Borrowing

Chapter Outline

Chapter Learning Objectives

After reading this chapter, students will be able to:

- Utilize credit as a tool for financial management
- Know the risks and benefits associated with the use of credit
- Evaluate their debt position
- Assess future implications of credit use
- Calculate payments associated with loans and the impact of interest rates

INTRODUCTION: CREDIT IN CONTEXT

In Chapter 4, you learned that most of the money deposited in banks is lent to borrowers who use it for purchases of various sorts. Through the banking system, depositors' money is lent to others, without any one individual taking on the risk associated with these loans. In this way, money is put to work over and over again: like water flowing through a turbine, money flowing through the economy does useful work.

The use of **credit**, which is the practice of borrowing money to use now with the promise to repay it in the future, is an ancient practice. When one individual (or business, or country) is indebted to another, that debt creates a relationship that goes beyond the mere dollar amount of the loan. An investor who has made a loan to an entrepreneur has a strong interest in the business doing well so that the loan will be repaid. When one country makes a loan to another, the lender has an interest in the governance of the borrower, because a fair and strong government creates economic conditions necessary to repay the loan. The U.S. government guarantees college loans up to a set amount, making it easier and less expensive for students to borrow money to get a college education, under the assumption that an educated population will create a stronger economy and those loans will be repaid. Available credit has the potential to make the economy stronger, create jobs, and improve people's lives.

While credit can be a very good thing on a large and small scale, careless or uninformed use of credit can destroy your financial situation and make it harder for you to make a living, find a place to live, and conduct your daily business. Poor use of credit can have long-lasting effects on your ability to borrow, and borrowing too much can have consequences that range from struggling to pay down debt to declaring bankruptcy. During the 2008 financial crisis, many people found themselves holding mortgages they could not afford. For some, this resulted in the devastation of their personal finances. At the national level, the financial crisis that ensued caused a deep recession.

Credit can vastly improve your present resources, solve cash flow problems, and impact opportunities that you have in life, but the advantage of credit to your present finances comes at a cost. Every loan must be repaid with interest, often within a set time period. You pay for the use of money today by repaying more tomorrow. Like a piece of rented equipment, you return what you borrowed and pay a rental fee for its use. Additionally, if you take on more debt than you can repay, you run the risk of ruining your credit. When you ruin your credit, you also ruin your future ability to borrow.

WHAT IS CREDIT?

The word *credit* is derived from the Latin word *credere*, which means, "to believe." We typically understand that something credible is believable, thus a person is said to have "good credit" if lenders believe that person will be able to repay loans; as such, they are happy to lend money to him or her. Your credit is part of your reputation. More generally, credit refers to various types of borrowing you might engage in: car loans, house loans, student loans, business loans, and credit card use. Individuals who use credit attain a **credit score**, which is a number that represents creditworthiness. Lenders use credit scores to determine whether you can qualify for a loan, how much they are willing to lend you, and how much that loan will cost.

Loans are described by the **principal** (the amount borrowed), the **interest rate** (the amount you pay for use of the money borrowed), and the **term** of the loan, which is how long you have to repay it. Some loans, referred to as "open-ended," do not have a specified term in which they must be repaid. In the following sections, we will discuss different types of loans, as well as how they can affect your personal financial situation.

Secured versus Unsecured Loans

A **secured loan** is a loan in which the lender is protected by assets, normally what the loan is used to purchase. For example, a car secures a car loan. Failure to repay gives the bank the right to repossess the car. Similarly, a loan to purchase a house (called a *mortgage*) is secured by the house itself. In the case of secured loans, the bank (or lender) is said to have a **lien** on the property, which simply means that it has a right to the property if you cannot make payments or if you sell it.

Credit cards and college loans are examples of **unsecured loans**. If you can't repay your college loan there will certainly be consequences, but no one will take your degree away. If you buy a cell phone with a credit card and don't pay the credit card company back, there will be consequences, but the credit card company will not take your cell phone away.

The difference between these two types of loans is reflected in interest rates. Secured loans tend to be less expensive; they have lower interest rates because the lender is taking a smaller risk. If you **default**, or don't pay the loan, the lender will take the thing you bought, resell it, and recover some or all of its losses in this way. Lenders of unsecured loans are taking a much bigger risk, as they are relying on your good intentions and financial ability to pay the loan back. To compensate for this risk, lenders of unsecured loans tend to charge a higher rate of interest. If lenders are taking a bigger risk, they require a higher return, a classic example of the relationship between risk and return.

For example, suppose you want to improve your house by building a small room onto it. Let's say this room will cost $10,000. If you have good credit, you might have a credit card that lets you charge $10,000 with no questions asked. However, the credit card company may charge you 18%, or $1,800, per year for the use of their money. On the other hand, your bank might give you a home equity loan, which is a loan secured by the value of your house. For this secured loan, they might charge only 3% interest, or $300 per year for the use of their money. If you were to sell the house, the loan from the bank, which has a lien on your property, would have to be repaid.

Personal and Business Loans

A personal loan is a loan to an individual; this might include a loan to buy a car, a home, or to finance an education. Personal loans can be secured or unsecured. If you own or are planning to start a small business, you might need a loan for capital purchases, such as equipment, or operating expenses, like paying employees, until the business becomes profitable or self-sustaining. As with a personal loan, a business loan may be secured or unsecured, small or large, and your ability to get one may depend, among other things, on your prior history with the lender. In all cases, the lender will want to see a business plan if the business is new or an income and expense statement if the business is ongoing to see whether it is healthy. A business loan may be secured with personal possessions or assets such as a house or specialized equipment. Even an item purchased with a credit card may be considered a business loan if the item is intended to be used by the business.

A new or expanding business may have cash flow problems. For example, suppose you run a restaurant and you believe business would improve enormously if it were the only one around offering fresh tortillas. In addition, it could supply all the local markets with fresh tortillas. You have done some research and calculations and are fairly sure an automatic tortilla maker would pay for itself within a year and grow your business. The one you want costs $20,000, which you do not have. You may have excellent credit and a credit card with $20,000 available. However, if you can get credit from the manufacturer of the tortilla-making machine that is secured by the machine's value, you might get a substantially lower interest rate, meaning the tortilla maker would be profitable in a shorter timeframe.

Credit Cards

A **credit card** is a card issued by a financial company that gives the holder an option to borrow funds, usually at the **point of sale**, or the place and time at which you make a purchase. Credit cards are primarily used for short-term financing, and carry an interest rate. Unlike a secured personal or business loan, credit cards are an **open-ended** source of credit. This means that there is no set date by which you are required to repay the full amount due on your credit card. Instead, you must make at least a specified **minimum payment** each month, based on the amount of credit you have used. This minimum payment is usually enough to cover the interest that you owe for that month on the money you have borrowed. Ordinarily there is also a specified **grace period**, which describes how lenient the company is about late payments. Once a payment is late, the company will usually charge a **late fee**.

A credit card comes with a specified **credit limit**, the maximum amount that the credit card company will lend you. Each credit card has an associated annual interest rate; this rate can vary quite a bit, and this variation impacts the overall cost of borrowing.

There are a number of benefits associated with the use of credit cards, from cash back (usually a percentage of the amount spent), to travel credit, to insurance on items bought using the credit card. Having a credit card can make certain transactions, such as renting a car, much simpler, though debit cards offer many of the same conveniences. Choosing a credit card that is right for you involves evaluation of the costs and benefits associated with each card.

Alternative Financial Services

There are other types of unsecured short-term loans, which are generally targeted to consumers with poor or nonexistent credit histories. An example of such a loan is a payday loan, in which a relatively small loan is extended, with repayment typically due on the next payday. Payday advance loans rely on the consumer having previous payroll and employment records. The cost of the loan may range from $10 to $30 for every $100 borrowed. A typical two-week payday loan with a $15 per $100 fee equates to an annual rate of almost 400%, which is well above the interest rates charged by credit cards.

There are other and similarly expensive loan methods. One example is an auto title loan**,** a type of secured loan where borrowers can use their vehicle title as collateral. Borrowers who get title loans allow a lender to place a lien on their car title, and temporarily surrender the hard copy of their vehicle title, in exchange for a loan amount. These loans typically are for 15 or 30 days and have a much higher interest rate than most forms of credit.

