We begin this appendix by defining two broad categories of risk: pure risk and speculative risk. We then examine several methods of risk management available to individuals and businesses and consider situations in which each method is appropriate. Next, we turn our attention to insurance companies—organizations that, for a fee, assume financial responsibility for losses resulting from certain kinds of risks. We see how insurance companies determine which risks they will cover and what prices they will charge for coverage. Then we list the major types of insurance against loss of property and loss due to accidents and discuss workers’ compensation and health care insurance. We close the appendix with a comparison of several kinds of life insurance.

**D-1 THE ELEMENT OF RISK**

**Risk** is the possibility that a loss or injury will occur. It is impossible to escape all types of risk in today’s world. For individuals, driving an automobile, investing in stocks or bonds, and even jogging along a country road are situations that involve some risk. For businesses, risk is a part of every decision. In fact, the essence of business decision making is weighing the potential risks and gains involved in various courses of action.

There is obviously a difference between, say, the risk of losing money one has invested and the risk of being hit by a car while jogging. This difference leads to the classification of risks as either speculative or pure risks.

A **speculative risk** is a risk that accompanies the possibility of earning a profit. Most business decisions, such as the decision to market a new product, involve speculative risks. If the new product succeeds in the marketplace, there are profits; if it fails, there are losses. For example, PepsiCo repeatedly gambles on the introduction of new products to compete with Coca-Cola and reach the elusive top spot. But the gamble does not pay off when the product fizzles.

A **pure risk** is a risk that involves only the possibility of loss, with no potential for gain. The possibility of damage due to hurricane, fire, or automobile accident is a pure risk because there is no gain if such damage does not occur. Another pure risk is the risk of large medical bills resulting from a serious illness. Again, if there is no illness, there is no monetary gain.

Let us now look at the various techniques available for managing risk.

**D-2 RISK MANAGEMENT**

**Risk management** is the process of evaluating the risks faced by a firm or an individual and then minimizing the costs involved with those risks. Any risk entails two types of costs. The first is the cost that will be incurred if a potential loss becomes an actual loss. An example is the cost of rebuilding and reequipping an assembly plant that burns to the ground. The second type consists of the costs of reducing or
eliminating the risk of potential loss. Here we would include the cost of purchasing insurance against loss by fire or the cost of not building the plant at all (this cost is equal to the profit that the plant might have earned). These two types of costs must be balanced, one against the other, if risk management is to be effective.

Most people think of risk management as simply buying insurance. However, insurance, although an important part of risk management, is not the only means of dealing with risk. Other methods may be less costly in specific situations. And some kinds of risks are uninsurable—not even an insurance company will issue a policy to protect against them. In this section, we examine the four general risk-management techniques. Then, in the following sections, we look more closely at insurance.

D-2a Risk Avoidance

An individual can avoid the risk of an automobile accident by not riding in a car. A manufacturer can avoid the risk of product failure by refusing to introduce new products. Both would be practicing risk avoidance—but at a very high cost. The person who avoids automobile accidents by foregoing cars may have to give up his or her job to do so. The business that does not take a chance on new products probably will fail when the product life cycle, discussed in Chapter 12, catches up with existing products.

There are, however, situations in which risk avoidance is a practical technique. At the personal level, individuals who stop smoking or refuse to walk through a dark city park late at night are avoiding risks. Jewelry stores lock their merchandise in vaults at the end of the business day to avoid losses through robbery. And to avoid the risk of a holdup, many gasoline stations accept only credit cards or the exact amount of the purchase for sales made after dark.

Obviously, no person or business can eliminate all risks. By the same token, however, no one should assume that all risks are unavoidable.

D-2b Risk Reduction

If a risk cannot be avoided, perhaps it can be reduced. An automobile passenger can reduce the risk of injury in an automobile accident by wearing a seat belt. A manufacturer can reduce the risk of product failure through careful product planning and market testing. In both situations, the cost of reducing risk seems to be well worth the potential saving.

Businesses face risks as a result of their operating procedures and management decision making. An analysis of operating procedures—by company personnel or outside consultants—often can point out areas in which risk can be reduced. Among the techniques that can be used are:

- The establishment of an employee safety program to encourage employees’ awareness of safety.
- The purchase and use of proper safety equipment, from hand guards on machinery to goggles and safety shoes for individuals.
- Burglar alarms, security guards, and even guard dogs to protect warehouses from burglary.
- Fire alarms, smoke alarms, and sprinkler systems to reduce the risk of fire and the losses due to fire.
- Accurate and effective accounting and financial controls to protect a firm’s inventories and cash from pilfering.

The risks involved in management decisions can be reduced only through effective decision making. These risks increase when a decision is made hastily or is based on less than sufficient information. However, the cost of reducing these risks goes up
when managers take too long to make decisions. Costs also increase when managers require an overabundance of information before they are willing to decide.

D-2c  Risk Assumption

An individual or firm will—and probably must—take on certain risks as part of living or doing business. Individuals who drive to work assume the risk of having an accident, but they wear a seat belt to reduce the risk of injury in the event of an accident. The firm that markets a new product assumes the risk of product failure—after first reducing that risk through market testing.

