

5-2

Savings Accounts

GOALS

- Discuss the purpose of savings.
- Explain how you can grow your savings with interest.
- List and compare savings options and features.

KEY TERMS

- savings account, p. 162
- principal, p. 163
- simple interest, p. 164
- compound interest, p. 164
- annuity, p. 165
- Rule of 72, p. 166
- money market account, p. 167
- certificate of deposit (CD), p. 167
- U.S. savings bond, p. 167
- maturity value, p. 167

What Is the Purpose of Savings?

savings account a demand deposit account designed for the accumulation of money in a safe place for future use

Saving money is important because it means you are providing for future needs and wants. Saving helps you meet your financial goals. A **savings account** is a demand deposit account designed for the accumulation of money in a safe place for future use. The funds are not as easily accessed as with a checking account. The funds, however, are still highly *liquid*, meaning you can generally withdraw your money at any time without penalty. Savings accounts at banks generally are insured by the FDIC up to the legal limit of \$250,000 per depositor per bank.

Savings accounts pay interest at a low rate. However, the rate is usually higher than the rate for a checking account. Some banks allow depositors to link their savings and checking accounts. This allows the transfer of money back and forth (by phone or electronically) at the account holder's convenience.

Having a savings account helps you be prepared for emergencies and other unplanned spending. It gives you flexibility so that you can make better buying decisions. For example, if you have savings, you may be able to buy items at sale prices now rather than later. Buying at sale prices now saves money in the long run. Savings accounts also allow you to accumulate money for large purchases, such as a car or a house. Setting aside money today for use later is a first step in becoming financially secure.

Savings accounts can also be used to hold money temporarily while you are preparing to open an investment account. Money that isn't needed until some time in the future should be invested at a higher rate of return than what savings accounts generally offer.



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How are savings related to your future?



Focus On... THE FDIC

The Federal Deposit Insurance Corporation (FDIC) is an independent agency of the U.S. government. The FDIC protects depositors of insured U.S. banks against the loss of deposits if the bank fails. FDIC insurance is backed by the full faith and credit of the U.S. government. Since the FDIC began operation in 1934, no depositor has ever lost a penny of FDIC-insured deposits.

The FDIC covers all types of deposits, including checking accounts, savings accounts, money market deposit accounts, and certificates of deposit (CDs). The FDIC covers accounts at each insured bank, including principal and any accrued interest through the date of the bank's closing, up to the insurance limit.

The FDIC does not insure:

- money invested in stocks, bonds, mutual funds, life insurance policies, annuities, or municipal securities, even if purchased at an insured bank
- valuables stored in the bank's safe deposit boxes

- U.S. treasury bills, bonds, or notes (but these investments are backed by the full faith and credit of the U.S. government)

The standard maximum deposit insurance amount (SMDIA) is \$250,000. The FDIC insures deposits that a person holds in one insured bank separately from deposits the person holds in another separately chartered and insured bank. For example, if a person has an account at Bank A and an account at Bank B, both accounts are insured separately up to the SMDIA. Funds deposited in separate branches of the same insured bank are not separately insured.

Think Critically

1. What is the purpose of FDIC insurance? As a consumer, do you benefit from this insurance?
2. During the Great Depression, many banks failed and people lost their deposits. Do you think such a thing could happen again? Why or why not?

CHECKPOINT ▶ ▶ ▶

What are the benefits of having a savings account?

How Can You Grow Your Savings?

Growing your savings is an important part of growing your wealth. One way to do this is by earning interest on your savings. When you earn interest, you are actually getting paid to save money!

COMPUTING INTEREST

Money deposited in a savings account will usually earn a set rate of interest. Interest earnings are taxable when they are earned. The sum of money set aside on which interest is paid is called **principal**. Money earned on the principal is called interest. The higher the rate of interest, the more money the account earns.

principal sum of money set aside on which interest is paid

Figure 5-2.1 Simple Interest

$$\begin{aligned} \text{Interest (I)} &= \text{Principal (P)} \times \text{Rate (R)} \times \text{Time (T)} \\ &= \$1,000 \times 6\% \text{ Annual Rate} \times 6 \text{ Months} \\ &= \$1,000 \times 0.06 \times 6/12 \\ &= \$30 \end{aligned}$$

simple interest interest computed on principal once during a certain time period

compound interest interest earned on both principal and previously earned interest

When interest is computed on the principal once during a certain time period, this is called **simple interest**. The simple interest method assumes that one interest payment will be made at the end of the period. Interest rates are usually given in yearly rates. However, the interest may be paid after a certain number of months. In this case, the months must be converted into a fraction of a year to compute the interest. The formula for calculating simple interest and a sample problem are shown in Figure 5-2.1.

