



## Lesson Twelve

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# Saving and Investing



# pay yourself first (a little can add up)

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## example 1:

Save this each week	At % Interest	In 10 years you'll have
<b>\$7.00</b>	5%	\$4,720
<b>\$14.00</b>	5%	\$9,400
<b>\$21.00</b>	5%	\$14,160
<b>\$28.00</b>	5%	\$18,880
<b>\$35.00</b>	5%	\$23,600

## example 1:

If you invest \$1,000 each year (\$19.20 per week)

Interest Rate	5 yrs.	10 yrs.	15 yrs.	20 yrs.
<b>5%</b>	\$5,525	\$12,578	\$21,578	\$33,065
<b>6%</b>	\$5,637	\$13,181	\$23,276	\$36,786
<b>7%</b>	\$5,751	\$13,816	\$25,129	\$40,995
<b>8%</b>	\$5,867	\$14,487	\$27,152	\$45,762
<b>9%</b>	\$5,985	\$15,193	\$29,361	\$51,160
<b>10%</b>	\$6,105	\$15,937	\$31,772	\$57,257
<b>11%</b>	\$6,228	\$16,722	\$34,405	\$64,203
<b>12%</b>	\$6,353	\$17,548	\$37,279	\$75,052



# types of savings accounts

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## **passbook account**

- Depositor receives a booklet in which deposits, withdrawals, and interest are recorded.
- Average interest rate is lower at banks and savings and loans than at credit unions.
- Funds are easily accessible.

## **statement account**

- Basically the same as a passbook account, except depositor receives monthly statements instead of a passbook.
- Accounts are usually accessible through 24-hour automated teller machines (ATMs).
- Interest rates are the same as passbook account.
- Funds are easily accessible.

## **interest-earning checking account**

- Combines benefits of checking and savings.
- Depositor earns interest on any unused money in his/her account.



# money-market deposit accounts

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## what they are and how they work

- Checking/savings account.
- Interest rate paid built on a complex structure that varies with size of balance and current level of market interest rates.
- Can access your money from an ATM, a teller, or by writing up to three checks a month.

## benefits

- Immediate access to your money.

## trade-offs

- Usually requires a minimum balance of \$1,000 to \$2,500.
- Limited number of checks can be written each month.
- Average yield (rate of return) higher than regular savings accounts.



# certificates of deposit (CDs)

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## what they are and how they work

- Bank pays a fixed amount of interest for a fixed amount of money during a fixed amount of time.

## benefits

- No risk
- Simple
- No fees
- Offers higher interest rates than savings accounts.

## trade-offs

- Restricted access to your money
- Withdrawal penalty if cashed before expiration date (penalty might be higher than the interest earned)

## types of certificates of deposit

- 1. Rising-rate CDs** with higher rates at various intervals, such as every six months.
- 2. Stock-indexed CDs** with earnings based on the stock market.
- 3. Callable CDs** with higher rates and long-term maturities, as high as 10–15 years. However, the bank may “call” the account after a stipulated period, such as one or two years, if interest rates drop.
- 4. Global CDs** combine higher interest with a hedge on future changes in the dollar compared to other currencies.
- 5. Promotional CDs** attempt to attract savers with gifts or special rates.



# how simple and compound interest are calculated

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## simple interest calculation

- **Dollar Amount x Interest rate x Length of Time (in years) = Amount Earned**

### example

- If you had \$100 in a savings account that paid 6% simple interest, during the first year you would earn \$6 in interest.

$$\mathbf{\$100 \times 0.06 \times 1 = \$6}$$

- At the end of two years you would have earned \$12.
- The account would continue to grow at a rate of \$6 per year, despite the accumulated interest.

## compound interest calculation

- Interest is paid on original amount of deposit, plus any interest earned.

$$\mathbf{(\text{Original } \$ \text{ Amount} + \text{Earned Interest}) \times \text{Interest Rate} \times \text{Length of Time} = \text{Amount Earned}}$$

### example

- If you had \$100 in a savings account that paid 6% interest compounded annually, the first year you would earn \$6.00 in interest.

$$\mathbf{\$100 \times 0.06 \times 1 = \$6}$$

$$\mathbf{\$100 + \$6 = \$106}$$

- With compound interest, the second year you would earn \$6.36 in interest.