Risk assumption, then, is the act of taking responsibility for the loss or injury that may result from a risk. Generally, it makes sense to assume a risk when one or more of the following conditions exist:

1. The potential loss is too small to worry about.
2. Effective risk management has reduced the risk.
3. Insurance coverage, if available, is too expensive.
4. There is no other way of protecting against the loss.

Large firms with many facilities often find a particular kind of risk assumption, called self-insurance, a practical way to avoid high insurance costs. Self-insurance is the process of establishing a monetary fund that can be used to cover the cost of a loss. For instance, suppose that approximately 16,000 ABC convenience stores, each worth $400,000, are scattered around the country. A logical approach to self-insurance against fire losses would be to collect a certain sum—say, $600—from each store every year. The funds are placed in an interest-bearing reserve fund and used as necessary to repair any fire damage that occurs to ABC stores. Money not used remains the property of the firm. Eventually, if the fund grows, the yearly contribution from each store can be reduced.

Self-insurance does not eliminate risks; it merely provides a means for covering losses. And it is, itself, a risky practice—at least in the beginning. For example, ABC would suffer a considerable financial loss if more than 24 stores were destroyed by fire in the first year the self-insurance program was in effect.

D-2d  Shifting Risks

Perhaps the most common method of dealing with risk is to shift, or transfer, the risk to an insurance company. An insurer (or insurance company) is a firm that agrees, for a fee, to assume financial responsibility for losses that may result from a specific risk. The fee charged by an insurance company is called a premium. A contract between an insurer and the person or firm whose risk is assumed is known as an insurance policy. Generally, an insurance policy is written for a period of one year. Then, if both parties are willing, it is renewed each year. It specifies exactly which risks are covered by the agreement, the dollar amounts the insurer will pay in case of a loss, and the amount of the premium.

Insurance is thus the protection against loss that the purchase of an insurance policy affords. Insurance companies will not, however, assume every kind of risk. A risk that insurance companies will assume is called an insurable risk. Insurable risks include the risk of loss by fire and theft, the risk of loss by automobile accident, and the risk of sickness and death. A risk that insurance companies will not assume is called an uninsurable risk.

In general, pure risks are insurable, whereas speculative risks are uninsurable (see Figure D1). An insurance company will protect a Ford Motor Company assembly plant against losses due to fire or tornadoes. It will not, however, protect Ford against losses resulting from a lack of sales orders for automobiles.

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self-insurance  the process of establishing a monetary fund that can be used to cover the cost of a loss

insurer (or insurance company)  a firm that agrees, for a fee, to assume financial responsibility for losses that may result from a specific risk

premium  the fee charged by an insurance company

insurance policy  the contract between an insurer and the person or firm whose risk is assumed

insurance  the protection against loss that the purchase of an insurance policy affords

insurable risk  a risk that insurance companies will assume

uninsurable risk  a risk that insurance companies will not assume
The next section provides an overview of the basic principles of insurance and the kinds of companies that provide insurance.

**D-3 INSURANCE AND INSURANCE COMPANIES**

An insurance company is a business. Like other businesses, an insurer provides a product—protection from loss—in return for a reasonable fee. Its sales revenues are the premiums it collects from the individuals and firms it insures. (Insurance companies typically invest the money they have on hand; thus we should include interest and dividend income as part of their revenues.) Its expenses are the costs of the various resources—salaries, rent, utilities, and so on—plus the amounts the insurance company pays out to cover its clients' losses.

The years 2001, 2005, 2011, and 2012 were difficult ones for the insurance industry. A surge of catastrophic claims after the September 11 terrorist attacks left the industry reeling. The terrorist attack was the largest single event in all segments of the insurance industry, including health, workers' compensation, property, and airline liability insurance. In fact, catastrophic losses were the highest in the insurance industry's history, amounting to approximately $50 billion in 2001. For the first time ever, insurance companies paid more for claims than they collected from premiums plus investment earnings.

In response to the unexpected rise in claims and weaker investment returns in the 2001–2002 bear market, the insurance companies cut back coverage and sharply increased premium rates. Terrorism coverage has become particularly difficult for both insurance companies and businesses. The 2005, 2008, 2011, and 2012 hurricane seasons, the most costly disasters in U.S. history, resulted in record insurance losses. The three most devastating hurricanes in 2005—Katrina,
Rita, and Wilma—resulted in at least $45.2 billion in insured property losses and produced a record 2.8 million claims. Super-storm Sandy which hit the Northeastern United States in late 2012, was the deadliest hurricane causing over $50 billion in damages.

Major natural disasters have caused catastrophic amounts of property loss in the United States and the rest of the world. According to the Insurance Information Institute, the first months of 2011, were violent in terms of catastrophes on a global scale. Mega-catastrophes worldwide caused an estimated $350 billion in economic losses, shattering the previous record of $230 billion set in 2005.

