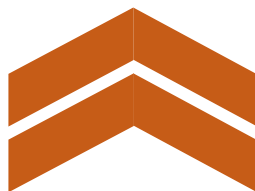


CHAPTER 18

Personal Finances



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Published by Pamplin College of Business in association with Virginia Tech Publishing
December 2020

Chapter 18 Personal Finances

Learning Objectives

- Develop strategies to avoid being burdened with debt.
- Explain how to manage monthly income and expenses.
- Define personal finances and financial planning.
- Explain the financial planning life cycle.
- Discuss the advantages of a college education in meeting short- and long-term financial goals.
- Explain compound interest and the time value of money.
- Discuss the value of getting an early start on your plans for saving.

The World of Personal Credit

Do you sometimes wonder where your money goes? Do you worry about how you'll pay off your student loans? Would you like to buy a new car or even a home someday and you're not sure where you'll get the money? If these questions seem familiar to you, you could benefit from help in managing your personal finances, which this chapter will seek to provide.

Let's say that you're 28 and single. You have a good education and a good job—you're pulling down \$60,000 working with a local accounting firm. You have \$6,000 in a retirement savings account, and you carry three credit cards. You plan to buy a condo in two or three years, and you want to take your dream trip to the world's hottest surfing spots within five years. Your only big worry is the fact that you're \$70,000 in debt, due to student loans, your car loan, and credit card debt. In fact, even though you've been gainfully employed for a total of six years now, you haven't been able to make a dent in that \$70,000. You can afford the necessities of life and then some, but you've occasionally wondered if you're ever going to have enough income to put something toward that debt.¹

Now let's suppose that while browsing through a magazine in the doctor's office, you run across a short personal-finances self-help quiz. There are six questions:



Figure 18.1: Credit Cards

ARE YOU PENNY WISE OR POUND FOOLISH?

TAKE THIS
QUIZ
TO FIND OUT!

Give yourself 0 points for each A, 1 point for each B, and 2 points for each C you choose!

- 1. If I didn't have a credit card in my pocket, I would**
 - a. Not even notice
 - b. Look for it frantically
 - c. Buy a LOT less stuff!
- 2. At holiday time, my credit card balance**
 - a. Is sitting pretty PAID OFF!
 - b. Isn't anything I can't pay off next month
 - c. Lost somewhere in the stratosphere
- 3. I see something I really want, so I**
 - a. Wait until I can afford it
 - b. Forget about it – I don't need it
 - c. CHARGE!
- 4. My rent is due!**
 - a. No problem – it's in the budget!
 - b. Manageable, but I might start packing my lunch
 - c. OUCH – another month of ramen
- 5. My car needs new brakes to pass inspection.**
 - a. No problem – I have money set aside for things like this
 - b. I guess I'm not going to that concert after all
 - c. CHARGE!
- 6. I think I'm being good with my money...**
 - a. And I've got enough put aside for a vacation!
 - b. But it's pretty hard to save up much
 - c. But I can never seem to pay off that credit card

HOW DID
YOU DO?

0-3 POINTS

Rock solid – you have this money thing figured out!

4-6 POINTS

Careful – you have some work to do!

7-12 POINTS

The ice isn't just thin – it's breaking under your feet! Time to stop those impulse buys and cut your expenses!

Figure 18.2: Financial Quiz

You took the quiz and answered with a B or C to a few questions, and are thereby informed that you're probably jeopardizing your entire financial future.

Personal-finances experts tend to utilize the types of questions on the quiz: if you answered B or C to any of the first three questions, you have a problem with splurging; if any questions from four through six got a B or C, your monthly bills are too high for your income.

Building a Good Credit Rating

So, you have a financial problem. According to the quick test you took, you splurge and your bills are too high for your income. If you get in over your head and can't make your loan or rent payments on time, you risk hurting your **credit rating**—your ability to borrow in the future.