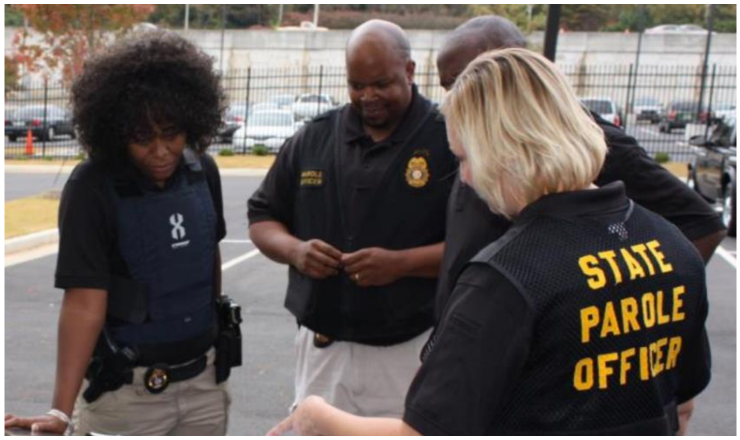
These alternatives make credit available to people who otherwise would not be able to borrow. However, these methods can be expensive. If you ever find yourself considering one of these options, it is important to do the math so that you understand the associated costs (see Do the Math 5.1).

[Insert Do the Math 5.1: Determining the Implied Interest Rate here]

[Begin Case Study Part 1]

Case Study Part 1: Meet Sierra

Sierra finished college with a degree in psychology but was unable to find a job immediately. After careful thought, she continued her education to obtain a degree in criminal justice and completed a training program to become a parole officer. She now works for the State of Georgia as parole officer, meeting regularly with parolees to make sure they meet the conditions of parole. Sierra is responsible for administering drug tests, interviewing and reporting on the progress of offenders under her supervision, and assisting them in finding help for any mental health or substance abuse issues. Sierra's annual salary is $45,000. She finds her job rewarding, especially when she sees her parolees make progress toward becoming happy and productive members of society.



As a parole officer, Sierra helps previously incarcerated individuals readjust to life outside of prison. She helps them make a plan that includes housing, employment, education, health care, and more.

Due to the costs of college and the extra education required for her job, Sierra has until now put off a major expense for something that she has always wanted: she would like braces to correct her crooked teeth. After consulting a few orthodontists, she concludes that the best option for her will cost around $7,000. Unfortunately, she does not have the money, nor does she have insurance to cover the work.

Only recently employed, Sierra has college loans that cost approximately $350 per month, a car loan that runs $525 per month, and a credit card with a limit of $3,000 and a balance of $2,100. She has occasionally missed a payment on each of these. Sierra has budgeted $1,600 for household expenses, and she has always managed to stick to her budget.

Sierra considers the options for paying for her orthodontic work. Any loan for orthodontics would be an unsecured loan because nobody can take back your nice straight teeth. She could request an increase on her credit card limit. She could obtain more credit cards. She could look for personal loans. She resolves to explore all possibilities in search of the most inexpensive path.

Discussion Questions

1. Use an online paycheck calculator to determine what the take home pay would be in Georgia. What do you think Sierra can afford in monthly payments for her dental work? If she saved that money in a bank account that paid 2% interest compounded monthly, how long would it take to save the necessary $7,000?
2. Sierra has ten more payments to make on her car, which is currently worth $10,000 and on which she owes about $5,000. She also has another six years of payments on her college loan, for which she has a balance of $21,000. In addition, she has $3,500 in savings and a small retirement account with $1,000 in it. Make a balance sheet and monthly budget for Sierra. How much would you be willing to lend her?
3. Sierra is thinking about using credit cards or a personal loan if she can find a lender. If you were advising her, what other options might you ask her to consider?

[End Case Study Part 1]

THE COST OF CREDIT

While it is important to know some basic characteristics of consumer credit instruments, making informed decisions about how to use those instruments is the main goal of managing your personal finances. The ability to compare options when "shopping" for credit and to calculate the cost of credit is crucial to determining the impact the loan will have on your future finances. Researching information about interest rates and fees and doing basic calculations can make a big difference in terms of knowing whether you are getting a good deal with whatever type of credit you are obtaining. Using an online or financial calculator is a straightforward way to determine the cost of credit you are considering obtaining, as illustrated in Do the Math 5.2.

[Insert Do the Math 5.2: Calculate Payments Before You Borrow here]

The main cost of using credit is in the rate of interest charged by the lender, which varies tremendously for different lenders and types of loans. With the exception of credit cards and other types of open account credit, most loans have fixed repayment schedules that limit the total time of the loan and interest paid.

Annual Percentage Rate and Fees

Every consumer loan has an associated annual interest rate or **annual percentage rate (APR).** The **Truth in Lending Act** requires that all consumer loan interest be expressed as an APR. The APR can be used to compute the interest expense each month. For example, if you maintain a $2,000 balance on a credit card that charges an 18% APR, you will have to pay $30 in interest every month. The monthly interest rate is the APR divided by twelve, or 1.5%, so the monthly interest expense will be $30 (0.015 * $2,000). Over the course of a year, this is 12 months ∗ $30 = $360, or 18% of your $2,000 balance.

In addition to interest rates, many loans come with fees. Credit cards, for example, will charge a late fee if the monthly payment is not made on time. In addition to late fees, you can incur annual fees (just for the privilege of using the card) and balance transfer fees (for moving a balance from one credit card to another), and cash advance fees (for borrowing cash against your credit card). These fees can add up, making your use of credit much more expensive than is indicated by your interest rate alone. Even if the balance of a credit card is low, the card company can make a very profitable return on their loan if you make a late payment. For example, it is possible to owe only $100 on a credit card, miss the monthly minimum required payment of $10, and be charged a late fee of $40. This means that you "borrowed" the $10 for a week and paid $40 to do so, an implied interest rate of 400% for a week, or 52 weeks * 400% per year (see Do the Math 5.3 for more examples).

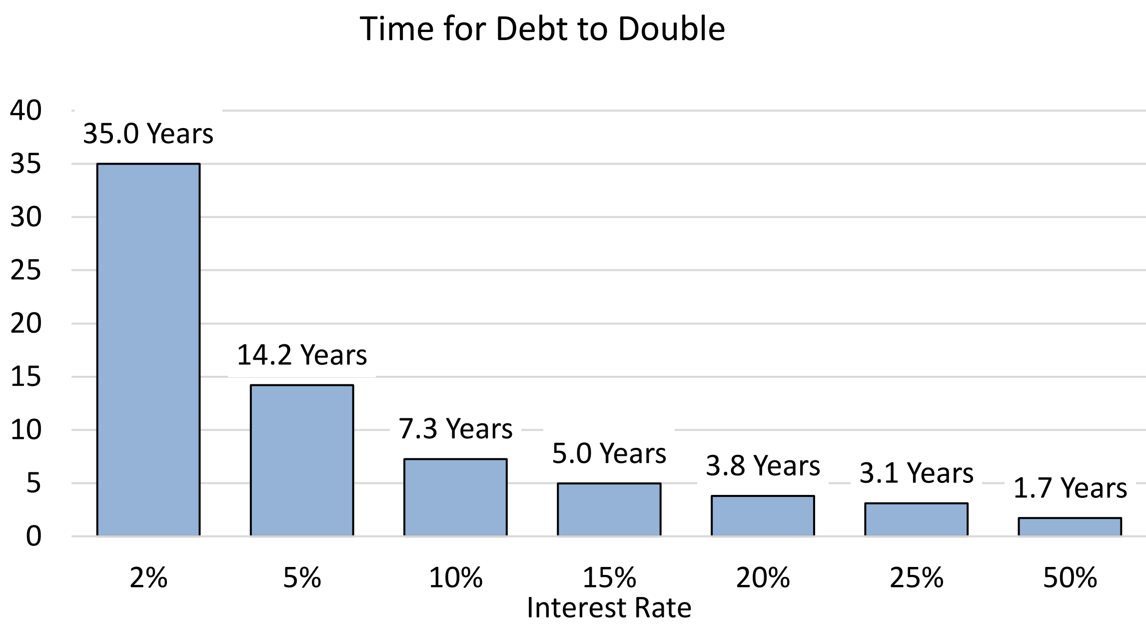
[Insert Do the Math 5.3: Determine the Implied Interest Rate of a Late Fee here]

Late fees can add up to a lot of money. One easy way to avoid them is to set up an automatic monthly payment to the credit card company for an amount that you know will cover the minimum payment. This requires some financial literacy and thinking ahead, as well as budgeting skills, but it can save money in the long run.

The Impact of Interest Payments

Borrowed money is rented money and it comes with a cost in the form of interest charged on the loan. If you compare interest rates, you'll see that the rates you can earn on assets (such as bank accounts, bonds, and stocks) is often well below rates charged on debt, in particular rates on unsecured loans, as with credit cards. This is why it is so important to manage debt. With an interest rate of 20%, it takes only 3.8 years for unpaid debt to double. Figure 5.1 illustrates how long it takes debt to double at different interest rates.