Pricing and product are very important and exacting issues to an insurance company primarily because it must set its price (its premiums) before knowing the specific cost of its product (the amount of money it will have to pay out in claims). For this reason, insurance companies employ mathematicians called actuaries to predict the likelihood of losses and to determine the premiums that should be charged. Let us look at some of the more important concepts on which insurance (and the work of actuaries) is based.

### D-3a Basic Insurance Concepts

Insurance is based on several principles, including the principle of indemnity, insurability of the risk, and low-cost, affordable coverage.

**THE PRINCIPLE OF INDEMNITY** The purpose of insurance is to provide protection against loss; it is neither speculation nor gambling. This concept is in the principle of indemnity: In the event of a loss, an insured firm or individual cannot collect from the insurer an amount greater than the actual dollar amount of the loss. Suppose that you own a home valued at $250,000. However, you purchase $300,000 worth of fire insurance on your home. Even if it is destroyed by fire, the insurer will pay you only $250,000, the actual amount of your loss.

The premiums set by actuaries are based on the amount of risk involved and the amount to be paid in case of a loss. Generally, the greater the risk and the amount to be paid, the higher is the premium.

**INSURABILITY OF THE RISK** Insurers will accept responsibility for risks that meet at least the following conditions:

1. **Losses must not be under the control of the insured.** Losses caused by fire, wind, or accident generally are insurable, but gambling losses are not. Nor will an insurer pay a claim for damage intentionally caused by the insured person. For example, a person who sets fire to an insured building cannot collect on a fire insurance policy.

2. **The insured hazard must be geographically widespread.** That is, the insurance company must be able to write many policies covering the same specific hazard throughout a wide geographic area. This condition allows the insurer to minimize its own risk: The risk that it will have to pay huge sums of money to clients within a particular geographic area in the event of a catastrophe caused, for example, by a tornado or an earthquake.

3. **The probability of a loss should be predictable.** Insurance companies cannot tell which particular clients will suffer losses. However, their actuaries must be able to determine, statistically, what fraction of their clients will suffer each type of loss. They can do so, for insurable risks, by examining records of losses for past years. They can then base their premiums, at least in part, on the number and value of the losses that are expected to occur.

4. **Losses must be measurable.** Insured property must have a value that is measurable in dollars because insurance firms reimburse losses with money.
Moreover, premiums are based partly on the measured value of the insured property. As a result of this condition, insurers will not insure an item for its emotional or sentimental value but only for its actual monetary value.

5. **The policyholder must have an insurable interest.** That is, the individual or firm that purchases an insurance policy must be the one that would suffer from a loss. You can purchase insurance on your own home, but you cannot insure your neighbor’s home in the hope of making a profit if it should burn down! Generally, individuals are considered to have an insurable interest in their family members. Therefore, a person can insure the life of a spouse, a child, or a parent. Corporations may purchase “key executive” insurance covering certain corporate officers. The proceeds from this insurance help offset the loss of the services of these key people if they die or become incapacitated.

**LOW-COST, AFFORDABLE COVERAGE** Price is usually a marketing issue rather than a technical concept. However, the price of insurance is intimately tied to the risks and potential losses involved in a particular type of coverage. Insurers would like to “produce” insurance at a very low cost to their policyholders, but they must charge enough in premiums to cover their expected payouts.

Customers purchase insurance when they believe premiums are low in relation to the possible dollar loss. For certain risks, premiums can soar so high that insurance is simply not cost-effective. A $1,000 life insurance policy for a 99-year-old man would cost about $950 per year. Clearly, a man of that age would be better off if he invested the premium amount in a bank. He would thus be using self-insurance rather than shifting the risk. Although this is an extreme example, it illustrates that insurers must compete, through their prices, with alternative methods of managing risk.

**D-3b Ownership of Insurance Companies**

Insurance companies are owned either by stockholders or by policyholders. A **stock insurance company** is owned by stockholders and is operated to earn a profit. Like other profit-making corporations, stock insurance companies pay dividends to stockholders from surplus of income (left over after benefit payments, operating expenses, and taxes have been paid). Most of the approximately 6,000 insurance companies in the United States are stock insurance companies.

A **mutual insurance company** is owned collectively by its policyholders and is thus a cooperative. Because a mutual insurance company has no stockholders, its policyholders elect the board of directors. The members of the board, in turn, choose the executives who manage the firm. Any surplus of income over expenses is distributed to policyholders as a return of part of their premiums. (This return may take the form of a reduced premium at the start of the policy year or of a “dividend” at the end of the policy year.)

Both stock and mutual insurance companies must maintain cash reserves to cover future obligations and policyholders’ claims. Cash reserves typically are invested in certificates of deposit, stocks, bonds, and real estate.

**D-3c Careers in Insurance**

Insurance companies form one of the largest industries in the United States. The industry ranks in importance with banking and finance, manufacturing, building, and electronics. Careers in insurance generally fall into two categories: sales and administration.

In the sales category, individuals can work as employees of insurance companies or as independent agents representing more than one insurance company.
Recently, the insurance industry has placed more emphasis on advanced training for sales personnel. Life insurance salespeople who pass examinations and meet other requirements are awarded the Chartered Life Underwriter (CLU) designation. The Chartered Property Casualty Underwriter (CPCU) designation is awarded to individuals who pass examinations and meet the requirements in all areas except life insurance.

