home and \$300,000 to \$500,000 in personal liability. Creating a home inventory can help you more accurately assess the value of your personal property and very useful in case you need to make a claim. A rough estimate without an inventory is 50 to 70 percent of your home value. Deductible is the amount you pay out-of-pocket on a claim before your insurance company starts paying. A higher deductible typically results in a lower premium. Be aware that some policies may have special, higher deductibles for specific events like windstorms or hurricanes. A common deductible amount is around \$2000-\$2500 per incident.

Shopping for Homeowners Insurance

All the factors we discussed when choosing an auto insurance policy in Chapter 8 also apply to choosing a homeowners insurance policy. Review the section on “shopping for auto insurance” in Chapter 8 if you need a refresher. In fact, if you already have car insurance and are happy with your agent/underwriter, they will be a good place to start shopping for your homeowners insurance. This is also a good opportunity for you to reassess your car insurance. Obtain quotes from multiple companies before deciding. Ask about available discounts, especially multiple policy or bundled discounts. You may be surprised by the various types of discounts insurance companies offer. You may be able to negotiate a lower premium by presenting a quote from a competing company.

What To Do If You Have Damages To Your House

A home inventory is very useful in the event of damages or losses. Creating a home inventory is as simple as going from room to room and listing items in each. If that is too much, begin the process by taking a detailed picture of each room in your house. Update this list when you make major purchases such as appliances. Store your home inventory off-site. This could mean cloud storage, an external hard drive kept at a friend’s house, or a safety deposit box. Relying solely on in-home storage risks losing your inventory along with your possessions during a disaster.

In the unfortunate event of a loss or home damage, contact your insurance provider immediately to report the incident and initiate the claims process. If the incident is a theft or burglary, contact the police and retain a copy of the police report. Presenting your home inventory to the insurance claims adjuster will accelerate their assessment and help them understand the scope of your losses. You may want to obtain an independent repair estimate from a reputable contractor or appraisal service. If the initial settlement offered by your insurer is insufficient to repair your home, do not hesitate to appeal. Having a home inventory and an independent estimate will support your case. Keep all receipts, especially if you need to stay at a hotel or purchase replacement items on your own. Accurate record keeping will ensure you will get fully reimbursed.

Personal Financial Plan Assignment 9

Saving for a House Down Payment and Home Ownership Costs

If owning a home is one of your long-term financial goals, a common intermediate-term financial goal is to save enough money for the down payment. Choose a house that you imagine will be your first home. Be specific about the location, size, and amenities. Research the cost of ownership for this house at today's price and mortgage rates.

Activities

1. Choose a website to search for your potential first home.
2. Assume a 10 percent down payment.
3. Estimate the loan amount.
4. Estimate the total closing expenses.
5. Estimate the total amount needed at closing.
6. Obtain the current 30-year mortgage interest rate online.
7. Compute the monthly mortgage payment based on the estimated loan amount.
8. Assume a 0.7 percent Mortgage Insurance premium, compute the monthly mortgage insurance premium amount.
9. Compute the monthly property tax amount. (Hint: property tax information is on the real estate listing).
10. Assume a yearly maintenance cost of 2 percent of the home value. Compute the monthly maintenance cost.
11. Reflect on the monthly housing cost estimates you have determined. Remember that your estimate does not include utilities and homeowners insurance. If home ownership is one of your goals, describe how you plan to save for the down payment and prepare to pay for housing costs. If home ownership is not one of your goals, explain your decision.

Integrated Case 9

Choosing and Financing Housing

Blake and Taylor were having a great time at their college reunion. It was hard to believe 5 years had gone by since graduation. They knew they were very lucky. They both did well in their careers and just celebrated their first wedding anniversary. They were able to pay off all their student loans ahead of schedule. Their only concern at the moment was the notice from their landlord. He sold the condo they had been renting and they would need to move out in two months.

Blake and Taylor had been saving to buy a house but they don't know if they were ready. The landlord's notice was a surprise. They could find another place to rent and wait a couple more years or they could take this opportunity to buy their own house now. Blake and Taylor updated their statement of net worth (Figure 9.16) and budget (Figure 9.17) to review their current financial situation. They decided to combine all their finances when they got married.

ASSETS		LIABILITIES	
<u>Cash Accounts</u>		<u>Short-term</u>	
Checking accounting	400.00	Credit card balances	0.00
Money market account	12,830.00	Other consumer loans	
<i>Total cash accounts</i>	<i>13,230.00</i>	<i>Total short-term liabilities</i>	<i>0.00</i>
<u>Investment Accounts</u>		<u>Long-term</u>	
Certificate of Deposits	32,800.00	Auto loan	12,850.00
Stocks		Real estate mortgage	
Bonds		Student loans	
Mutual Funds		<i>Total long-term liabilities</i>	<i>12,850.00</i>
IRA/Roth IRA	23,840.00	TOTAL LIABILITIES	12,850.00
Retirement 401(k)	85,980.00	NET WORTH	168,780.00
<i>Total investment accounts</i>	<i>142,620.00</i>		
<u>Other Assets</u>			
Car(s)	24,580.00		
Personal property	1,200.00		
Real Estate			
<i>Total other assets</i>	<i>25,780.00</i>		
TOTAL ASSETS	181,630.00		