Figure 5.1: The Doubling of Debt



Why is this important? Many people underestimate how long it takes debt to grow, therefore they may take on too much debt or end up with more debt than they can handle. Data from the 2015 National Financial Capability Study (NFCS) shows that only 33 percent of the U.S. population knows that it takes less than five years for debt to double when borrowing at a 20% interest rate. With such high interest rates, and given that interest compounds on interest, in just a matter of years, compound interest can outweigh the interest on the principal. Data from the 2015 NFCS also show that 40 percent of the U.S. population states they have too much debt.

Sometimes interest payments can become a burden. A budget that has little room for expansion can ill afford an extra few hundred dollars every month in interest payments. Interest payments themselves may prevent an individual from having the money available to pay off the principal of the loan, keeping the person perpetually in debt. If a crisis arises, the person may have to take on more debt to solve it, perpetuating a cycle of behaviors that leads to further debt.

While it’s important to calculate the impact of interest payments on your debt, when deciding whether to buy something using credit, it's also important to consider your debt in the context of your personal financial situation as a whole (see Mistakes People Make 5.1). For example, if owning a car to get to work costs $600 per month, including the loan, insurance, registration, and so on, but it allows you to live in housing that costs $700 less than you would pay to live near public transportation, you will come out ahead financially no matter what the interest rate on the loan might be. However, if you find a different lender who charges lower interest, you might save some additional money per month.

[Insert Mistakes People Make 5.1 here]

Payment Plans

When you are paying back a closed end loan, such as a car loan or a student loan, every month you pay the same amount. This payment is called an **installment**, some of which repays the principal and some pays the interest. This method of payment is known as an **installment plan**. You can keep track of your loan using an **amortization schedule**, such as the one in Table 5.1. This table describes a three-year loan of $7,000 at 20% interest.

Table 5.1: Information Provided by an Amortization Schedule

Each line of an amortization schedule contains information about the payment made in that specific month, including how much is applied toward principal and interest. It also indicates the payoff amount of the loan—the principal remaining after that month's payment is made.

(See separate PDF of Table 5.1)

Notice that as time goes on, the fraction of the payment that goes toward interest gets smaller. At the one-year mark (the February 2018 payment), you owe $5,111.33. At that point,

$88.06 went to the payment of interest. The last line of a complete table will show the total interest paid. In this case, that would be $2,365.22. This is in addition to the original $7,000 purchase. More details about these types of installment loans will be covered in Chapters 7 and 8.

Paying Now or Paying Later

Sometimes people find themselves in the position of having extra cash flow. Perhaps you just paid off a big loan and now have an extra few hundred dollars each month, or maybe your income tax return has put a few extra dollars in your pocket. What are the advantages and disadvantages to using this money to reduce some other debt, such as a mortgage or college loan?

Let's say you have a bill due of $300 for a loan. You want to reduce the principal you owe, so you make a payment of $5,300. What does the lender do with this money? It can vary.

- Ideally, the lender may apply $300 to your regular monthly payment and the extra $5,000 toward the principal of the loan.
- The lender may apply $300 to your regular monthly payment and the extra $5,000 toward the principal of the loan, and charge you a fee for doing so.
- The lender may apply $300 to your regular monthly payment, and some small amount to whatever interest would be charged between your bill date and your payment date, then apply the rest toward the principal of the loan.
- The lender may apply $300 to your regular monthly payment, another $300 to next month's payment, and only apply $4,700 to the principal of the loan.

In the case of paying off a large loan like a mortgage, the mortgage contract may have an explicit **prepayment penalty** that is charged if you pay off the loan or a fraction of the loan before a specified date. The purpose of this penalty is to stop homeowners from refinancing their loan if a lower interest rate becomes available because doing so means that the lender loses out on a portion of the interest that would be paid on the original loan.

How can you make sure that an extra payment is going toward the principal of the loan? Some lenders have an explicit way for you to indicate your preference but others do not. You may have to contact them to make sure they do as you wish. In any case, you need to be aware of the terms of your loan and whether fees or prepayment penalties apply. Loans with no prepayment penalty will usually state this clearly in the contract. Credit cards do not have prepayment penalties because they are, by definition, **open-ended**, flexible payment plans.

[Begin Case Study Part 2]

Case Study Part 2: Sierra Considers Her Credit Options

Sierra had a tough day. Two of her parolees had weapons in their possession and one threatened to use it on her. That one went back to jail. A third failed her drug test. Reports had to be written. At the end of the day, Sierra had an appointment with an orthodontist and decided that this was the person who would fix her teeth for $7,000. At least one thing went right today.

Having chosen an orthodontist, Sierra investigated as many loan options as she could. Many credit card companies had sent her advertisements offering new cards with limits of up to $3,000. The associated interest rates offered were high—usually 20% or more. However, if she obtained two such cards and used the remaining balance on her current card, she could cover the $7,000 in dental expenses. The entire course of orthodontia would take three years, though the $7,000 would not be due all at once. She would need to pay an initial $3,000 when she started treatment and a payment of $2,000 would be required in each of the next two years. In the short run, only one credit card with a $3,000 limit would be needed. Sierra realizes that one advantage of using credit cards is that you can make minimum monthly payments rather than pay a fixed amount. Sierra thought this would be helpful for the first ten months, during which she would still have car payments to make. After the car was paid off, she could put the monthly car payment of $525 toward the dental bills.

Nevertheless, the high interest rates charged by the credit card companies worried her. She felt that she could afford to make payments of $250 per month now and more after the car was paid off, but she knew that the interest payments would take up a lot of that money. Sierra did some research on personal loans with defined repayment schedules that were available from local banks. These had much more reasonable rates of interest, sometimes as low as 10%. With a personal loan, she would have to take out the entire loan amount at once, and then save it to pay her dental bills as needed. This bothered Sierra a little, because she'll have to pay interest on the money while it sits there waiting for her to spend it, but she wanted to be sure that she could borrow the whole amount before going ahead with the dental work. She decided to apply for a personal loan of $7,000 from a local bank that offered personal loans at 11–15% interest. The interest rate charged would depend on her creditworthiness, as determined by the bank.

Discussion Questions

1. Sierra would like her $7,000 loan to be paid off at the end of her dental work in three years. Use a financial calculator to determine what her monthly payments would be at interest rates of 10%, 15%, and 20%. At what rate of interest would the payments become unaffordable for Sierra?

2. What if Sierra took out very short term loans of $3,000 for the first year (a three-year loan), $2,000 for each of the next two years (a two-year and one-year loan respectively), all of which would be paid off by the time her teeth were finished? What would the payment schedule look like then at 10%, 15% and 20% interest? Is there any advantage to borrowing the money in stages?
3. Suggest another possible strategy for Sierra's finances. How would your suggested strategy affect her monthly cash flow?

[End Case Study Part 2]

THE IMPLICATIONS OF "GOOD" OR "BAD" CREDIT

The companies with which you do business, such as credit card companies, utilities, and banks, all work together to track your reliability as a borrower. Do you pay your bills on time? Do you always pay your loans back within their specified timeframe? How much do you owe in total and how does that compare with your income? All of these factors are considerations in determining your **credit score**. Your credit score determines whether you will have good or bad credit.

The implications of poor credit scores are considerable and often expensive. If you have a low score, you cannot get loans easily. If you are approved for a loan, you will often pay a much higher interest rate than someone with good credit will. Even if you are buying something you truly need and know you can easily pay for, your bad credit score may prevent you from being able to purchase it using a standard loan. For example, you may be unable to rent your desired apartment, or you may pay a much higher interest rate on your mortgage. The extra expense may make it harder to pay other bills on time and a record of late bill payments will further damage your credit score after a year or two. In this section, we will examine how your credit score is determined and how this information can affect your ability to borrow money.

How Your Credit Score Is Determined and What It Means

Several companies provide credit information to lenders in the form of credit scores. The most commonly used of these is the so-called FICO score. FICO stands for the Fair Isaac Corporation, which is the company that computes this score from data collected about you. Scores range from 300 to 850, with higher scores indicating better credit. The score is a critically important piece of information because it affects the interest you are normally charged on your loans. Thus, knowing and being able to keep your score as high as possible is very important because it can save you money in terms of interest payments and improve your access to credit.