Administrative employees work to meet the needs of the firm’s customers. They must process policies and claims and handle an amazing amount of paperwork. Jobs in this category include actuary, claims adjuster, claims clerk, underwriter, and a number of other essential positions. In addition to meeting the needs of customers, administrative employees are responsible for investing funds for an insurance company.

**D-4 PROPERTY AND CASUALTY INSURANCE**

Businesses and individuals insure their property, such as buildings, against losses and purchase casualty insurance to cover financial losses resulting from injuries or damage caused by automobile accidents.

Insurance is available to cover most pure risks, but specialized or customized policies can be expensive. A part of effective risk management is to ensure that when insurance is purchased, the coverage is proper for the individual situation. Three questions can be used as guidelines in this regard:

- What hazards must be insured against?
- Is the cost of insurance coverage reasonable in this situation?
- What other risk-management techniques can be used to reduce insurance costs?

**D-4a Fire Insurance**

*Fire insurance* covers losses due to fire. The standard fire insurance policy provides protection against partial or complete loss of a building and/or its contents when that loss is caused by fire or lightning. Premiums depend on the construction of the building, its use and contents, whether risk-reduction devices (such as smoke and fire alarms) are installed in the building, and other factors. If a fire occurs, the insurance company reimburses the policyholder for either the actual dollar loss or the maximum amount stated in the policy, whichever is lower.

**COINSURANCE CLAUSE** To reduce their insurance premiums, individuals and businesses sometimes insure property for less than its actual cash value. Their theory is that fire rarely destroys a building completely—thus they need not buy full insurance. However, if the building is partially destroyed, they expect their insurance to cover all the damage. This places an unfair burden on the insurance company, which receives less than the full premium but must cover the full loss. To avoid this problem, insurance companies include a coinsurance clause in most fire insurance policies.

A *coinsurance clause* is a part of a fire insurance policy that requires the policyholder to purchase coverage at least equal to a specified percentage of the replacement cost of the property to obtain full reimbursement for losses. In most cases, the requirement is 80 percent of the replacement cost. Suppose that the owners of a $600,000 building decide to purchase only $300,000 worth of fire insurance. If the building is totally destroyed, the insurance company must pay the policy’s face value...
of $300,000. However, if the building is only partially destroyed, and the damage amounts to $200,000, the insurance company will pay only $125,000. This dollar amount is calculated in the following manner:

1. The coinsurance clause requires coverage of at least 80 percent of $600,000, or $480,000.
2. The owners have purchased only $300,000 of insurance. Thus they have insured themselves for only a portion of any loss. That portion is $300,000 ÷ $480,000 = 0.625, or 62.5 percent.
3. The insurance company therefore will reimburse the owner for only 62.5 percent of any loss. In the case of a $200,000 loss, the insurance company will pay 62.5 percent of $200,000, or $125,000.

If the owners of the building had insured it for $480,000, the insurance company would have covered the entire $200,000 loss.

**EXTENDED COVERAGE**  Extended coverage is insurance protection against damage caused by wind, hail, explosion, vandalism, riots or civil commotion, falling aircraft, and smoke. Extended coverage is available as an endorsement, or addition, to some other insurance policy—usually a fire insurance policy. The premium for extended coverage is generally quite low (much lower than the total cost of separate policies covering each individual hazard). Normally, losses caused by war, nuclear radiation or contamination, and water (other than in storms and floods) are excluded from extended-coverage endorsements.

**D-4b Burglary, Robbery, and Theft Insurance**

*Burglary* is the illegal taking of property through forcible entry. A kicked-in door, a broken window pane, or pry marks on a windowsill are evidence of a burglary or attempted burglary. *Robbery* is the unlawful taking of property from an individual by force or threat of violence. A thief who uses a gun to rob a gas station is committing robbery. Theft (or larceny) is a general term that means the wrongful taking of property that belongs to another. Insurance policies are available to cover burglary only, robbery only, theft only, or all three. Premiums vary with the type and value of the property covered by the policy.

Business owners also must be concerned about crimes that employees may commit. A **fidelity bond** is an insurance policy that protects a business from theft, forgery, or embezzlement by its employees. If such a crime does occur, the insurance company reimburses the business for financial losses up to the dollar amount specified in the policy. Individual employees or specific positions within an organization may be bonded. It is also possible to purchase a “blanket” policy that covers the entire work force. Fidelity bonds are purchased most commonly by banks, savings and loan associations, finance companies, and other firms whose employees handle cash on a regular basis.

Although business owners are concerned about shoplifting, they often find that insurance coverage, if available, is too expensive. And it is often difficult to collect on losses resulting from shoplifting because such losses are difficult to prove.