How do potential lenders decide whether you're a good or bad credit risk? If you're a poor credit risk, how does this affect your ability to borrow, or the rate of interest you have to pay? Whenever you use **credit**, those from whom you borrow (retailers, credit card companies, banks) provide information on your debt and payment habits to three national **credit bureaus**: Equifax, Experian, and TransUnion. The credit bureaus use the information to compile a numerical credit score, called a **FICO score**; it ranges from 300–850, with the majority of people falling in the 600–700 range. In compiling the score, the credit bureaus consider five criteria: **payment history**—paying your bills on time (the most important), **total amount owed**, **length of your credit history**, **amount of new credit you have**, and **types of credit you use**. The credit bureaus share their score and other information about your credit history with their subscribers.²

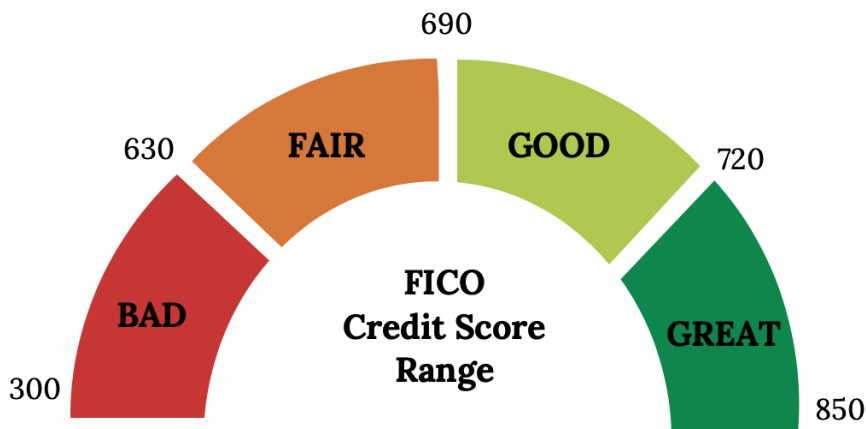


Figure 18.3: FICO Credit Score Range

So what does this do for you? It depends. If you pay your bills on time and don't borrow too heavily, you'd likely have a high FICO score and lenders would like you, probably giving you reasonable interest rates on the loans you requested. But if your FICO score is low, lenders won't likely lend you money (or would lend it to you at high interest rates). A low FICO score can even affect your chances of renting an apartment or landing a particular job. So it's very important that you do everything possible to earn and maintain a high credit score.

As a young person, though, how do you build a credit history that will give you a high FICO score? Based on feedback from several financial experts, Emily Starbuck Gerson and Jeremy Simon of CreditCards.com compiled the list in Figure 18.4 of ways students can build good credit.³

- 1 Become an authorized user on your parent's account.
- 2 Obtain your own credit card.
- 3 Get the right card for you.
- 4 Use the credit card for occasional, small purchases.
- 5 Avoid big-ticket buys, except in the case of an emergency.
- 6 Pay off your balance each month.
- 7 Pay all your other bills on time.
- 8 Don't cosign for your friends.
- 9 Do not apply for several credit cards at one time.
- 10 Use student loans for educational purposes only.

Figure 18.4: How to Build Good Credit as a Student

If you meet the qualifications to obtain your own credit card, look for a card with a low interest rate and no annual fee.

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<https://pressbooks.lib.vt.edu/fundamentalsofbusiness3e/?p=183>

Secured vs. Unsecured Credit

On some types of loans, the lender (likely a bank) will require the borrower to offer collateral in order to be approved for the loan. Anyone who has taken out a car loan or bought a house using a mortgage loan has likely pledged the car or the home as a way to ensure the bank that they will be repaid—if the borrower fails to repay, the bank can repossess the car or foreclose on the house, taking ownership of it temporarily and reselling it in order to recover the amount of the loan. In these cases, the car or the house serve as collateral—security pledged to the lender in order to make it more likely that the amount of the loan will be repaid. Loans that involve this type of security are referred to as secured loans or secured credit.