Figure 9.16

Monthly Budget

Figure 9.17

	Monthly Budget Dollar Amount
Cash Inflows	
Gross income	13,000.00
Less: 401(k) contribution	1,300.00
Less: tax withholding deductions	3,900.00
<hr/>	
Net (take-home) income	7,800.00
Gift and other Income	
Investment Income	
<hr/>	
<i>Total Cash Inflows</i>	7,800.00
Cash Outflows	
<u>Essential Expenses</u>	
Housing (rent or mortgage and insurance)	2,350.00
Utilities (heat, electricity, phone, internet)	420.00
Car - gas	230.00
Car - maintenance, insurance, repairs	320.00
Food, grocery, and household supplies	1,600.00
Medical expenses (drugs, doctor's visits, insurance)	340.00
Student loan payments	0.00
Car loan payments	828.00
<hr/>	
<i>Total Essential Expenses</i>	6,088.00
<u>Optional Expenses</u>	
Restaurant (eating out)	300.00
Leisure (movies, games, travel, streaming)	500.00
Clothing, household items	180.00
Donations and gifts to others	140.00
Other expenses	0.00
<hr/>	
<i>Total Optional Expenses</i>	1,120.00
<hr/>	
<i>Total Cash Outflows</i>	7,208.00
<hr/>	
Cash surplus (or deficit)	592.00

Activities

1. Identify the advantages and disadvantages of renting for a few more years to those of purchasing a home right away for Blake and Taylor.
2. Review Blake and Taylor's financial statements and recommend the maximum amount they should spend on a house. Explain your recommendation.
3. Identify the sequence of steps Blake and Taylor should take if they decide to buy a house.
4. Recommend changes to their budget so Blake and Taylor could pursue their dream of owning a house.

Chapter Nine Summary

This chapter provides a guide to the housing decision, covering affordability assessments, renting, buying, financing, and insurance.

Homeownership and Affordability:

About 65 percent of Americans own homes in 2025, but the homeownership rates vary greatly by region and by race. Housing affordability is a major concern for a lot of people, with housing prices outpacing wages. In 2023, nearly half of renters and a quarter of homeowners were “housing cost burdened” (when housing costs were over 30 percent of income) or “severely cost burdened” (when housing costs were over 50 percent of income).

Renting Readiness:

Key financial commitments include application fees, initial costs such as first and last month's rent plus security deposit, and renter's insurance premium. When researching for a rental unit, consider location, utilities, tenant responsibilities, and lease terms (fixed-term vs. month-to-month). Ask

landlords about all fees, utility costs, lease terms, and non-financial aspects like maintenance and security.

Home Buying Readiness:

Buying a home is a major financial decision. It involves more complexities than renting.

Affordability:

- Determine home affordability using three criteria:
 - house value less than 3-5 times annual income,
 - housing costs (mortgage, taxes, utilities, insurance, HOA fees) less than 30 percent of gross monthly income,
 - and total debt-to-income ratio (DTI) less than 30-35 percent.
- Upfront costs include a down payment and closing costs.
- Moving is expensive, with transaction costs as high as 12-16 percent of the home price.

Mortgage Choice:

- Conventional Loans: Not government-insured.
 - Conforming Loans: Meet FHFA price limits. Most lenders require 620+ in credit score, under 36 percent in DTI ratio, 2 years stable income, and down payment of 5 percent or more.
 - Jumbo Loans: Exceed FHFA limits, stricter requirements, higher interest rates.
 - Portfolio Mortgages: Lender-funded, opportunity for flexibility in loan requirements.
 - Private-label Securities (PLS) Loans: Private investor-funded, often non-conforming.
- Government-Insured/Guaranteed Mortgages: Make homeownership accessible, usually for primary residences.
 - VA Loans: For veterans, service members, and qualified spouses; zero down, no mortgage insurance.
 - FHA Loans: FHA-insured; lower credit scores (500 with 10 percent down, 580 with 3.5 percent down), but require upfront and annual mortgage insurance.
 - USDA Loans:
 - USDA Direct Loans: provided through USDA for low and very-low income households in rural areas; zero down, no closing costs, strict requirements.

- USDA Guaranteed Loans: provided through private lenders for low and moderate income households in rural areas; zero down, lower credit, guarantee fee instead of PMI.
- State-Specific Programs: Many states offer affordable mortgages and down payment assistance.

Mortgage Attributes Affecting Payment:

- Interest Rate: Fixed or variable rate. Fixed rate is the most common recently. Points can lower the rate.
- Loan Term: 30-year is the most common. 15-year has higher payment, lower rate, less total interest.
- Amortization: Most mortgages are fully amortized. Watch out risky loan types that are not fully amortized.
- The 2008 financial crisis led to “Ability-to-Repay” (ATR) laws. “Qualified mortgages” meet ATR and usually have lower interest rates.