**D-4c Motor Vehicle Insurance**

Individuals and businesses purchase automobile insurance because it is required by state law, because it is required by the firm financing the purchase of the vehicle, and/or because they want to protect their investment. Most types of automobile coverage can be broadly classified as either liability or physical damage insurance. Table D-1 shows the distinction.
Automobile liability insurance is insurance that covers financial losses resulting from injuries or damage caused by the insured vehicle. Most automobile policies have a liability limit that contains three numbers. For example, the liability limits stated on a policy might be 100/300/50. The first two numbers indicate the maximum amounts, in thousands of dollars, the insurance company will pay for bodily injury. Bodily injury liability coverage pays medical bills and other costs in the event that an injury or death results from an automobile accident in which the policyholder is at fault. Bodily injury liability coverage protects the person in the other car and usually is specified as a pair of dollar amounts. In the preceding example, the policy limits are $100,000 for each person and $300,000 for each occurrence. This means that the insurance company will pay up to $100,000 to each person injured in an accident and up to a total of $300,000 to all those injured in a single accident. Coverage limits can be as low as the state requires and as high as $500,000 per person and $1 million per accident. Payment for additional damage above the policy limits is the responsibility of the insured. In view of the cost of medical care today, and considering the size of legal settlements resulting from automobile accidents, insurance companies recommend coverage of at least $100,000 per person and $300,000 per occurrence.

Property damage liability coverage pays for the repair of damage that the insured vehicle does to the property of another person. Such damage is covered up to the amount specified in the policy. In the preceding example, the third number (50) indicates that the insurance company will pay up to $50,000 to repair property damage. Insurance companies generally recommend at least $100,000 worth of property damage liability.

Along with other automobile liability insurance, most car owners also purchase protection for the passengers in their own cars. A medical payments endorsement can be included in automobile coverage for a small additional premium. This endorsement provides for the payment of medical bills, up to a specified amount, for passengers (including the policyholder) injured in the policyholder’s vehicle. Most insurers sell this coverage in increments of $1,000 or $5,000, up to $25,000. There is no deductible.

Automobile physical damage insurance is insurance that covers damage to the insured vehicle. Collision insurance pays for the repair of damage to the insured vehicle as a result of an accident. Most collision coverages include a deductible amount—anywhere from $100 up—that the policyholder must pay. The insurance company then pays either the remaining cost of the repairs or the actual cash value of the vehicle (when the vehicle is “totaled”), whichever is less. For most automobiles, collision insurance is the most costly coverage. Premiums can be reduced, however, by increasing the deductible amount.

Comprehensive insurance covers damage to the insured vehicle caused by fire, theft, hail, dust storm, vandalism, and almost anything else that could damage a car, except collision and normal wear and tear. With the possible exception of glass breakage, comprehensive coverage also includes damage caused by theft. Comprehensive insurance is optional, and many insurers will not sell it unless the policyholder agrees to carry collision insurance as well. General liability insurance protects the policyholder and the policyholder’s family against claims and judgments for damages and injuries incurred in the course of business. Most general liability policies have a limit of at least $100,000 per occurrence and $300,000 per year. Legal fees are usually covered as well, up to the amount of the policy limit.

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<th>Liability Insurance</th>
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Appendix D  Risk Management and Insurance

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of CB radios and GPS systems that are installed by the owner of the car, even the contents of the car are insured. For example, comprehensive coverage will pay for a broken windshield, stolen hubcaps, or small dents caused by a hailstorm. Like collision coverage, comprehensive coverage includes a deductible amount, usually up to $1,000.

*Uninsured motorists insurance* covers the insured driver and passengers from bodily injury losses (and in some states, property damage losses) resulting from an accident caused by a driver with no liability insurance. It also covers damage caused by a hit-and-run driver. In some states and with some insurance companies, uninsured motorists’ coverage is not automatically included in a typical policy. And yet it is important coverage that is quite reasonable. Often, annual premiums are about $200.

**NO-FAULT AUTO INSURANCE** No-fault auto insurance is a method of paying for losses suffered in an automobile accident. It is enacted by state law and requires that those suffering injury or loss be reimbursed by their own insurance companies, without regard to who was at fault in the accident. Although there are numerous exceptions, most no-fault laws also limit the rights of involved parties to sue each other.

Massachusetts enacted the first no-fault law in 1971, in an effort to reduce both auto insurance premiums and the crushing caseload in its court system. Since then, at least 12 states have followed suit. Every state with a no-fault law requires coverage for all vehicles registered in the state.

**D-4d Business Liability Insurance**

Business liability coverage protects the policyholder from financial losses resulting from an injury to another person or damage to another person’s property. During the past 15 years or so, both the number of liability claims and the size of settlements have increased dramatically. The result has been heightened awareness of the need for liability coverage—along with quickly rising premiums for this coverage.

*Public liability insurance* protects the policyholder from financial losses due to injuries suffered by others as a result of negligence on the part of a business owner or employee. It covers injury or death resulting from hazards at the place of business or from the actions of employees. For example, liability claims totaling more than $2 billion were filed on behalf of the victims of the 1981 skywalk collapse at the Hyatt Regency Hotel in Kansas City, Missouri. More recent examples in which damage claims totaled more than a billion dollars include the chemical accident at Union Carbide’s plant in Bhopal, India; the 1987 DuPont Plaza Hotel fire in San Juan, Puerto Rico; and the $368 billion tobacco industry settlement in 1997. Malpractice insurance, which is purchased by physicians, lawyers, accountants, engineers, and other professionals, is a form of public liability insurance.