Not all types of loans involve collateral. For example, many families take out student loans when their children go off to college. Credit cards are a form of loan as well. Neither case involves collateral; the lender makes the loans based, at least in part, on the credit worthiness of the borrower. When no collateral is involved, the loans are called *unsecured*. Since the bank takes more risk in lending when no collateral can be pledged, unsecured loans will often require higher interest rates in order for it to be worth the bank taking the risk in making this type of loan.

A Few More Words about Debt

What should you do to turn things around—to start getting out of debt? According to many experts, you need to take two steps:

1. Cut up your credit cards and start living on a cash-only basis.
2. Do whatever you can to bring down your monthly bills.

Although credit cards can be an important way to build a credit rating, many people simply lack the financial discipline to handle them well. If you see yourself in that statement, then moving to a pay-as-you go basis, i.e., cash or debit card only, may be for you. Be honest with yourself; if you can't handle credit, then don't use it.

Bringing Down Those Monthly Bills

So what can you do to bring down your monthly bills? If you want to take a gradual approach, one financial planner suggests that you perform the following “exercises” for one week:⁴

- Keep a written record of everything you spend and total it at week's end.
- Keep all your ATM receipts and count up the fees.
- Take \$100 out of the bank and don't spend a penny more.
- Avoid gourmet coffee shops.

You'll probably be surprised at how much of your money can quickly become somebody else's money. If, for example, you spend \$3 every day for one cup of coffee at a coffee shop, you're laying out nearly \$1,100 a year just for coffee. If you use your ATM card at a bank other than your own, you'll probably be charged a fee that can be as high as \$3. The average person pays more than \$60 a year in ATM fees. If you withdraw cash from an ATM twice a week, you could be racking up \$300 in annual fees.⁵ Another idea—eat out as a reward, not as a rule. A sandwich or leftovers from home can be just as tasty and can save you \$6 to \$10 a day, even more than our number for coffee! In 2013, the website *DailyWorth* asked three women to try to cut their spending in half. After tracking her spending, one participant discovered that she had spent \$175 eating out in just one week; do that for a year and you'd spend over \$9,000!⁶ If you think your cable bill is too high, consider alternatives like *PlaystationVue* or *Sling*. Changing channels is a bit different, but the savings can be substantial.

You may or may not be among the American consumers who buy 35 million cans of Bud Light each day, or 150,000 pounds of Starbucks coffee, or 2.4 million Burger King hamburgers. Yours may not be one of the 70 percent of US households with an unopened consumer-electronics product lying around.⁷ Bottom line: If at age 28 you have a good education and a good job, a \$60,000 income, and a \$70,000 debt (by no means an implausible scenario) there's a very good reason why you should think hard about controlling your debt. Your level of indebtedness will be a key factor in your ability—or inability—to reach your long-term financial goals, such as home ownership, a dream trip, and, perhaps most importantly, a reasonably comfortable retirement.



Figure 18.5: These Can Really Add Up Quickly!

Financial Planning

Before we go any further, we need to nail down a couple of key concepts. First, just what, exactly, do we mean by personal finances? Finance itself concerns the flow of money from one place to another, and your personal finances concern your money and what you plan to do with it as it flows in and out of your possession. Essentially, then, personal finance is the application of financial principles to the monetary decisions that you make either for your individual benefit or for that of your family.

Second, as we suggested earlier, monetary decisions work out much more beneficially when they're planned rather than improvised. Thus our emphasis on financial planning—the ongoing process of managing your personal finances in order to meet goals that you've set for yourself or your family.

Financial planning requires you to address several questions, some of them relatively simple:

- What's my annual income?
- How much debt do I have, and what are my monthly payments on that debt?

Others will require some investigation and calculation:

- What's the value of my assets?
- How can I best budget my annual income?