Your FICO score takes into account several factors. About 35% of the FICO score is based on your debt payment history. Therefore, a positive factor is any loan that you have paid off in its entirety. This includes credit cards, school loans, consumer loans (such as car loans) and mortgages. The fact that you used credit responsibly in previous situations gives confidence to lenders that you will do so again. On the other hand, any history of poor debt management, including **delinquent** payments, works against your FICO score. If your payments are extremely late, the account may go into **collection**, which means that the lender has turned it over to a company whose job is to get the money out of you by constant reminders and/or legal action. Even if you pay off a collection account completely, the action stays on your credit report for seven years. The consequence of bankruptcy, a legal condition that excuses you from paying some debts, is even worse because it affects your credit for many years to come.

About 30% of your FICO score is based on what you currently owe in debt and what your current available credit is. If you have a credit card with a limit of $5,000 dollars but at present owe only $200 on it, then you have $4,800 of available credit; this reflects good financial management and helps improve your credit score (see Mistakes People Make 5.2). Owing a lot of money might count against your score, although how big an effect this has depends on what kinds of loans you have. For example, if you owe $200,000 but most of it is a mortgage on a house, the effect on your credit score might not be much (unless you have late mortgage payments). The mortgage is a secured loan, and if you needed to, you could sell the house and pay off the loan entirely (if you get a good price). However, if you owe $20,000 on credit cards and never pay off the full balance, this might indicate poor credit management. The score also takes into account how many different loans you have. Do you have one credit card or twenty? Do you have a car loan or three car loans? The need for many credit cards with balances or other loans generally has a negative impact on your credit score.

[Insert Mistakes People Make 5.2 here]

About 15% of the score is based on the length of your credit history. Someone who has been responsible in their use of credit for 10 years will have a higher credit score than a new borrower with no record of responsible (or irresponsible) behavior. This is why your first credit card is likely to have a low limit and a high interest rate. The financial scoring system does not know who you are.

New credit lines account for 10% of your score. If you have recently obtained new credit cards, gotten a car loan, or taken out a student loan, this reflects negatively on your credit score. FICO notes all credit inquiries from lenders, showing that you applied for credit even if you did not get it. Although this isn’t the biggest effect, it does make a difference. The type of credit you are using also accounts for 10% of your FICO score. Credit cards, mortgages, student loans, and car loans all count. Closed accounts are also included. A record of responsible management of different kinds of credit will have a positive effect on your credit score.

But what do the scores mean? Statistics are kept on people with different ranges of FICO scores, so that lenders have an idea of how financially reliable an individual with a particular score is likely to be. Table 5.2 lists the various ranges of FICO scores and what each range represents in terms of potential risk to a lender. As the table illustrates, the average American's credit score is between 670 and 739. Consumers below the average range are considered subprime borrowers. Getting credit may be difficult and interest rates are going to be higher than the interest rates offered to borrowers with good credit. Consumers in the 580 and under range may be rejected for credit or lenders may require a fee or a substantial deposit as part of any loan agreement. Utility companies may also require a deposit before allowing someone in this range to open an account.

Table 5.2: Range of FICO Scores

Score range	**Status**	**Likelihood that the Consumer will be Delinquent on a Future Debt**	**Risk to the Lender**
800–850	Exceptionally good	Less than 2%	Very low
740–799	Very good	Approximately 2%	Low
670–739*	Good	Approximately 8%	Somewhat low
580–669	Fair	Approximately 28%	Medium
579 or less	Poor	Approximately 61%	High

*This range contains the median credit score for the entire U.S. population.

Risk is a big factor in the relationship between lender and borrower. If your credit score indicates that you are someone who may have difficulty repaying a loan, this makes you a credit risk to a lender, meaning they will think twice before lending to you. If they do decide to offer you a loan, they will charge you more for it than they would someone deemed less of a risk, based on their credit score.

There are numerous ways to check your credit scores. Because of the Fair Credit Reporting Act, every person is entitled to a free credit report once per year from each of the major credit bureaus: Experian, TransUnion, and Equifax. Various online services will obtain your scores, but you can also get your FICO score directly from the FICO website. Why would you want to know your score? If you have had good monetary habits but have a low score, it may indicate that someone has used your identity to obtain credit. The credit report will include your accounts, inquiries from potential lenders, and addresses. If any of these look unfamiliar, you will want to report it to the credit bureau and place a fraud alert on your credit score. In addition to fraud, you may want to be aware of your credit score in advance of negotiating loans for large purchases such as houses or cars.

Your Future Ability to Borrow

When lenders make loans to subprime borrowers, there is a chance they will not get their money back on time or possibly at all. As we've discussed, the cost of doing business with people who have poor credit is reflected in the interest a lender will charge for a loan to someone in this category or the lender's unwillingness to offer a loan at all.

Your good or bad credit not only affects your present finances, making it easy or difficult to get a car loan or open an electricity account, it also affects your finances well into the future.

Decisions you make today will affect your credit score for many years to come. Failure to make your student loan payments on time now may result in being charged a higher interest rate on a mortgage or car loan five years from now. You will also have to pay a higher down payment on a car, house, or other consumer loan. This shows the lender that you are committed to the purchase; indicating your willingness to abide by the terms of the loan.

If your score is bad enough, you may not be able to borrow money for any purpose. Not having access to loans puts you at a disadvantage because it reduces your ability to manage risk. For example, if your car breaks down and you can't get to work, you could lose your job, but if you have a credit card you can use to cover the cost of the car repair, you are able to get to work and thus keep your job. You can imagine many similar situations—an emergency room visit, an unexpected loss of housing. Having access to a line of credit (with plenty of unused credit) helps in the event of unexpected problems.

[Begin Case Study Part 3]

Case Study Part 3: Sierra Gets Bad News

It was a good day. Sierra's favorite parolee successfully found both a job and a place to live. Sierra left work a bit early with a sense of optimism and headed for the bank to apply for a loan that would cover her dental work. Cara, the loan officer at the bank, liked Sierra and was sympathetic. But when Cara looked up Sierra's credit score, her face fell. Sierra's score was 680, in the median range, but on the low side.

Sierra was confused, as she felt she had always paid all of her bills and was in good standing on all of her loans. Cara explained that a combination of factors led to this low score. Sierra had been late on loan payments, not once but perhaps three or four times per year during the previous few years while she was finishing her second degree and job hunting. Sierra had not realized that this could have an impact on her credit score. Second, Sierra had $28,100 in loans at present, which represented almost half of her annual salary. Not only did this affect her credit score, but it also factored into the bank's formula for granting loans. The bank does not want to lend money to someone if the person's total monthly loan payments are too large a fraction of his or her take home pay.

Cara regretfully informed Sierra that she did not qualify for a personal loan at that time. Perhaps after the car payments ended the situation would be different, especially if her credit score improved. Unable to hide her emotions, Sierra began to cry. Cara tried to comfort her by pointing out that although the bank's policy would prevent Sierra from immediately getting her teeth fixed, it would also prevent her from taking on a debt burden that she might not be able to meet.

Discussion Questions

1. What does Sierra's current balance sheet look like? What will her debt be if she takes on another $7,000 in loans?
2. What options are open to Sierra at this point? What are the pros and cons of each of these options?
3. What information does Sierra need in order to analyze these options?

[End Case Study Part 3]

STRATEGIES FOR DEALING WITH DEBT

At some point in your life, you may find that your debt has become a financial burden. This may be because of mismanagement of your money or it might be just plain bad luck. Before your debt becomes a problem, it is helpful to know where you stand. What is your current debt? What are your monthly payments and how soon will various loans be paid off? If you are in the middle of paying off a debt such as a car or student loan, do you know how much you owe right now? How much of each monthly payment will go to interest versus principal as time passes? To know this you need an amortization table, such as the one in Table 5.1, which details your payments month by month. There are online calculators that create these tables for you, or you can use a spreadsheet.

Some people carry a lot of debt, but they do it in a way that prevents it from becoming a burden. For example, everyone needs somewhere to live. Purchasing a home by taking out a mortgage to pay for it is what nearly everyone has to do in order to buy a house. It is possible to estimate in advance the monthly cost of owning the house, and it may be comparable to the cost of renting. In this case, the debt, although large, is a normal part of personal finances.

On the other hand, outstanding debt effectively reduces your monthly cash flow. If you are paying a sizeable fraction of your take home pay to debt payments you may feel burdened by these debts because you have little left over after debt payments are made. A salary that seems completely reasonable at face value may feel terribly inadequate if you have to make debt payments. Understanding the various strategies available for dealing with debt can prevent this from happening and it can help you fix your financial situation if you find yourself too deeply in debt.