The calculation the second year would look like this:

$$\mathbf{\$106 \times 0.06 \times 1 = \$6.36}$$

$$\mathbf{\$106 + 6.36 = \$112.36}$$



# choosing a savings account

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## **factors that determine the dollar yield on an account:**

### **Interest rate (also called rate of return, or annual yield)**

- All money earned comes from this factor.

## **the following factors reduce money earned and can even turn it into a loss:**

### **Fees, charges, and penalties**

- Usually based on minimum balance requirements, or transaction fees.

### **Balance requirements**

- Some accounts require a certain balance before paying any interest.
- On money-market accounts, most banks will pay different interest rates for different size balances. (Higher balance earns a higher rate.)

### **Balance calculation method**

- Most calculate daily. Some use average of all daily balances.



## **The Truth in Savings Act (Federal Reserve Regulation DD)**

requires financial institutions to disclose the following information on savings account plans they offer:

- Fees on deposit accounts
- The interest rate
- Other terms and conditions
- The annual percent yield (APY), which is the percentage rate expressing the total amount of interest that would be received on a \$100 deposit based on the annual rate and frequency of compounding for a 365-day period. Truth in Savings defines the year as 365 days rather than 360, 366, or some other number. This law eliminates confusion caused by the more than eight million variations of interest calculation methods previously used by financial institutions.





## the rule of 72

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**to determine about how many years it will take to double your money:**

$$\frac{72 \text{ divided by}}{\text{Interest rate you can get}} = \text{Years to double investment}$$

**to determine the interest rate that will double your money in a set number of years:**

$$\frac{72 \text{ divided by}}{\text{Years to double investment}} = \text{Interest rate required}$$



## what they are

- A bond is an “IOU,” certifying that you loaned money to a government or corporation and outlining the terms of repayment.

## how they work

- Buyer may purchase bond at a discount. The bond has a fixed interest rate for a fixed period of time. When the time is up, the bond is said to have “matured” and the buyer may redeem the bond for the full face value.

## types

### Corporate

- Sold by private companies to raise money.
- If company goes bankrupt, bondholders have first claim to the assets, before stockholders.

### Municipal

- Issued by any non-federal government.
- Interest paid comes from taxes or from revenues from special projects. Earned interest is exempt from federal income tax.

### Federal government

- The safest investment you can make. Even if U.S. government goes bankrupt, it is obligated to repay bonds.



## what they are

- Professionally managed portfolios made up of stocks, bonds, and other investments.

## how they work

- Individuals buy shares, and fund uses money to purchase stocks, bonds, and other investments.
- Profits returned to shareholders monthly, quarterly, or semi-annually in the form of dividends.

## advantages

- Allows small investors to take advantage of professional account management and diversification normally only available to large investors.

## types of mutual funds

**Balanced Fund** includes a variety of stocks and bonds.

**Global Bond Fund** has corporate bonds of companies from around the world.

**Global Stock Fund** has stocks from companies in many parts of the world.

**Growth Fund** emphasizes companies that are expected to increase in value; also has higher risk.

**Income Fund** features stock and bonds with high dividends and interest.

**Industry Fund** invests in stocks of companies in a single industry (such as technology, health care, banking).

**Municipal Bond Fund** features debt instruments of state and local governments.

**Regional Stock Fund** involves stocks of companies from one geographic region of the world (such as Asia or Latin America).



## what they are

- Stock represents ownership of a corporation. Stockholders own a share of the company and are entitled to a share of the profits as well as a vote in how the company is run.

## how earnings are made

- Company profits may be divided among shareholders in the form of dividends. Dividends are usually paid quarterly.
- Larger profits can be made through an increase in the value of the stock on the open market.

## advantages

- If the market value goes up, the gain can be considerable.
- Money is easily accessible.

## disadvantages

- If market value goes down, the loss can be considerable.
- Selecting and managing stock often requires study and the help of a good brokerage firm.