Still others will require some forethought and forecasting:

- How much wealth can I expect to accumulate during my working lifetime?
- How much money will I need when I retire?

The Financial Planning Life Cycle

Another question that you might ask yourself—and certainly would do if you worked with a professional in financial planning—is, “How will my financial plans change over the course of my life?” Figure 18.6 illustrates the financial life cycle of a typical individual—one whose financial outlook and likely outcomes are probably a lot like yours.⁸ As you can see, our diagram divides this individual's life into three stages, each of which is characterized by different life events (such as beginning a family, buying a home, planning an estate, retiring).

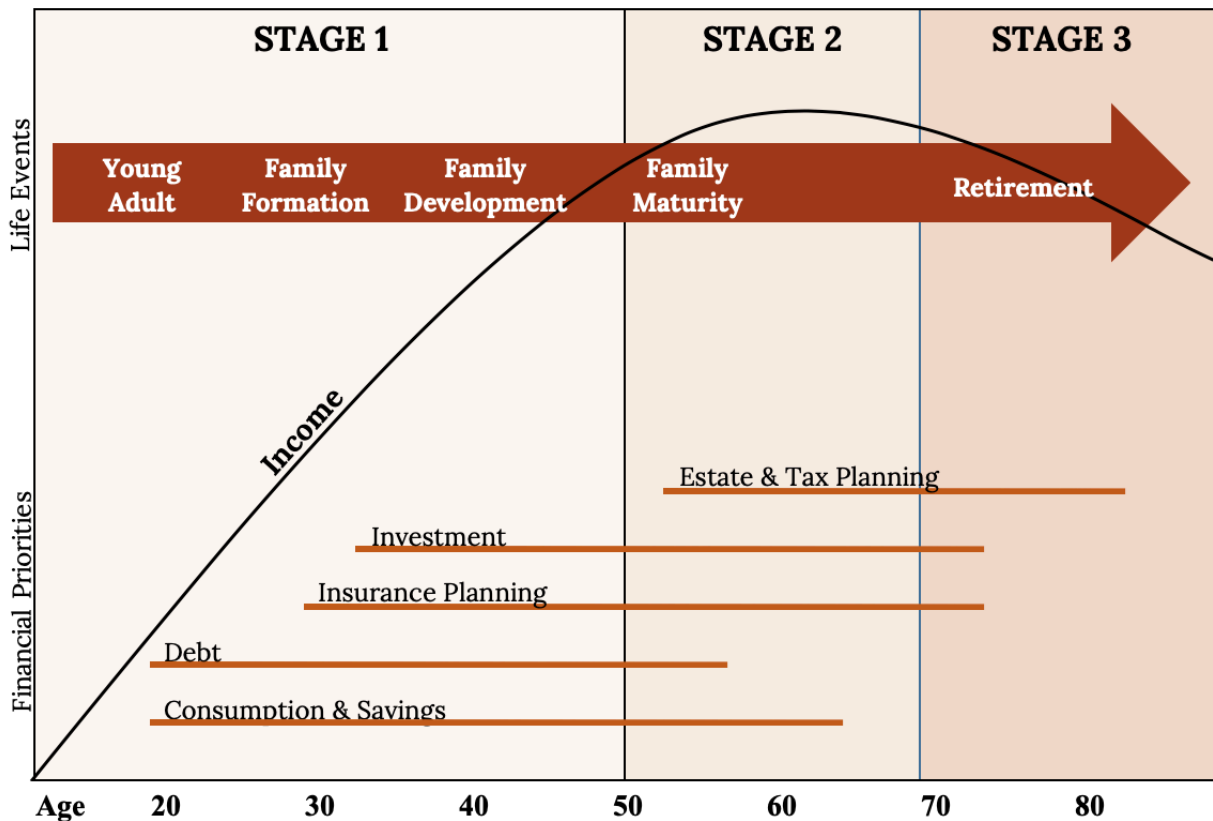


Figure 18.6: The Financial Life Cycle

At each stage, there are recommended changes in the focus of the individual's financial planning:

- Stage 1 focuses on building wealth.
- Stage 2 shifts the focus to the process of preserving and increasing wealth that one has accumulated and continues to accumulate.
- In Stage 3, the focus turns to the process of living on (and, if possible, continuing to grow) one's saved wealth after retirement.