Consolidation Loans

Suppose you have $3,000 in credit card debt at 22% interest and a $10,000 car loan at 12%

interest, with a monthly car payment of $500. Suppose you could get a third loan for $13,000 at 15% interest for three years, and pay these other two loans off. Would you be better off for doing so or worse off? Sometimes taking a new loan to get rid of others is a good strategy and sometimes not. Such a loan is called a **debt consolidation loan**, and it can be a useful strategy for reducing the burden of debt on your monthly cash flow. It doesn't get rid of any loans but it can spread them out over a longer period and get rid of the worst interest rates.

Bankruptcy

You have probably heard of cases of people "declaring bankruptcy," a legal action taken by people who have no recourse to pay off their debts. In this situation, the person is excused from repaying most kinds of debt. However, they are restricted in their ownership of assets and their credit score plummets. Bankruptcy is a path of last recourse in personal finance.

It is important here to make a distinction between personal bankruptcy and the type of bankruptcy common in the business world. A business may be set up as a corporation, which has the legal standing of an individual. When a business goes bankrupt, the rules restricting assets apply to the business itself, but not the individuals who own it. The owners of the business probably invested money in it, and they will not get that money back. But the personal assets of the owners (houses, cars, bank accounts, investments) are not touched by this form of bankruptcy.

Rebuilding Your Credit Score

Many people have periods in their lives when, for whatever reason, they find themselves with poor credit. To change this, you have to use the criteria that create your FICO score, and use them to your advantage. Some strategies for doing this include:

1. Prioritize paying off debt so that you have fewer loans. If you have three credit cards with $1,000 in debt on each, pay only the minimum on two of them and put all your principal payments into just one until it has no balance. Removing one obligation improves your cash flow and you can use the extra to pay off the next loan. Reducing the number of credit cards you have may increase your credit score as well.
2. Reallocate debt to pay less in interest. If the three credit cards have different rates of interest, pay off the highest interest card first. Move debt to a lower interest card if you can do so.
3. Consolidate debt in a single loan with a repayment schedule that you can manage. Whether that means a single credit card or some other form of personal loan, you can use a financial calculator to figure out how much you need to pay each month to get rid of your debt in a fixed amount of time.
4. Never be late with a payment. The easiest way to do this is by automatic payments from your bank account. Make a plan for yourself: for example, if you get paid electronically on the first of the month, schedule your debt and other regular payments for the third. Whatever is left on the fifth of the month is your budget for that month.
5. Do not take on new debt unless it is financially advantageous to do so (as potentially in the case of a mortgage or business loan). Remember, your good and bad financial behavior stays on your FICO record for many years.

Societal Impact of Debt

Many people end up in trouble with debt. Debt has to be **serviced**, meaning that payments have to be made regularly. If payments are not made, there are consequences, including having a house or car repossessed or having to declare bankruptcy.

An additional effect of debt that we have not considered yet, but is important to mention, is the societal impact of debt and debt mismanagement. If a large number of people are unable to make payments on their debt, taxpayers may have to take up some of the cost. This is what happened as a result of the 2008 financial crisis, where programs had to be put in place to help individuals who were enticed by lenders to take on mortgages they could not afford. Although this was only one component of the larger crisis, the economic effect was felt for years after.

[Begin Case Study Part 4]

Case Study Part 4: Sierra Makes a Plan

Depressed, Sierra went to visit her parents on Friday night after work. Noticing that her daughter was obviously distraught, Sierra's mother coaxed her into describing her unhappy meeting with the banker. Sierra's parents, although not rich, had never had any financial troubles that they couldn't weather. They each had excellent credit.

Sierra had always seemed like a particularly responsible child to them. They were surprised at her low credit score. They respected her independence, so they had never probed into her finances. After Sierra had gone to bed, her parents had a consultation. Sierra had never asked them for money in the past and they respected how self-reliant she had been over the past few years. They could offer to *cosign* the loan, effectively lending Sierra their credit score but then taking responsibility for the loan if Sierra couldn't make the payments. They were afraid that this offer might offend their very independent daughter, so they considered other possibilities instead. Saturday morning they suggested an alternate strategy: instead of taking out a personal loan for

$7,000, how about taking out one for $12,000, thereby paying off the remaining car loan completely. Sierra didn't see how she could qualify for such a loan, but agreed that it was a better plan than trying to pay an extra loan payment on top of the car payment. Even at a high interest rate of 20%, her monthly payments would be less than her current car payment.

Sierra spent the day researching loan options online. She did indeed find a lender who would loan her the $12,000, albeit at a very high rate of interest (20%). Despite the high rate of interest, this loan would improve Sierra's current financial situation by reducing her monthly payment. Of course, it would cost a lot in interest over the next three years, but Sierra chose a loan that could be paid off early with no prepayment penalty. She planned to do exactly that by setting up automatic payments that included extra principal each month. Best of all, she now had the money to go ahead with her dental work, giving her even more reason to smile.

Discussion Questions

1. What will Sierra's monthly payments be if she takes three years to pay off the new loan? How about four or five years? How quickly could she pay off the loan without exceeding her current car loan payment?
2. How will this decision affect Sierra's future wealth?
3. How do you think this decision will affect Sierra's credit score in the short and long run?

[End Case Study Part 4]

WORKING WITH THE THREE QUESTIONS

Now that you understand how lending and borrowing work and have become acquainted with different types of loans, it is good to revisit the three questions for financial decision making:

1. How will this decision affect my present finances?
2. How will this decision affect my future finances?
3. What risk will I be taking with this decision?

1. How will this decision affect my present finances?

Only a few types of loans do not have an immediate consequence for your monthly budget. One of these is the subsidized student loan, which does not charge interest or require payments until you finish college. Otherwise, the decision to borrow money usually has a negative impact on monthly cash flow. Repayment plans require regular monthly payments that you should be aware of before you take out a loan. Credit cards have flexible repayment options but almost always have a required minimum monthly payment. How big this will be depends on the terms of the loan and, in particular, the interest rate charged. Shopping around for a lower interest loan can make an immediate impact on your present finances. It is up to you to make sure you are getting a good deal.

Penalties for late payment can be a hidden cost that affects your present finances if you are in the habit of paying bills late. Setting up automatic payments from your bank account can prevent these fees from hurting your monthly budget and your credit score.

2. How will this decision affect my future finances?

If you regularly use a credit card to make purchases and then pay the entire balance every month, no interest will ever accrue. Your use of credit to make purchases will not affect your future finances at all.

Other than that one case, taking out any other kind of loan has an impact on your future finances because you have to pay the money back in the future and you are paying more for everything you have bought because of the interest on the loan. You will be paying with future dollars, however, which will be worth a bit less than present dollars due to inflation. Generally, however, the interest rate you are paying is greater than the inflation rate, so you end up paying more for your purchase even in tomorrow's dollars.

If you have used credit to purchase an object that loses value over time, you may find yourself making a monthly payment for something you no longer need, want, or can sell. Usually lenders will try to avoid giving you a loan for a term that is longer than the lifespan of the object you are purchasing. However, there are notable exceptions, such as car loans, in which there may be time periods when the amount you owe is greater than the value of the purchase.

Every purchase, whether made with credit or not, has an opportunity cost. The money is gone and you can't use it for something else. What happens to this cost when you use credit to purchase something? The overall cost of the purchase is greater due to interest charged. Therefore, the opportunity cost is correspondingly greater. However, the opportunity cost (along with the actual cost) is spread out over a longer time period.

3. What risk will I be taking with this decision?

With any loan, there is the risk that you will not be able to pay it back. Perhaps the probability of this is small, but the consequences of failing to pay are large. If you do not make payments regularly and develop a poor credit score, you may have to pay a higher interest rate in the future or have limited access to credit.

You can think about this risk in terms of the criteria for the FICO score. The risk of defaulting on a loan is greater if you have many loans, if you owe a lot of money, if you are close to your credit limit, or if you are already having trouble making monthly payments on your current bills. These criteria are a reflection on your present circumstances, which will certainly affect your ability to repay a loan.

What if you have a loan you want to get rid of? There is always a risk associated with exit strategies for situations created by prior decisions. Maybe you made the decision to take out a particular kind of loan for a particular reason two years ago, but today you would do it differently. Perhaps you want to pay it off, or refinance it at a lower rate of interest, or consolidate it with other loans to create a payment plan you can better afford. If your credit is poor, there is a risk that no one will lend you money for a consolidation loan. The risk in this case is that you are stuck with the loans you already have. If your loan has a prepayment penalty or other fees, there is a risk that you may be charged extra for paying off the loan. Depending on the size of the fee, this risk is a short-term cost.