Another way of calculating interest is called **compound interest**, which is interest earned on both principal and previously earned interest. Figure 5-2.2 shows how interest compounds. The principal, \$100, was put into savings at an annual rate of 6 percent. The interest was then compounded quarterly (four times per year) for three years. An interest rate of 6 percent per year is 1.5 percent quarterly ($0.06 \div 4 = 0.015$).

THE FUTURE VALUE OF MONEY

The *future value of money* refers to what it will be worth in the future, after interest has compounded. Future value can be compounded based on a single deposit that is left in an account for a long period of time. It can also be based on a series of deposits that are made over time. To compute future value, you can use future value tables, or you can use a financial (business) calculator that has these tables built into its memory.

When computing future value, you will need to know three things: how much money you can set aside; the interest rate it will earn; and how long the money will be set aside. As each of these rises, the amount by which it will grow also rises. For example, \$500 will grow faster than \$100. An 8 percent rate of return will grow money faster than 6 percent, and so on.

Figure 5-2.2 Compound Interest

Year	Beginning Balance	Rate 6%	Quarter				Ending Balance
			1	2	3	4	
1	\$100.00	0.015	\$1.50	\$1.52	\$1.55	\$1.57	\$106.14
2	\$106.14	0.015	\$1.59	\$1.62	\$1.64	\$1.66	\$112.65
3	\$112.65	0.015	\$1.69	\$1.72	\$1.74	\$1.77	\$119.57

Figure 5-2.3 Future Value (Compound Sum) of \$1

Period	Percent									
	3%	4%	5%	6%	7%	8%	9%	10%	11%	
1	1.03000	1.04000	1.05000	1.06000	1.07000	1.08000	1.09000	1.10000	1.11000	
2	1.06090	1.08160	1.10250	1.12360	1.14990	1.16640	1.11810	1.21000	1.23210	
3	1.09273	1.12486	1.15723	1.19102	1.22504	1.25971	1.29503	1.33100	1.36763	
4	1.12551	1.16986	1.21551	1.26248	1.31080	1.36049	1.41158	1.46410	1.51807	
5	1.15927	1.21665	1.27628	1.33823	1.40255	1.46933	1.53862	1.61051	1.68506	
6	1.19405	1.26532	1.34010	1.41852	1.50073	1.58687	1.66710	1.77156	1.87042	
7	1.22987	1.31593	1.40710	1.50363	1.60578	1.71382	1.82804	1.94872	2.07616	
8	1.26677	1.36857	1.47746	1.59385	1.71819	1.85093	1.99256	2.14359	2.30454	
9	1.30477	1.42331	1.55133	1.68948	1.83846	1.99901	2.17189	2.35795	2.55804	
10	1.34392	1.48024	1.62890	1.79085	1.96715	2.15893	2.36736	2.59374	2.83942	
11	1.38423	1.53945	1.71034	1.89830	2.10485	2.33164	2.58043	2.85312	3.15176	
12	1.42576	1.60103	1.79586	2.01220	2.25219	2.51817	2.81266	3.13843	3.49845	
13	1.46853	1.66507	1.88565	2.13203	2.40985	2.71962	3.06581	3.45227	3.88328	
14	1.51259	1.73168	1.97993	2.26090	2.57853	2.93719	3.34173	3.79750	4.31044	
15	1.55797	1.80094	2.07893	2.39656	2.75903	3.17217	3.64248	4.17725	4.78459	
16	1.60471	1.87298	2.18288	2.54035	2.95216	3.42594	3.97031	4.59497	5.31089	
17	1.65285	1.94790	2.29202	2.69377	3.15882	3.70002	4.32763	5.05447	5.89509	
18	1.70243	2.02582	2.40662	2.84035	3.37993	3.99602	4.71712	5.55992	6.54355	
19	1.75351	2.10685	2.52695	3.02560	3.61653	4.31570	5.14166	6.11591	7.26334	
20	1.80611	2.19112	2.65330	3.20714	3.86968	4.66096	5.60441	6.72750	8.06231	