At each stage, of course, complications can set in—changes in such conditions as marital or employment status or in the overall economic outlook, for example. Finally, as you can also see, your financial needs will probably peak somewhere in stage 2, at approximately age 55, or 10 years before typical retirement age.

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Choosing a Career

Until you're on your own and working, you're probably living on your parents' wealth right now. In our hypothetical life cycle, financial planning begins in the individual's early 20s. If that seems like rushing things, consider a basic fact of life: this is the age at which you'll be choosing your career—not only the sort of work you want to do during your prime income-generating years, but also the kind of lifestyle you want to live. What about college? Most readers of this book, of course, have decided to go to college. If you haven't yet decided, you need to know that college is an extremely good investment of both money and time.

Figure 18.7 summarizes the findings of a study conducted by the US Census Bureau.⁹ A quick review shows that people who graduate from high school can expect to enjoy average annual earnings about 28 percent higher than those of people who don't, and those who go on to finish college can expect to generate 76 percent more annual income than high school graduates who didn't attend college. Over the course of the financial life cycle, families headed by those college graduates will earn about \$1.6 million more¹⁰ than families headed by high school graduates. (With better access to health care—and, studies show, with better dietary and health practices—college graduates will also live longer. And so will their children.)¹¹

Figure 18.7: Average Earnings by Education Level

Education	Average income	Percentage increase over previous level
High school dropout	\$30,612	–
High school diploma	\$41,829	37%
Associate's degree	\$49,966	20%
Bachelor's degree	\$73,880	48%
Master's degree	\$87,570	19%
Doctorate degree	\$125,331	43%
Professional degree	\$150,215	20%

What about the student-loan debt that so many people accumulate? For every \$1 that you spend on your college education, you can expect to earn about \$35 during the course of your financial life cycle.¹² At that rate of return, you should be able to pay off your student loans (unless, of course, you fail to practice reasonable financial planning).

Naturally, there are exceptions to these average outcomes. You'll find some college graduates stocking shelves at 7-Eleven, and you'll find college dropouts running multibillion-dollar enterprises. Microsoft cofounder Bill Gates dropped out of college after two years, as did his founding partner, Paul Allen. Though exceptions to rules (and average outcomes) certainly can be found, they fall far short of disproving them: in entrepreneurship as in most other walks of adult life, the better your education, the more promising your financial future. One expert in the field puts the case for the average person bluntly: educational credentials "are about being employable, becoming a legitimate candidate for a job with a future. They are about climbing out of the dead-end job market."¹³

Time Is Money

The fact that you have to choose a career at an early stage in your financial life cycle isn't the only reason that you need to start early on your financial planning. Let's assume, for instance, that it's your eighteenth birthday and that on this day you take possession of \$10,000 that your grandparents put in trust for you. You could, of course, spend it; in particular, it would probably cover the cost of flight training for a private pilot's license—something you've always wanted but were convinced that you couldn't afford right away. Your grandfather, of course, suggests that you put it into some kind of savings account. If you just wait until you finish college, he says, and if you can find a savings plan that pays 5 percent interest, you'll have the \$10,000 plus about another \$2,000 for something else or to invest.