Even with the best planning and intentions, things can go wrong. A job loss, illness, or an unanticipated major expense can ruin a perfectly reasonable budget. Things that have been purchased can change in value. A large-scale change in the economy itself is a risk that is always present for your finances. All of these are risks that may be made worse if you are in debt, but having good credit can help you manage them. Having a lot of debt payments due each month reduces your ability to handle financial surprises. Having good credit, and sources of available credit, improves your ability to handle the vagaries of life.

[Begin Case Study Part 5]

Case Study Part 5: Sierra, Three Years Later

Thanks to careful planning and budgeting, three years later Sierra has no debt except for her remaining student loan. In addition, she has taken steps to improve her credit score and has $6,000 saved in a bank account. Now she is thinking about her student loan and wondering if she should put an extra $500 toward the principal every month and try to pay it off early. She has called the loan company and verified that there will be no penalty for doing so.

For the last two years, Sierra has had a steady boyfriend, Jaheem, who is finishing his degree in industrial engineering at Georgia Tech University. He has already accepted a job offer in New Jersey and will move there shortly after graduation. When Sierra tells him she is thinking of paying off her student loan early, he says that he thinks she should save her money so that she has some flexibility in case she has an unexpected change in circumstances. When Sierra points out that she has great job security and doesn't foresee any major financial changes in the near future, Jaheem gets down on one knee and proposes. Sierra, who has already thought about this possibility for a while, says yes.

Now a new array of possible futures lies before Sierra. Maybe she will move to New Jersey immediately. Maybe she will work at her job another year and then move. Maybe she will be unemployed for a while when she does decide to move. Maybe they will need money for a wedding. Maybe they should start saving for a house. Sierra is suddenly aware of how little she can predict about her financial needs in the coming year.

Would it be better to work an extra year, pay as much as necessary to get rid of the student loan, and start a new marriage debt free? Or would it be better, as Jaheem has suggested, to have some money readily available in the bank? Jaheem will have a good job in the near future, but at the moment he is basically broke, although he has no debt. With his new job, Jaheem will certainly be able to support Sierra until she finds a new job, and he can also make her student loan payments if necessary.

After some days of pondering, Sierra agrees with Jaheem that having a bigger nest egg in the bank would be a better strategy. She starts saving as much as possible every month, and does not pay extra on her student loan. By the time Jaheem graduates she expects to have at least $10,000 in her bank account. She feels that she needs this to feel a sense of financial independence when she leaves her job and moves to New Jersey. She hopes it will be enough to bridge the income gap between her old job and a new one.

Discussion Questions

1. Sierra's original student loan was for $21,000 with a 7-year term at 10% interest. Create an amortization table for the loan. She is now at the 4-year point in her loan. What does she owe?
2. Sierra's salary has gone up and she now makes $48,000 per year. How much more does this contribute to her take home pay? Is it enough to offset a potential extra payment of $500 on the principal of her student loan?
3. How can Sierra take advantage of her improved credit score to manage her finances? What new options does it introduce that she has not considered?
4. Do you agree with Sierra's decision? Why or why not?

[End Case Study Part 5]

CHAPTER SUMMARY

Some people think credit is a positive thing and use it to solve problems they may have by consolidating loans and taking on further debt. Some people hate all forms of debt and will tell you not to take out any loan. In this chapter we hope to have convinced you that credit and loans are neither good nor bad—they are just tools for achieving specific goals. On the one hand, debt can become a burden that takes so much from every paycheck that you suffer as a consequence. On the other hand, debt can help you get an education, buy the car you need to get to work, or purchase a home for you and your family, and much more.

- Credit is a tool you can use to achieve a specific goal that requires a financial outlay. As such, it requires evaluating the costs and benefits associated with it. It is important to know where you stand: how much debt you have right now; if you are in college, what your debt will be when you graduate; and what the interest rate is and what your monthly payments will be. An awareness of your current situation can help you manage your credit wisely.
- Because debt normally charges high interest rates (or rates greater than assets), it can grow fast. It is important to consider the impact of taking on further debt, consolidating debt, or reducing current debt by doing the math. Without doing calculations, it is impossible to make the best decision for your personal financial situation related to debt.
- Decisions about debt are reflected in a credit score. Many factors influence a credit score, and given that the interest one is charged is affected by one’s score, a person should try to keep his or her credit score as high as possible.
- Taking on debt that you cannot repay on time or at all has risk associated with it. You personally run the risk of bankruptcy or a ruined credit score or both. The economy is at risk when the processes of lending and repayment break down for a large part of the population.

KEY TERMS

Amortization schedule: Amortization refers to the process of paying off a debt (often from a loan or mortgage) over time through regular payments. An amortization schedule details each periodic payment on a loan.

Annual percentage rate (APR): The annual rate charged for borrowing or earned through an investment, expressed as a percentage per unit of time.

Collection: When payments are missed or extremely late, the lender turns the account over to a company whose job is to encourage payment (i.e., collect payment) via constant reminders and/or legal action.

Credit: The practice of borrowing money to use now with the promise to repay it in the future.

Credit card: A card issued by a financial company that gives the holder an option to borrow funds, usually at point of sale.

Credit limit: The maximum amount of credit a financial institution extends to a client through a line of credit as well as the maximum amount a credit card company allows a borrower to spend on a single card.

Credit score: A numerical expression representing the creditworthiness of an individual.

Debt consolidation loan: A type of debt refinancing that allows consumers to pay off multiple debts with a single loan.

Debt service: The amount of money required to make payments on the principal and interest on outstanding loans, the interest on bonds, or the principal of maturing bonds.

Default: Failure to pay interest or principal on a loan when due.

Delinquent: Overdue, or late (as in a payment).

Grace period: The provision in most loan and insurance contracts that allows payment to be received for a certain period of time after the actual due date, with no late fees charged and no penalty.

Installment: Regular, partial portions of the same debt, paid at successive periods.

Installment plan: A contract in which a payment is made in installments over a fixed period of time.

Interest rate: The amount charged by a lender to a borrower for the use of assets, expressed as a percentage of principal, per unit of time.

Late fee: The charge a consumer pays for making a required minimum payment on a credit card after the due date.

Lien: The right to keep possession of property belonging to another person until a debt owed by that person is paid.

Minimum payment: The smallest amount of a credit card bill that a credit card holder must pay each billing cycle.

Open ended: Not having a fixed term.

Point of sale: The moment when a retail transaction is completed.

Prepayment penalty: A clause in a loan contract stating that a penalty will be assessed if the loan is prepaid within a certain time period.

Principal: The amount borrowed or the amount still owed on a loan, separate from interest.

Secured loan: A loan in which the borrower pledges some asset (e.g., a car or property) as collateral for the loan, which then becomes a secured debt owed to the creditor who gives the loan.

Term: The amount of time you have to repay a loan.

Truth in Lending Act: A federal law that requires lenders to disclose information about all charges and fees associated with a loan.

Unsecured loan: A loan that is issued and supported only by the borrower's creditworthiness, rather than by any type of collateral.

CHAPTER HOMEWORK

Check Your Understanding

1. A five-year loan of $5,000 at 5% interest costs more than $5,000 because

   a. a fraction of each payment is interest on the $5,000.

   b. only a fraction of each payment goes toward paying down the principal.

   c. you are paying extra to "rent" $5,000.

   d. All of the above.

   e. None of the above.

2. A five-year loan of $5,000 at 10% interest costs more than a five-year loan of $5,000 at 8% interest because

   a. more interest will be paid altogether by the end of the loan period.

   b. the total cost of the loan will be higher.

   c. monthly payments will be higher.

   d. All of the above.

   e. None of the above.

3. Which of the following are unsecured loans?

   a. A car loan

   b. A mortgage on a house

   c. A credit card balance

   d. All of the above

e. None of the above

4. A secured loan is likely to have a lower interest rate than an unsecured loan because

a. your credit score is higher with a secured loan.
b. there is less opportunity cost with a secured loan.
c. the lender has a lien on the object you bought with the money and can repossess it if you fail to pay.
d. All of the above.
e. None of the above.

5. The principal owed on a loan corresponds to which of the following on a financial calculator?

a. present value
b. future value
c. monthly payment
d. interest rate
e. None of the above

Do the Math

1. Matthew has a loan of $31,000 at 12.25% interest and wants to pay it off in four years. What must the monthly payment be?
2. If Matthew puts $820.15 each month into an investment account earning 12.25% interest, how much will he have in four years?
3. If Matthew owes $3,000 on a credit card at 22% interest and pays $100 each month toward the balance, what will he owe at the end of 12 months?
4. If Matthew owes $3,000 on a credit card at 22% interest and wants to pay it off in a year,

what should his payments be?