Saving a Single Sum

Assuming you could set aside \$500 and leave it there for ten years at an annual interest rate of 8 percent compounded annually, how much would you have at the end of ten years? To calculate this, you could set up a table, similar to Figure 5-2.2, or you could use the Future Value (FV) of \$1 table, as shown in Figure 5-2.3.

Using the table, you would go down the Period column to 10 (ten compounding periods). Then you'd go across to the 8% column. The FV factor from the table is 2.15893. If you multiply \$500 times 2.15893, you can determine that the future value will be \$1,079.47.

Saving on a Regular Basis

Rather than a lump sum, perhaps you could set aside money regularly. When you set aside a fixed amount on a regular basis over time, it is called an **annuity**. Suppose you could set aside \$500 per year for ten years at the rate of 8 percent. Instead of the FV of \$1 table, you would now use the Future Value (FV) of an Annuity of \$1 table, as shown in Figure 5-2.4 on the next page.

Using the FV of an Annuity of \$1 table, go down to period 10 and then across to the 8% column to find an FV factor of 14.48656. Multiply your annual payment of \$500 times 14.48656 to determine that you will have \$7,243.28 at the end of ten years.

annuity a fixed amount set aside on a regular basis over time

Figure 5-2.4 Future Value of an Annuity of \$1

Period	Percent								
	3%	4%	5%	6%	7%	8%	9%	10%	11%
1	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
2	2.03000	2.04000	2.05000	2.06000	2.07000	2.08000	2.09000	2.10000	2.11000
3	3.09090	3.12160	3.15250	3.18360	3.21490	3.24640	3.27810	3.31000	3.34210
4	4.18363	4.24646	4.31013	4.37462	4.43994	4.50611	4.57313	4.64100	4.70973
5	5.30914	5.41632	5.52563	5.63709	5.75074	5.86660	5.98471	6.10510	6.22780
6	6.46841	6.63298	6.80191	6.97532	7.15329	7.33593	7.52334	7.71561	7.91286
7	7.66246	7.89829	8.14201	8.39384	8.65402	8.92280	9.20044	9.48717	9.78327
8	8.89234	9.21427	9.54911	9.89747	10.25980	10.63663	11.02847	11.43589	11.85943
9	10.15911	10.58280	11.02656	11.49132	11.97799	12.48756	13.02104	13.57948	14.16397
10	11.46388	12.00611	12.57789	13.18080	13.81645	14.48656	15.19293	15.93743	16.72201
11	12.80780	13.48635	14.20679	14.97164	15.79360	16.64549	17.56029	18.53117	19.56143
12	14.19203	15.02581	15.91713	16.86994	17.88845	18.97713	20.14072	21.38428	22.71319
13	15.61779	16.62684	17.71298	18.88214	20.14064	21.49530	22.95339	24.52271	26.21164
14	17.08632	18.29191	19.59863	21.10507	22.55049	24.21492	26.01919	27.97498	30.09492
15	18.59891	20.02359	21.57856	23.27597	25.12902	27.15211	29.36092	31.77248	34.40536
16	20.15688	21.82453	23.65749	25.67253	27.88805	30.32428	33.00340	35.94973	39.18995
17	21.76159	23.69751	25.84037	28.21288	30.84022	33.75023	36.97371	40.54470	44.50084
18	23.41444	25.64541	28.13239	30.90565	33.99903	37.45024	41.30134	45.59917	50.39594
19	25.11687	27.67123	30.53900	33.75999	37.37897	41.44626	46.01846	51.15909	56.93949
20	26.87037	29.77808	33.06595	36.78559	40.99549	45.76196	51.16012	57.27500	64.20283

Rule of 72 a quick formula for computing how long it will take to double money invested at a given interest rate

RULE OF 72

A principle called the **Rule of 72** provides a quick formula for computing how long it will take to double money invested at a given interest rate. To apply the Rule of 72, simply divide the annual interest rate into 72. The answer is the number of years it will take at that rate to double the amount invested. For example, if \$50 is invested at 6 percent interest, then it will grow to \$100 in 12 years ($72 \div 6 = 12$).