The total amount you'll have—\$12,000—piques your interest. If that \$10,000 could turn itself into \$12,000 after sitting around for four years, what would it be worth if you actually held on to it until you did retire—say, at age 65? A quick trip to the Internet to find a compound-interest calculator informs you that, 47 years later, your \$10,000 will have grown to \$104,345 (assuming a 5 percent interest rate). That's not really enough for retirement on, but it would be a good start. On the other hand, what if that four years in college had paid off the way you

planned, so that once you get a good job you're able to add, say, another \$10,000 to your retirement savings account every year until age 65? At that rate, you'll have amassed a nice little nest egg of slightly more than \$1.6 million.

Compound Interest

In your efforts to appreciate the potential of your \$10,000 to multiply itself, you have acquainted yourself with two of the most important concepts in finance. As we've already indicated, one is the principle of compound interest, which refers to the effect of earning interest on your interest.

Let's say, for example, that you take your grandfather's advice and invest your \$10,000 (your principal) in a savings account at an annual interest rate of 5 percent. Over the course of the first year, your investment will earn \$500 in interest and grow to \$10,500. If you now reinvest the entire \$10,500 at the same 5 percent annual rate, you'll earn another \$525 in interest, giving you a total investment at the end of year 2 of \$11,025. And so forth. And that's how you can end up with \$81,496.67 at age 65.

Time Value of Money

You've also encountered the principle of the time value of money—the principle whereby a dollar received in the present is worth more than a dollar received in the future. If there's one thing that we've stressed throughout this chapter so far, it's the fact that most people prefer to consume now rather than in the future. If you borrow money from me, it's because you can't otherwise buy something that you want at the present time. If I lend it to you, I must forego my opportunity to purchase something I want at the present time. I will do so only if I can get some compensation for making that sacrifice, and that's why I'm going to charge you interest. And you're going to pay the interest because you need the money to buy what you want to buy now. How much interest should we agree on? In theory, it could be just enough to cover the cost of my lost opportunity, but there are, of course, other factors. Inflation, for example, will have eroded the value of my money by the time I get it back from you. In addition, while I would be taking no risk in loaning money to the US government, I am taking a risk in lending it to you. Our agreed-on rate will reflect such factors.¹⁴

Finally, the time value of money principle also states that a dollar received today starts earning interest sooner than one received tomorrow. Let's say, for example, that you receive \$2,000 in cash gifts when you graduate from college. At age 23, with your college degree in hand, you get a decent job and don't have an immediate need for that \$2,000. So you put it into an account that pays 10 percent compounded and you add another \$2,000 (\$167 per month) to your account every year for the next 11 years.¹⁵ The blue line in Figure 18.8 graphs how much your account will earn each year and how much money you'll have at certain ages between 24 and 67.

As you can see, you'd have nearly \$52,000 at age 36 and a little more than \$196,000 at age 50; at age 67 you'd be just a bit short of \$1 million. The yellow line in the graph shows what you'd have if you hadn't started saving \$2,000 a year until you were age 36. As you can also see, you'd have a respectable sum at age 67, but less than

half of what you would have accumulated by starting at age 23. More important, even to accumulate that much, you'd have to add \$2,000 per year for a total of 32 years, not just 12.

Here's another way of looking at the same principle. Suppose that you're 20 years old, don't have \$2,000, and don't want to attend college full-time. You are, however, a hard worker and a conscientious saver, and one of your financial goals is to accumulate a \$1 million retirement nest egg. As a matter of fact, if you can put \$33 a month into an account that pays 12 percent interest compounded,¹⁶ you can have your \$1 million by age 67. That is, if you start at age 20. As you can see from Figure 18.9, if you wait until you're 21 to start saving, you'll need \$37 a month. If you wait until you're 30, you'll have to save \$109 a month, and if you procrastinate until you're 40, the ante goes up to \$366 a month.¹⁷ Unfortunately in today's low interest rate environment, finding 10–12 percent return is not likely. Nevertheless, these figures illustrate the significant benefit of saving early.