5. If Matthew owes $3,000 on a credit card at 22% interest and wants to pay it off in two years, what should his payments be?
6. If Matthew pays off a $3,000 debt at 22% in one year, instead of two, how much money does he save?
7. If Matthew has a 10-year loan of $22,500 at 7% interest, how much will he owe after five years? Use an online amortization table or a spreadsheet to figure this out.
8. Janice uses her credit card, which carries a monthly APR of 18%, for all of her everyday purchases. She eventually reaches her credit limit of $4,000 and begins to re-evaluate her credit habits. After considering her budget, she determines to dedicate, at most, $80 a month to paying down her credit card balance. If she pays $80 a month without any new charges, how long will it take to pay off her credit card balance?
9. Maribel has two different credit cards. The first has a $1,200 balance and charges an APR of 24% and the second has a balance of $3,000 and charges an APR of 20%. If Maribel wanted to pay off both credit cards in five years, it would cost her $114.00 per month. If she instead consolidates her debt into a five-year installment loan with an APR of 18%, what will her monthly payment be?
10. Mr. Theodos, a small businessman, owns and runs a manufacturing firm that sells bobblehead dolls. To build his bobbleheads, he purchases wire from a regular supplier. Each box of wire costs $2,000 and the supplier allows Mr. Theodos to pay for a box in four quarterly installments of $500. But to encourage Mr. Theodos to pay up-front, the supplier offers him a $200 discount per box if he pays today. Mr. Theodos read in a small business article that it’s good for cash flow to delay payment to your suppliers and so he

never takes the discount and instead always pays in installments. Effectively, Mr. Theodos is buying wire on credit with a short-term loan – what is the implicit APR he pays?

11. At the beginning of her senior year in college, Pia borrows $5,500 using a Perkins loan with a 5% APR. Because of the subsidized interest, interest will not accrue during her final year of school, and because of the grace period, interest will not start accruing until one year after she graduates. She will pay down the loan in ten annual installments beginning with a payment three years from now. Compute the implicit interest rate on this loan.
12. Noah borrows $600 for two weeks from a local payday lender. His fee for borrowing the money is $108, which is due in two weeks along with the original $600. What is the APR on this payday loan? How much would Noah pay in fees if he rolled over the loan every two weeks for a year by paying only the $108 every two weeks?
13. Armanno borrows $800 using a three-month auto title loan charging an APR of 42% compounded monthly, where interest is due at the end of each month and the $800 principal must be repaid at the end of the third month. At origination, Armanno must pay $90 in fees. What is the implicit APR on this loan after considering the fee?

Thinking Hard

1. Under what circumstances is it better to pay off debt than to build a nest egg?
2. If you save $5,000 and take out a loan for $5,000, why doesn't your net worth improve?
3. When is it a good strategy to only pay the interest you owe on a credit card, without reducing the amount owed?

4. What factors determine whether loan consolidation is a good idea, and why?
5. When paying off a loan on a fixed schedule, each successive payment contributes slightly more to paying off the principal of the loan. Why?

Working with the Three Questions for Financial Decision Making

Odetta was determined to work her way through college and take out no student loans. However, at times she ran short of money and had to use a credit card to get through the year. Her first credit card had a $3,000 limit and, since she had no credit record, an interest rate of 22.25%. Although she was unable to pay it off, she never missed the minimum payment and her credit score improved. She was offered a second card by a different company, with a limit of $2,000 and an interest rate of 18%. She used this credit to help with her college expenses but still came up short in her last year. At that point, she was offered a card with a $10,000 limit at 15.75% interest. She took it and paid off her other two cards. However, during her last semester, her mother was hospitalized several times and Odetta had to make numerous trips home to see her. It took an extra semester for her to complete her primary school teacher certification.

By the time she graduated, Odetta had used up the credit on all three cards and had debt totaling $15,000. Her credit score, however, was still pretty good. She soon got a job paying $43,000 per year as a second grade teacher in Baton Rouge, Louisiana. Now it was time to pay off her credit card debt. She would like to do this in three years. She considers three options:

Option 1: She pays off the high-interest loan of $3,000 in the first year, while making interest-only payments on the other two. In the next six months, she pays off the $2,000 loan, while making interest-only payments on the third. In the last 18 months, she pays off the $10,000 loan.

Option 2: Similar to option 1, but in order of loan size. First, she will spend six months paying off the $2,000 loan, then a year paying off the $3,000 loan, then the last 18 months paying off the $10,000 loan.

Option 3: She finds a lender who will lend her $15,000 at 15.50% interest with fixed payments for three years.

Question 1: How will this decision affect my present finances?

For each of the three options, what will Odetta's monthly payments be on each of the three loans during each six-month period over the next two years? What is the total monthly payment during these periods? Odetta's monthly take home pay will be approximately $2,700. Can she afford all of these options? For each option, what will her remaining cash flow be? Make a spreadsheet or table to illustrate her options.

Question 2: How will this decision affect my future finances?

For each of the three options, how much will Odetta have paid at the end of the three-year period? Which option costs the least in the long run?

Question 3: What risk will I be taking with this decision?

What are the risks associated with debt and loans? Which of Odetta's options is the riskiest and why? Which option creates the highest monthly payment at some point in the three years?

Case Study

Kaden's father often said two things. The first was "America runs on business." The second was

"Never let a good woman go."

As a high school student, Kaden was unexceptional but hard working. There was no question about going to college, as it was clear to Kaden and his supportive parents that this was the path to a decent job. Kaden really wanted that job because even in high school he was making long-range plans with his sweetheart, Patty, and these plans would definitely require income. Furthermore, Kaden was frugal and was determined to finish college with no debt and a degree in business, because that would position him well in the job market.

Kaden chose an inexpensive state school to complete his degree: Sul Ross State University in Texas, his home state. He did indeed complete a business degree in four years, married Patty, and began his job search. It did not go well. After an exhausting six month search during which he and Patty lived with his parents, Kaden took an entry-level job as a sales associate for a concrete manufacturing company in Euless, Texas, a suburb of Fort Worth. His initial salary was $25,000 but Kaden had the potential to move up in rank and eventually become a manager of some sort. Patty got a job as a waitress that brought in an additional $15,000, including tips.

They had two children and Patty cut her work back to part time. There were hospital bills and other expenses that came with children, and ends often did not meet. Five years out of college, Kaden found himself with more than $10,000 in debt, described in the table below. Kaden, a true hard worker, got steady pay raises and was now making $30,000 per year. But Patty was really busy with the children and only worked part time, making around $5,000 per year. They had put nothing away for retirement, did not own a house, but had built a nest egg of $5,000, which they kept in a bank account at a low rate of interest. It was a rainy day fund and they had depleted it and refilled it several times over the last five years.

Type of loan	Monthly payment	Number of payments remaining	Amount outstanding	Interest rate
Car	$161.21	24	$3,675	5%
Credit card 1, 10,000 limit	Flexible; minimum $85	Flexible	$4,000	15.75%
Credit card 2, 15,000 limit	Flexible; minimum $200	Flexible	$6,000	20.25%

Kaden was in despair. They were making, in total, less money. They were going farther into debt each year. They lived cheaply in a small apartment, with a household budget of $2,000 per month including the small amount they added to their savings account regularly and the minimum monthly payments on their loans. They stuck to this, using extra money on extra stuff when they had it. But in three years their oldest child would start kindergarten, and they wanted to move to another part of town where the schools, they felt, might be better. Their dream of buying a house was still a dream, as they would need to save about $20,000 for a down payment on an average house in that area, which would cost about $200,000.

Kaden was also angry with himself because he felt that, with a degree in business, he ought to be able to sort out the situation. He looked up his credit score. It was average. That wasn't going to help a house purchase either.

On New Year's Eve, Kaden made a resolution to sort out his loans and budget, figure out a plan to pay off his debt, and save $20,000 in the next three years. He knows you have a head for these things and has asked you to help him think clearly and make a plan. It had better be a believable plan, because he will need Patty's cooperation to make it work.

Part 1: Do some research. What is Kaden's take home pay? How much of it is going to these loans? What are his options for loan consolidation? What kind of interest rates could he get by saving his money somewhere other than a bank? What do you think is happening to Patty's income? What are the major financial risks facing this family now?

Part 2: Make a plan. Can Kaden improve his situation by refinancing his loans? Should he use their savings to pay some off? What will he have to put aside monthly to save a total of $20,000 in three years in addition to paying off his loans, if he invests his money as you suggest? How will the monthly budget have to change or stretch to make it all work? What risks are involved in your plan? Put your plan on a spreadsheet or in a table so that Kaden can easily discuss it with Patty.