*Product liability insurance* protects the policyholder from financial losses due to injuries suffered by others as a result of using the policyholder’s products. Recent court settlements for individuals injured by defective products have been extremely large. In 2005, a Texas jury found Merck & Co. liable in the death of a Vioxx user, Robert Ernst, a 59-year-old amateur athlete, and awarded his widow $253 million in damages.

Some juries have found manufacturers and retailers guilty of negligence even when the consumer used the product incorrectly. This development and the very large awards given to injured consumers have caused management to take a hard look at potential product hazards. As part of their risk-management efforts, most manufacturers now take the following precautions:

1. They include thorough and explicit directions with products.
2. They warn customers about the hazards of using products incorrectly.
3. They remove from the market those products that are considered hazardous.
4. They test products in-house to determine whether safety problems can arise from either proper or improper use.

Such precautions can reduce both the risk of product liability losses and the cost of liability insurance. When the risk of death, injury, or lawsuits cannot be eliminated or at least reduced, some manufacturers simply have discontinued the product.

**D-4e Marine (Transportation) Insurance**

Marine, or transportation, insurance provides protection against the loss of goods that are being shipped from one place to another. It is the oldest type of insurance, having originated with the ancient Greeks and Romans. The term marine insurance was coined at a time when only goods transported by ship were insured.

Today marine insurance is available for goods shipped over water or land. Ocean marine insurance protects the policyholder against loss or damage to a ship or its cargo on the high seas. Inland marine insurance protects against loss or damage to goods shipped by rail, truck, airplane, or inland barge. Both types cover losses from fire, theft, and most other hazards.

**D-4f Business Interruption Insurance**

Business interruption insurance provides protection for a business whose operations are interrupted because of a fire, storm, or other natural disaster. It is even possible to purchase coverage to protect a firm if its employees should go out on strike. For most businesses, interruption coverage is available as an endorsement to a fire insurance policy. Premiums are determined by the amount of coverage and the risks that are covered.

The standard business interruption policy reimburses the policyholder for both loss of profit and fixed costs in the event that it cannot operate. Profit payments are based on profits earned by the firm during some specified period. Fixed-cost payments cover expenses the firm incurs even when it is not operating. Employee salaries normally are not covered by the standard policy. However, they may be included for an increased premium.

**D-5 PUBLIC AND EMPLOYER-SPONSORED INSURANCE FOR INDIVIDUALS**

Both the government and private insurance companies offer a number of different types of coverage for individuals in the United States. In this section we discuss Social Security, unemployment insurance, workers’ compensation, and medical insurance.

**D-5a Public Insurance**

Federal and state governments offer insurance programs to meet the specific needs of individuals who are eligible for coverage. The Social Security program, established by the Social Security Act of 1935, today provides benefits for more than 59 million people, almost one out of every six Americans. The Social Security program—financed by taxes paid by both employees and employers—actually consists of four programs. First, retirement benefits are paid to eligible employees and self-employed individuals when they reach age 65. (The full retirement age is rising: For those who were born in 1960 and later, the retirement age is 67.) They can obtain reduced benefits at age 62. Second, survivor benefits are paid to a worker’s spouse,
dependent children, or in some cases dependent parents when a covered worker dies before retirement. Third, disability benefits are paid to workers who are severely disabled and unable to work. Benefits continue until it is determined that the individual is no longer disabled. When a disabled worker reaches age 65, the worker is then eligible for retirement benefits. Fourth, the Medicare program provides hospital, medical, and drug coverage. Workers can be covered when they reach age 65. Persons who have received disability benefits for a period of at least 24 months are also eligible for Medicare coverage.

Unlike the federal Social Security program, unemployment insurance is a joint program between the federal and state governments. The purpose of the program is to provide benefits (employment services and money) to unemployed workers. The dollar amount and the duration of benefits are determined by state laws. The program is funded by a tax paid by employers.

D-5b Workers’ Compensation

Workers’ compensation insurance covers medical expenses and provides salary continuation for employees who are injured while at work. This insurance also pays benefits to the dependents of workers killed on the job. Every state now requires employers to provide some form of workers’ compensation insurance; specific benefits are established by the state. Employers may purchase this type of insurance from insurance companies or, in some cases, from the state. Self-insurance also can be used to meet requirements in a few states. State laws do vary; some are more stringent than others. In fact, the low cost of workers’ compensation in some states is one of many reasons businesses might choose to locate or move there.

Salary continuation payments to employees unable to work because of injuries sustained on the job normally range from 60 to 75 percent of an employee’s usual wage. They may, however, be limited to a specified number of payments. In all cases, they stop when the employee is able to return to work.

Workers’ compensation premiums, paid by the employer, generally are computed as a small percentage of each employee’s wages. The percentage varies with the type of job and is, in general, higher for jobs that involve greater risk of injury.