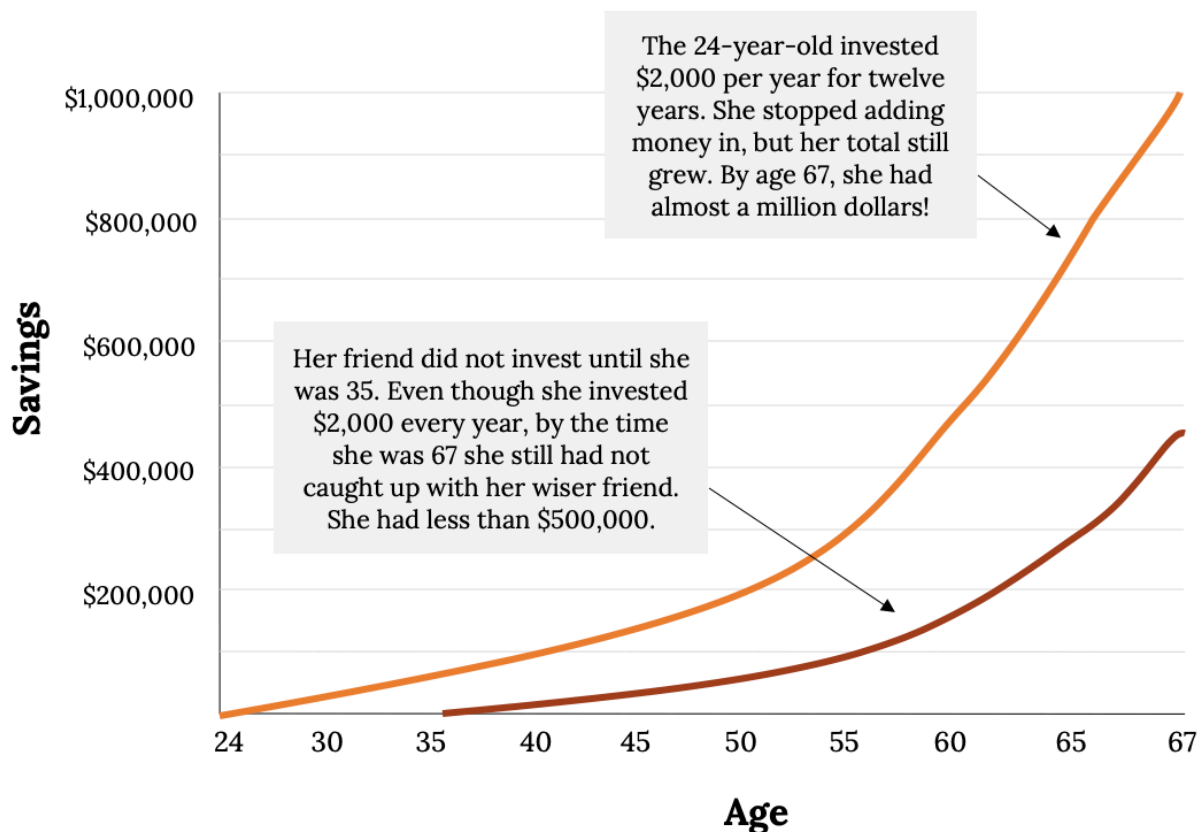


Figure 18.8: The Power of Compound Interest

The reason should be fairly obvious: a dollar saved today not only starts earning interest sooner than one saved tomorrow (or 10 years from now) but also can ultimately earn a lot more money in the long run. Starting early means in your 20s—early in stage 1 of your financial life cycle. As one well-known financial advisor puts it, “If you're in your 20s and you haven't yet learned how to delay gratification, your life is likely to be a constant financial struggle.”¹⁸

Figure 18.9: What Does It Take to Save a Million Dollars?