Shopping for a Mortgage:

- Prepare by reviewing credit, budgeting, computing ratios, and gathering documents.
- Get quotes from at least three lenders.
- Compare closing costs and interest rates.
- Consider credit unions, national banks, online lenders, or mortgage brokers.
- Get preapproval (hard credit inquiry) to confirm loan amount.

Biases in Real Estate: Despite the Fair Housing Act of 1968, discrimination persists:

- Steering: Agents directing homebuyers based on protected characteristics.
- Bias in Home Appraisal: Racial bias leads to lower appraisals for Black-owned homes.
- Bias in Mortgage Lending: Black and Hispanic borrowers may pay higher rates.

House Buying Process:

- Stay within your housing price budget.
- Remember that real estate agents work for the seller.
- When choosing a location and housing type consider commuting time, schools, and lifestyle. Single-family homes offer more space but more upkeep. Maintenance costs may be 1-2 percent of the home value each year. Condos and townhouses offer more amenities and less maintenance but have condo fees and less privacy.

- The offer is a legally binding purchase agreement with deposit. Contingencies often include financing, inspection, and appraisal.
- After the offer is accepted, the next step is to remove contingencies by completing appraisal, inspection, and financing.
- It is common for an offer to be rejected or an accepted offer to fail one of the contingencies.
- Closing is the final step. Ensure loan documents match the loan estimate.

Renting vs. Owning:

Owning builds equity but is often more expensive. Consider home price, rent, years of stay, inflation, returns, taxes, and various costs. Renting is often better if moving within 5-7 years. Beyond finance, ownership offers space, permanence, and stability.

Home Equity Lines of Credit (HELOCs):

A HELOC is a revolving credit secured by the home. Important factors to consider include closing costs, variable interest rate, interest rate caps, annual fees, inactivity fees, transaction fees, early termination fees, and prepayment penalty.

Homeowners Insurance: Lenders usually require it to protect the home.

- Coverage Types: Dwelling, other structures, personal property (add “floaters” for valuables), loss of use, and personal liability.
- Perils: “Named perils” cover listed dangers; “Open peril” covers all except exclusions. Special flood insurance is available.
- Valuation: “Actual cash value” (depreciated) vs. “replacement cost” (full current value). Most choose the replacement cost option.
- Premiums: Based on location, property value, liability amount, and deductible (higher deductible usually means lower premium).
- Shopping: Get multiple quotes, ask about discounts such as multi-policy, and negotiate.
- Damages/Claims: Have an up-to-date home inventory stored securely online or off-site. Contact insurer immediately, file police report for theft, present inventory to adjuster, consider independent repair estimates, and keep receipts.

1. What is considered “affordable” housing by federal policies, and how many households were burdened by housing costs in 2023?
2. What is the initial financial commitment typically required to rent an apartment or house?
3. What does a renter’s insurance policy cover, and what are some examples of what it might not cover?
4. What are the three main criteria used as guidelines to determine how much house you can afford?
5. Why is Private Mortgage Insurance (PMI) required, and how much does it typically cost?
6. List the key components of closing costs. What is the typical range for closing costs?
7. What are conforming-conventional loans, and what are the general guidelines set by Fannie Mae and Freddie Mac for these loans?
8. Describe the characteristics of VA loans and FHA loans, highlighting their key benefits and requirements.
9. What are “points” in the context of a mortgage, and when might paying them be worthwhile?
10. Explain how the interest rate on an adjustable-rate mortgage (ARM) may change throughout the life of the loan and how it may affect the monthly payment.
11. What is the purpose of an escrow account in a mortgage, and what expenses are typically paid through it?
12. What is redlining, and how has its legacy continued to affect homeownership for some groups?
13. What important factors should a homebuyer consider when choosing a real estate agent and shopping for a house?
14. What are common contingencies that should be included when making an offer on a house?
15. What is the difference between Actual Cash Value and Replacement Cost coverage in homeowners insurance policies?
16. List the four typical components that make up a monthly mortgage payment.
17. How can a homebuyer effectively shop for a mortgage?
18. What are the potential risks and downsides associated with using a Home Equity Line of Credit (HELOC)?
19. What are “red flags” to watch out for when dealing with real estate agents during the home shopping process?
20. Identify the main advantages and disadvantages of buying a home compared to renting.

Appendix 9.1

[Link to sample loan estimation.](#)

Notes

1. National Association of Home Builders (2025).
2. Congressional Research Service, 2025.
3. Berngruber, 2016.
4. Doyle (2025).
5. Or multiply your gross annual income by 4 (or by 5).
6. www.nscha.org/housing-help
7. [The Federal Reserve Bank of St. Louis \(FRED\) publishes median household income by state each year.](#)
8. Carrozzo (2019).
9. Kamin (2022), Frotman et al (2023).
10. US DOJ (2021)
11. Bostock, et al., 2024