You Are Your Own CFO

For each of the three scenarios that you created in Chapter 1, identify all of the places where you think loans—business or personal (don't forget to consider credit cards)—might need to be part of your financial scenario. For each scenario, create a spreadsheet on which each line represents a year, 30 years into the future. When are you likely to need a loan, for what, and how much do you anticipate needing? For each potential loan, create an amortization table. How will these purchases affect your cash flow into the future? Include in your scenario spreadsheets of the monthly payments you will be making on each of those loans during each of the years you hold them.

Consider your present situation: Go to the Federal Trade Commission's website (www.consumer.ftc.gov) and follow the steps outlined there to access a free copy of your credit report from one of the three nationwide credit reporting companies. Without divulging this score, write a paragraph describing your response to it. Based on the information in this chapter, were you surprised?

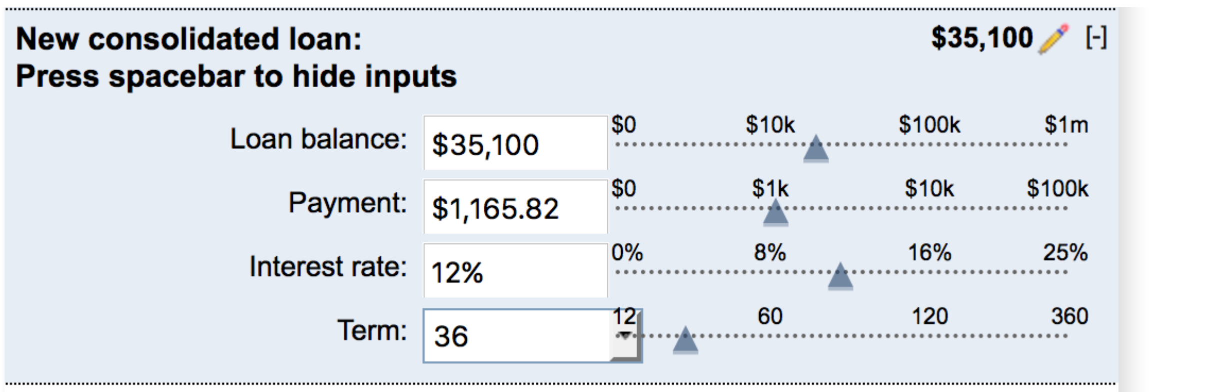
CHAPTER 5 FEATURES

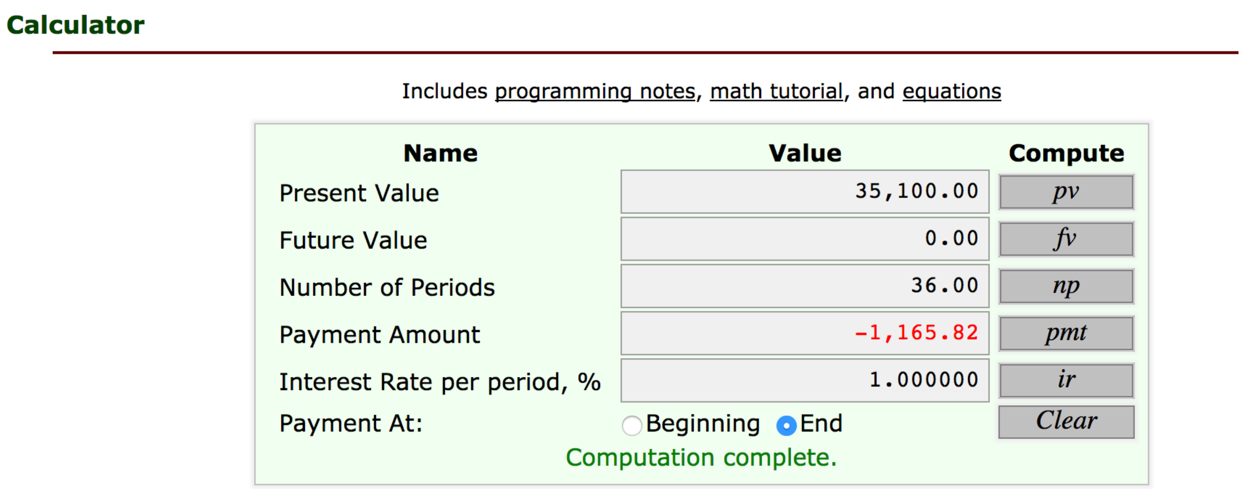
Do the Math 5.1: Determining the Implied Interest Rate

Suppose you borrow $100 from a payday lender for five days, with an agreement to repay the $100 plus $1.50 per day in fees. By calculating the implied interest rate on this loan, you can determine how the cost of this loan compares to the cost of a loan you would get from a bank or via a credit card cash advance. $1.50 is 1.5% of 100. To calculate the per year rate, you multiply 1.5% per day * 365 days per year = 547% per year. Knowing this rate allows you to compare the cost of this loan with the cost of other loans you might use. A typical interest rate for a credit card cash advance could be around 25%, though with some associated fees pushing up the implied interest rate. You need to read the fine print of your credit card agreement to determine the exact rate and fees. Rates for bank loans vary, but for those with good credit scores, annual percentage rates can be as low as 5%: a small fraction of the rate charged by a payday lender.

Do the Math 5.2: Calculate Payments Before You Borrow

Calculating the payments that you'll make to repay a loan before you engage in borrowing will help you determine the implications of the loan for your budget, and decide if the loan is affordable for you. This is easy to do with an online or financial calculator. If you have a loan balance of $35,100 at an interest rate of 12% and you want to pay it off in 36 months, you can put it into a calculator like the one below, which will return a payment of $1,165.82 per month.





If you are using a financial calculator, the present value of your loan is $35,100. It is a positive number to indicate you have this money in your possession. The interest rate per period is 12%/12 months = 1% per month. The number of pay periods is still 36 months (3 years). The future value of the loan will be zero, because you will have paid it off. The calculator then returns a negative number, which represents the payment you will have to make. As you can see, there is a one to one correspondence between a standard financial calculator and one customized for loan repayment.

Do the Math 5.3: Determine the Implied Interest Rate of a Late Fee

Suppose you have a credit card with a balance of $1,000 that charges 12% per year in interest. What will you pay in interest this month? 12% per year will be charged at 1% per month because 1/12 of 12 is 1. Your interest for this month will be:

$$.01 * \$1,000 = \$10.$$

The bill comes and it says that your minimum payment is $10, which just covers the interest. If you only pay $10, there will be no reduction in the principal. You could just keep paying $10 per month forever, but your loan will never go away.

Suppose you miss a payment. Next month your bill will say that you owe $10 for the late payment, $10 for the current payment, and a $25 late fee. This month you will pay $45 in interest and fees, and still owe $1,000.

What annual rate of interest is represented by owing $45 in a month for a $1,000 loan? 45/1,000 = 0.045 or 4.5% per month, for a whopping 54% annual interest rate. Of course, that rate only holds for that one month.

Here is another scenario. Suppose you have a credit card you never use, so you ignore all the mail the company sends you. However, once a year you have to pay a fee of $30 for use of the card. You don’t pay attention to the bill for this fee because you weren’t expecting a charge on the card. Two months later, you open a bill from this company and see this:

Annual fee: $30

Late fee: $25

Interest due: $.55

Late fee: $25

Interest due: $.81

Total charge: $81.36

Your annual fee of $30 has ballooned to $81.36 because of late fees. What is the implied rate of interest? You paid $51.36 in interest on principal of $30 borrowed for two months, or 1/6 of a year.

51.36/30 = 1.712 or 171% interest per two months.

The annual rate is six times as large: 10.272 or over 1,000% per year.

Mistakes People Make 5.1: Misusing Credit

Misusing credit is easy to do, in particular for people who do not have stable or predictable income. Because it is possible to postpone payments, it can be tempting to charge credit cards with daily expenses without paying the amount due in full each month. When limits are reached, it can be tempting to apply for more cards. The likely consequences of carrying high balances on credit cards include paying a lot of interest, owing more than you can afford to repay, and potentially lowering your credit score. Debt carries consequences not only in the present but also in the future.

Mistakes People Make 5.2: Paying Only the Minimum Due

Results from a 2014 Harris Bank Survey indicate that some people mistakenly think that carrying a balance on a credit card will improve their credit score. In fact, the opposite is true. You can improve your credit score by paying your credit card bill in its entirety each month or by maintaining a very low balance.