How to save a million dollars by age 67	
Make your first payment at age:	And this is what you'll have to save each month:
20	\$33
21	\$42
23	\$47
24	\$53
25	\$60
26	\$67
27	\$76
28	\$85
30	\$109
35	\$199
40	\$366
50	\$1,319
60	\$6,253

Suppose you want to save or invest—do you know how or where to do so? You probably know that your branch bank can open a savings account for you, but interest rates on such accounts can be pretty unattractive. Investing in individual stocks or bonds can be risky, and usually require a level of funds available that most students don't have. In those cases, mutual funds can be quite interesting. A mutual fund is a professionally managed investment program in which shareholders buy into a group of diversified holdings, such as stocks and bonds. Companies like Vanguard and Fidelity offer a range of investment options including indexed funds, which track with well-known indices such as the Standard & Poors 500, a.k.a. the S&P 500. Minimum investment levels in such funds can actually be within the reach of many students, and the funds accept electronic transfers to make investing more convenient. One key to keep in mind when investing is **diversification**—a fancy way of saying not to put all your eggs in one basket. We'll leave a more detailed discussion of investment vehicles to your more advanced courses.

Check Your Understanding with an Online Quiz

<https://pressbooks.lib.vt.edu/fundamentalsofbusiness3e/?p=183>

Chapter Video

If you ask graduates who came before you what they wish they had known when they were first out of school, many would probably say, “how to handle my personal finances.” While these two videos and this chapter won't make you financially literate, hopefully they will whet your appetite to learn more.

To view this video, visit: <https://www.youtube.com/watch?v=ToyLXa0ULaM>

To view this video, visit: <https://www.youtube.com/watch?v=pysohj7GsBI>

Key Takeaways

- Credit worthiness is measured by the **FICO score**—or **credit rating**—which can range from 300–850. The average ranges from 680–719.
- To maintain a satisfactory score, pay your bills on time, borrow only when necessary, and pay in full whenever you do borrow.
- Eighty-one percent of financial planners recommend eating out less as a way to reduce your expenses.
- **Personal finance** is the application of financial principles to the monetary decisions that you make.
- **Financial planning** is the ongoing process of managing your personal finances in order to meet your goals, which vary by stage of life.
- **Time value of money** is the principle that a dollar received in the present is worth more than a dollar received in the future due to its potential to earn interest.
- **Compound interest** refers to the effect of earning interest on your interest. It is a powerful way to accumulate wealth.

Image Credits: Chapter 18

Figure 18.1: Avery Evans (2020). “White and Blue Magnetic Card Photo.” Unsplash. Public Domain. Retrieved from: https://unsplash.com/photos/RJQE64NmC_o

Figure 18.2: Utilizes several sentences from: http://www.saylor.org/site/textbooks/Exploring_Business.docx. CC BY 4.0.

Figure 18.4: Information for graphic: Emily Starbuck Gerson and Jeremy M. Simon (2016). “10 Ways Students Can Build Good Credit.” CreditCards.com. Retrieved from: <https://www.creditcards.com/credit-card-news/help/10-ways-students-get-good-credit-6000/>

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Figure 18.7: U.S. Census Bureau (2015). "PINC-03. Educational Attainment-People 25 Years Old and Over, by Total Money Earnings, Work Experience, Age, Race, Hispanic Origin, and Sex." Table Data Retrieved from: <http://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-03.html>

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14. Timothy J. Gallagher and Joseph D. Andrews Jr. (2003). *Financial Management: Principles and Practice*, 3rd ed. Upper Saddle River, NJ: Prentice Hall. pp. 34, 196.
15. The 10 percent rate is not realistic in today's economic market and is used for illustrative purposes only.

16. Again, this interest rate is unrealistic in today's market and is used for illustrative purposes only.
17. Arthur J. Keown (2007). *Personal Finance: Turning Money into Wealth*, 4th ed. Upper Saddle River, NJ: Pearson Education. p. 23.
18. AllFinancialMatters (2006). "An Interview with Jonathan Clements – Part 2." Retrieved from: <http://allfinancialmatters.com/2006/02/10/an-interview-with-jonathan-clements-part-2/>