## ways to invest

- Buy a house, live in it, and sell it later at a profit.
- Buy income property (such as an apartment house or a commercial building) and rent it.
- Buy land and hold it until it rises in value.

## advantages

- Excellent protection against inflation.

## disadvantages

- Can be difficult to convert into cash.
- A specialized type of investment requiring study and knowledge of business.

**capital gains:** profits from the sale of a capital asset such as stocks, bonds, or real estate. These profits are tax-deferred; you do not have to pay the tax on these profits until the asset is sold. Long-term capital gains occur on investments held more than 12 months. Short-term capital gains occur on investments held less than 12 months.



## what they are and how they work

- Plans that help individuals set aside money to be used after they retire.
- Federal income tax not immediately due on money put into a retirement account, or on the interest it makes.
- Income tax paid when money is withdrawn.
- Penalty charges apply if money is withdrawn before retirement age, except under certain circumstances.
- Income after retirement is usually lower, so tax rate is lower.

## types

### Individual Retirement Account (IRA)

- Allows a person to contribute up to \$5,000 of pre-tax earnings per year. Contributions can be made in installments or in a lump sum.

### Roth IRA (also called the IRA Plus)

- While the \$5,000 annual contribution to this plan is not tax-deductible, the earnings on the account are tax-free after five years. The funds from the Roth IRA may be withdrawn after age 59, if the account owner is disabled, for educational expenses, or for the purchase of a first home.

### 401(k)

- Allows a person to contribute to a savings plan from his or her pre-tax earnings, reducing the amount of tax that must be paid. Employer matches contributions up to a certain level.

### Keogh Plan

- Allows a self-employed person to set aside up to 15% of income (but not more than \$35,000 per year).



# IRAs—an example of return on investment

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## **contributions only between ages of 22-30 (9 years)**

- \$2,000 contributed each year
- Total investment of \$18,000
- At an interest rate of 9%, by age 65 will have \$579,471

## **contributions only between ages of 31-65 (35 years)**

- \$2,000 made contributed each year
- Total investment of \$70,000
- At an interest rate of 9%, by age 65 will have \$470,249



# comparing savings and investment plans

<b>instrument</b>	<b>maturity</b>	<b>risk</b>	<b>yield</b>	<b>minimum balance</b>	<b>taxable?</b>
<b>Savings Account</b>	Immediate	None if insured	Low	\$5	Yes
<b>Certificate of Deposit</b>	90 days or more	None if insured	Moderate	Varies	Yes
<b>Bonds</b>					
■ <b>Corporate</b>	5–30 years	Some	Moderate	\$1,000	Yes
■ <b>Municipal</b>	1–20 years	Some	Moderate	\$5,000	No federal, some states
■ <b>Stocks</b>	Immediate	Low to high	Low to high	Varies	Yes
<b>U.S. Treasury</b>					
■ <b>Bills</b>	1 year or less	None	Moderate	\$1,000	Federal only
■ <b>Notes</b>	1–10 years	None		\$1,000	Federal only
■ <b>Bonds</b>	10–30 years	None		\$1,000	Federal only
<b>Mutual Funds</b>	Varies	Low to high	Moderate	Varies	Usually
<b>Retirement Funds</b>	When buyer is 60 years old	Low	Moderate	Varies	At maturity





# avoiding investment fraud

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**each year billions of dollars are lost to fraudulent investments. Some of the most common include:**

- Illegal pyramids, insider trading, and unlicensed investment brokers
- High-risk “penny” stocks and fraudulent securities
- Fraudulent franchises and business opportunities
- Internet services, 900-numbers, and high-tech investments promising high profits and minimal risk
- Opportunities to invest in movie deals and other entertainment ventures with promises of guaranteed profits and failure to disclose risk

**to protect yourself from becoming a victim of investment fraud, take the following actions:**

- Become informed about investments and industries before investing
- Talk with others who have made similar investments
- Obtain information from state and federal regulatory agencies
- Never buy over the phone without first investigating the situation
- Avoid investment opportunities promising large returns in a short amount of time that seem “too good to be true”—they probably are.

For additional information, contact the following websites:

ftc.gov  
fraud.org  
sec.gov  
nasaa.org