CHECKPOINT ▶▶▶

What three things must you know to compute future value?

What Are Your Savings Options?

When choosing savings options and places to save, consider your financial goals. How much money do you want to save and earn in interest for a particular purpose? How much time do you have in which to save? What interest rate can you earn on your savings? The amount of time

you have to save and the interest you can earn determine how much money you need to save each month or year to meet your goals.

When your savings account has reached a “critical mass,” it’s time to move it to a permanent investment. In other words, as your savings account continues to grow it will pass beyond what you might need for emergencies or planned events. When it does, it’s time to set it aside for longer periods of time. All these factors should be considered when choosing a savings option.

METHODS OF SAVING

A savings account is one method for saving your money. Banks offer other savings options that you also should consider.

Money Market Accounts

A savings option offered by some banks is the **money market account**, which pays the market rate of interest on the money deposited. When interest rates are rising, a money market account will often earn more than a savings account or CD. When rates are falling, however, the interest earned may be less than that paid on a CD. A minimum balance, such as \$1,000 or \$5,000, is often required to open a money market account. The interest rate also may increase as your balance increases. Restrictions may apply to the account. For example, you are usually limited to a certain number of withdrawals each month. If you make more withdrawals than allowed, you will be charged fees.

money market account a type of savings account that earns the market rate of interest on the money deposited

Certificates of Deposit

A **certificate of deposit (CD)** is a time deposit (rather than a demand deposit) that pays a fixed rate of interest for a specified length of time. CDs typically pay higher interest rates than a regular savings account. As a time deposit, the funds must be set aside for a fixed period of time. For example, you may put your money into a six-month CD at a guaranteed rate of 5.25 percent. If you leave your money in the CD for the entire six months, you will earn the full 5.25 percent. If you withdraw part or all of it before the six months, you will be penalized. At some banks, you will lose part of your principal, as well as receive no interest on the money deposited. Because a CD pays a higher interest rate than a savings account, it would be a good savings option if you do not need immediate access to the money.

certificate of deposit (CD) a time deposit that pays a fixed rate of interest for a specified length of time

U.S. Savings Bonds

If you are able to commit your money for a longer period of time, you have other choices. One good long-term choice is a savings bond. A **U.S. savings bond** is a discount bond issued by the federal government that pays a guaranteed minimum rate of interest. *Discount* means you pay less than *face value*, or the amount stated on the face of the bond. For example, you can purchase a \$100 (face value) Series EE savings bond for \$50. As interest is earned on the bond, it will grow to **maturity value**, which is the bond’s future value as stated on its face. In this case, the maturity value is \$100.

U.S. savings bond a discount bond issued by the federal government that pays a guaranteed minimum rate of interest

maturity value a bond’s future value as stated on its face

U.S. savings bonds are considered to be a safe form of saving because they are backed by the U.S. government’s full faith and credit.

NETBookmark

Many financial websites include a CD calculator to help you determine how much interest you can earn on a certificate of deposit. By entering principal, time, and interest data into the fields, the calculator will determine the future value for you. Access www.cengage.com/school/pfinance/pfl and click on the link for Chapter 5. Suppose you deposit \$2,000 in a six-month CD with an interest rate of 1.5 percent compounded monthly. What will your ending balance be? Now suppose you deposit the same \$2,000 in a two-year CD with an interest rate of 2 percent compounded monthly. What will your ending balance be?

www.cengage.com/school/pfinance/pfl

They pay a guaranteed rate of interest if you keep the bonds until maturity. If you cash the bond before its maturity date, you will forfeit a portion of the interest earned.