D-5c Health Care Insurance

Today, most employers pay, as an employee benefit, part or all of the cost of health care insurance for employees. When the employer does not pay for coverage, most individuals purchase their own health care insurance. Health care insurance covers the cost of medical attention, including hospital care, physicians’ and surgeons’ fees, prescription medicines, and related services. In addition, some firms also provide employees with dental and life insurance. Major medical insurance also can be purchased to extend medical coverage beyond the dollar limits of the standard health care insurance policy. In all cases, the types of coverage and the premiums vary according to the provisions of the specific health care policy, whether it is paid for by the employer or the individual.

The cost of medical care has been increasing over the last 55 years. National expenditures for health care in 2015 were expected to be more than $3.27 trillion, or over $10,500 per individual, according to the Centers for Medicare and Medical Services. In 2022, about 19.9 percent of our gross domestic product will be spent on health care. In an attempt to keep medical insurance premiums down, insurers have developed a variety of insurance plans that are less expensive than full-coverage plans. Some plans have deductibles of $500 to $1,000. Some require that the policyholder pay 20 to 30 percent of the first $1,000 to $3,000 in medical bills. One additional method that can reduce the cost of health care coverage is the use of a health maintenance organization. A health maintenance organization (HMO) is an insurance plan that directly employs or contracts with selected physicians and hospitals to provide health care services in exchange for a fixed, prepaid monthly premium.
hospitals to provide health care services in exchange for a fixed, prepaid monthly premium. Although there have been concerns about the quality of care provided by some HMOs, they are expected to grow because they offer a lower-cost alternative to traditional health care plans.

**Preferred provider organizations (PPOs)** offer the services of doctors and hospitals at discount rates or give breaks in copayments (the portion of the bill the insured must pay each time services are used) and deductibles. An insurance company or an employer contracts with a PPO to provide specified services at predetermined fees to PPO members.

On March 23, 2010, President Obama signed the Affordable Care Act which provides access to health insurance for uninsured Americans with pre-existing conditions, extends coverage for young adults, expands coverage for early retirees, and holds insurance companies accountable for unreasonable rate hikes. Moreover, a new provision in 2015 ties physician payments to the quality of care they provide to their patients. The Patient Protection and Affordable Care Act (ACA) and Health Care and Education Reconciliation Act of 2010, promise to reduce long-term growth of health care cost for businesses and government, assure affordable, quality health coverage for all Americans, and end barriers to coverage for people with pre-existing medical conditions.

The ACA, upheld by the U.S. Supreme Court on June 28, 2012, requires that most Americans purchase health insurance by 2014. Furthermore, it requires that employers with more than 20 employees provide health insurance to their employees or pay penalties. It also creates state-based health insurance marketplaces (exchanges) through which individuals can purchase coverage, with subsidies available to lower-income individuals.

### D-6  LIFE INSURANCE

**Life insurance** pays a stated amount of money on the death of the insured individual. The money is paid to one or more beneficiaries. A **beneficiary** is a person or organization named in a life insurance policy as a recipient of the proceeds of that policy on the death of the insured.

Life insurance thus provides protection for the beneficiaries of the insured. The amount of insurance needed depends very much on their situation. A wage earner with three small children generally needs more life insurance than someone who is single. Moreover, the need for life insurance changes as a person's situation changes. When the wage earner's children are grown and on their own, they need less protection (through their parent's life insurance) than they did when they were young.

For a particular dollar amount of life insurance, premiums depend primarily on the age of the insured and on the type of insurance. The older a person is, the higher is the premium. (On average, older people are less likely to survive each year than younger people.) Finally, insurers offer several types of life insurance for customers with varying insurance needs. The price of each type depends on the benefits it provides.

### D-6a  Term Life Insurance

**Term life insurance** provides protection to beneficiaries for a stated period of time. Because term life insurance includes no other benefits, it is the least expensive form of life insurance. It is especially attractive to young married couples who want as much protection as possible but cannot afford the higher premiums charged for other types of life insurance.

Most term life policies are in force for a period of one year. At the end of each policy year, a term life policy can be renewed at a slightly higher cost—to take into account the fact that the insured individual has aged one year. In addition, some
term policies can be converted into other forms of life insurance at the option of the policyholder. This feature permits policyholders to modify their insurance protection to keep pace with changes in their personal circumstances.

**D-6b Whole Life Insurance**

*Whole life insurance*, also called *ordinary life insurance*, provides both protection and savings. In the beginning, premiums generally are higher than those for term life insurance. However, premiums for whole life insurance remain constant for as long as the policy is in force.

A whole life policy builds up savings over the years. These savings are in the form of a *cash surrender value*, which is the amount payable to the holder of a whole life insurance policy if the policy is canceled. In addition, the policyholder may borrow from the insurance company, at a relatively low interest rate, amounts up to the policy’s cash surrender value.