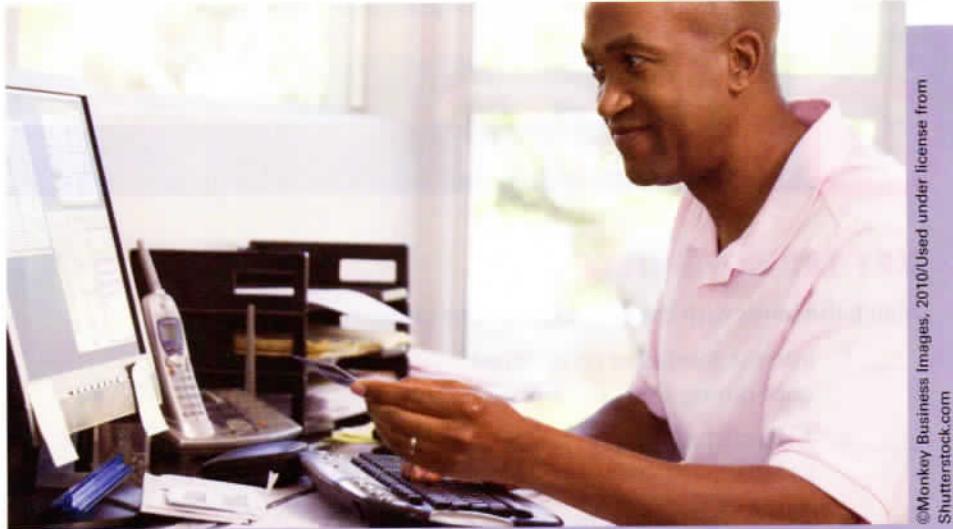
Even after a savings bond has matured to its face value, it may continue to earn interest. In general, savings bonds earn interest for different lengths of time. Most types earn interest for up to 30 years. When a bond stops earning interest, it should be cashed in or converted to another type of bond. Interest is not taxable until the bond is cashed. If the bond is used for education expenses (for you or your children), the interest may not be subject to federal taxes.

Because it can take several years for a U.S. savings bond to mature, it should be used only as a long-term savings option. U.S. savings bonds can be purchased through banks or at the TreasuryDirect website. You can also see the current rates being paid on bonds at the site.

Individual Retirement Accounts

Saving for retirement is an important goal for many people. One way to save for retirement is by creating an *individual retirement account (IRA)*, also known as an *individual retirement arrangement*. An IRA allows individuals to deposit money into an account during their working years and to delay paying taxes on the money and the interest earned until it is withdrawn during retirement. Because income earned during retirement is often lower than it is during your working years, you likely would be in a lower tax bracket when you withdraw the money, meaning you would pay less tax on it.

IRAs can be set up at a bank or another financial institution. IRAs can also be set up through mutual fund companies, insurance companies, and stockbrokers. Different types of IRAs can be created. The amount of money that can be deposited in the account each year and other rules regarding IRAs are set by the federal government. More information about IRAs can be found in a later chapter and in the Internal Revenue Service's *Publication 590, Individual Retirement Arrangements (IRAs)*, which is available on the IRS website.



What should you consider before choosing an online-only bank?

PLACES TO SAVE YOUR MONEY

Banks and credit unions are the most common places where consumers save their money because accounts are FDIC insured. There are other places to save, however, and some of them are also insured.

Online-Only Banks

Online-only banks often pay higher rates of interest than traditional banks. Some online banks also are insured with the FDIC or another insurer. You must have confidence that the online source is reliable. If it also has a traditional brick-and-mortar physical building and presence, an online bank can be just as dependable as traditional banks. You would need to be sure to keep evidence of your account (copies of forms and receipts) as well as check your balances often.

Brokerage Firms

Brokerage or investment firms generally pay higher interest rates on savings accounts. However, they may not be insured by the FDIC or any other insurer. If you have a savings account with a brokerage firm, you usually have the flexibility to move money back and forth between savings and an investment option. Brokerage accounts will be covered more in a later chapter.

International Banks

The Internet opens new possibilities for consumers around the world. As an American citizen, you can hold accounts in other countries. Although you may never visit the bank in person, you will receive your statements and account information online. Your money would be insured through the bank's home country's financial network. In your lifetime, you will see international banking become more commonplace for businesses as well as consumers.

CHECKPOINT ▶ ▶ ▶

What are some methods for saving money?