Whole life insurance policies are sold in these three forms:

- *Straight life insurance*, for which the policyholder must pay premiums as long as the insured is alive
- *Limited-payment life insurance*, for which premiums are paid for only a stated number of years
- *Single-payment life insurance*, for which one lump-sum premium is paid at the time the insurance is purchased

Which of these is best for a given individual depends, as usual, on that individual’s particular situation and insurance needs.

**D-6c Endowment Life Insurance**

*Endowment life insurance* provides protection and guarantees the payment of a stated amount to the policyholder after a specified number of years. Endowment policies generally are in force for 20 years or until the insured person reaches age 65. If the insured dies while the policy is in force, the beneficiaries are paid the face amount of the policy. However, if the insured survives through the policy period, the stated amount is paid to the policyholder.

The premiums for endowment policies generally are higher than those for whole life policies. In return, the policyholder is guaranteed a future payment. Thus the endowment policy includes a sort of “enforced savings” feature. In addition, the cash surrender values of endowment policies usually are higher than those of whole life policies.

**D-6d Universal Life Insurance**

*Universal life insurance* combines insurance protection with an investment plan that offers a potentially greater return than that guaranteed by a whole life insurance policy. Universal life insurance is the newest product available from life insurance companies. It offers policyholders several options unavailable with other types of policies. For example, policyholders may choose to make larger or smaller premium payments, to increase or decrease their insurance coverage, or even to withdraw the policy’s cash value without canceling the policy. Essentially, the purchase of universal life insurance combines the purchase of annual term insurance with the buying and selling of investments.

Universal life insurance generally offers lower premiums than whole life insurance. In fact, the premium is often called a *contribution*. However, companies that offer universal life insurance may charge a fee when the policy is first purchased, each time an annual premium is paid, and when funds are withdrawn from the policy’s cash value. Such fees tend to decrease the return on the savings account part of the policy.
Summary

Risk—or the possibility of loss or injury—is a part of everyday life for both businesses and individuals. Speculative risks are those that accompany the chance of earning a profit. Pure risks are those that involve only the possibility of loss, without any potential gain.

Individuals and businesses must evaluate the risks they face, and they should minimize the costs involved with those risks. Four general techniques of risk management are risk avoidance, risk reduction, risk assumption, and the shifting of risk. Usually, pure risks that cannot be avoided or reduced and that are too large to be assumed can be shifted to insurance companies.

Insurance companies for a fee, assume risks that meet certain insurability criteria. They do so through contracts called insurance policies. An important condition in the issuing of an insurance policy is that the insured individual or firm cannot profit from the policy. That is, the payment in the event of a loss cannot exceed the actual amount of the loss. Insurance company fees, or premiums, must be affordable. At the same time, they must be high enough to cover expected payouts and other expenses. Stock insurance companies are profit-making corporations owned by stockholders. Mutual insurance companies are cooperatives owned by their policyholders.

Property and casualty insurance protects the policyholder against loss of property and loss due to accidents. Included in this category is insurance that protects against loss of property due to fire, theft, and various natural hazards; against liability due to injury to employees or customers; and against damage and liability resulting from automobile accidents.

Both the government and private insurance companies offer a number of different types of coverage for individuals in the United States. The federal Social Security program offers retirement, survivor, disability, and Medicare benefits to people who are eligible. Unemployment insurance—a joint program sponsored by the federal and state governments—provides both employment services and money to people who are unemployed. Employers are required to provide workers’ compensation insurance to protect the worker in case of injury. An increasing number of employers are making 401(k) salary-reduction savings plans available to their employees. And both employers and individuals purchase insurance to cover health-care costs.

All life insurance provides a stated amount of money, paid to beneficiaries upon the death of the insured individual. Term insurance provides this single benefit. Whole life insurance provides some savings, as well—in the form of a cash surrender value. Endowment insurance also provides a guaranteed payment at the end of some specified period time. And universal life insurance combines protection with an investment plan.

Key Terms

You should now be able to define and give an example relevant to each of the following terms:

- risk (D-1)
- speculative risk (D-1)
- pure risk (D-1)
- risk management (D-1)
- self-insurance (D-3)
- insurer (or insurance company) (D-3)
- premium (D-3)
- insurance policy (D-3)
- Insurance (D-3)
- insurable risk (D-3)
- uninsurable risk (D-3)
- principle of indemnity (D-5)
- stock insurance company (D-6)
- mutual insurance company (D-6)
- fire insurance (D-7)
- coinsurance clause (D-7)
- extended coverage (D-8)
- fidelity bond (D-8)
- automobile liability insurance (D-9)
- automobile physical damage insurance (D-9)
- no-fault auto insurance (D-10)
- public liability insurance (D-10)
- product liability insurance (D-10)
- ocean marine insurance (D-11)
- inland marine insurance (D-11)
- business interruption insurance (D-11)
- workers’ compensation insurance (D-12)
- health care insurance (D-12)
- health maintenance organization (HMO) (D-12)
- preferred provider organizations (PPOs) (D-13)
- life insurance (D-13)
- beneficiary (D-13)
- term life insurance (D-13)
- whole life insurance (D-14)
- cash surrender value (D-14)
- endowment life insurance (D-14)
- universal life insurance (D-14)