



**Certified
Construction
Associate**
Educational Program

Business Analysis



NAWIC Education Foundation

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CERTIFIED CONSTRUCTION ASSOCIATE
Educational Program SM

NAWIC EDUCATION FOUNDATION

Business Analysis

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PREFACE

The CERTIFIED CONSTRUCTION ASSOCIATE program is an advanced, six-part home study course in construction terminology, procedures and processes. To give further merit to the title CCA in the construction industry, The NAWIC Education Foundation (NEF) made CERTIFIED CONSTRUCTION ASSOCIATE Foundation available to the public in 1982. Now, any person interested in moving into positions of management and administration in the construction industry may enroll in the program. The CERTIFIED CONSTRUCTION ASSOCIATE will learn to exercise judgment and expertise in administrative affairs when dealing with employees, governmental units, professional associations, contractors, the public and customers

Certification examinations are administered under the auspices of local NAWIC chapters. Clemson University is responsible for preparing examination booklets, handling security and scoring exams. After successfully passing certification exams in all six parts, enrollees receive a CERTIFIED CONSTRUCTION ASSOCIATE certificate and may use the letters CCA after their name.

Such educational programs are an important part of NAWIC. In 1971, NAWIC's president surveyed the construction industry and recognized the need for a guided study series for those interested in moving from secondary to management positions. The NAWIC Education Committee was appointed in 1972 to develop educational programs, among them, CCA.

The program was originally designed over an eight-year period by Northeast Louisiana University. In 1981, Cogswell College in San Francisco, California, began revising the program to lessen the dependency of the courses on textbooks and enable participants to qualify for accreditation. In 2005, the books were updated and revalidated by Clemson University.

The NAWIC Education Foundation gratefully acknowledges Northeast Louisiana University, members of the NAWIC Education Committee, Cogswell College, and those writers who were instrumental in making this six-part series a valuable tool for the entire construction industry.

STUDY TOPICS

Construction Environs

Effective Communications

Management Techniques

Labor Relations

Business Analysis

Construction Principles

BUSINESS ANALYSIS

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BUSINESS ANALYSIS
SECTION A – ECONOMICS AND THE FIRM
LESSON 1
Introduction to Economics

Objectives

After completing this lesson, you will be able to define:

- Production possibilities (opportunities) frontier
- Economic scarcity
- Law of diminishing returns
- Economies of scale
- Law of increasing costs
- Malthusian theory of population
- The fallacy of composition

Why study economics? Economics affects all of us on a personal level, in making informed business judgments, and also in making political decisions based on sound understanding of economics. Such things as the level of interest rates, recession, government tax and fiscal policy, personal investments, and even deciding what occupation to enter are all affected by economics. The better our economic understanding, the better we understand economic events and the better our own decisions become.

Politics and economics are closely intertwined. Political decisions, especially at the national level, affect the entire economy. For example, what effect does an increase in the federal deficit relative to the increase in gross national product have on interest rates? How does this affect inflation? Is government debt damaging to the economy or a burden to the nation? How does spending for military hardware affect funds available for social programs and for infrastructure projects, such as roads, bridges, and transit? What is the cost of pollution to the economy? What is the cost to prevent or clean up pollution? All these questions are debated in Congress and the press. A good understanding of economics helps us evaluate and answer these questions, determining the effects the answers might have on us and on our business.

What is economics? Economics may be defined as the study of all activities that involve exchanges of goods or services between persons or businesses, whether or not any money changes hands. Economics also includes the study of how the price mechanism, income distribution, and government economic controls allocate the nation's resources among producers and distributes the output among consumers.

Economics is perhaps the oldest of social sciences. As an academic discipline, it began with Adam Smith's The Wealth of Nations in the late eighteenth century. It has links to most, if not all of the other social sciences including sociology, psychology, political science, philosophy, and history. It is impossible for economics to stand independent of other disciplines concerned with human behavior. Because economics is so heavily involved with human behavior, predictability and scientific standards of reliability are impossible, in contrast to the so-called hard sciences.

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SECTION A – ECONOMICS AND THE FIRM

LESSON 2

The Functioning of a Mixed Economy

Objectives

After completing this lesson, you will be able to:

- Define:
 - Mixed economy
 - Perfect competition
 - Capital goods
- Explain the role of the following elements in the functioning of a mixed economy:
 - Government
 - Labor
 - Money
 - Monopoly elements
 - Private consumption
 - Income distribution

All modern nations, except for communist ones, have varying degrees of public and private control over economic decisions. Even communist nations allow some private production and trade, but all important economic decisions and plans are made centrally. Historically, more economic decisions have been made by government than by individuals or businesses. From the medieval period to the late nineteenth century, government control over the economies of most nations declined. Since that time, control has been increasing. No economy, not even that of early 19th century Great Britain, reached what is known as pure "laissez faire" capitalism, an economic condition in which the government makes no attempt to control business. Under this condition, the only controls on business would be those of custom, public morals, social organizations, and unbridled competition.

All economies must decide what is produced, how those goods or services will be produced, and to whom they will be distributed. No one individual or organization in a mixed economy consciously makes these decisions. Let's use San Francisco as an example. The city has little manufacturing, almost no food production, and no local source of fuel. Yet stores of all kinds are supplied with a vast array of merchandise at all price and quality levels, and the population is provided with food, fuel, and transportation. All this occurs with almost no government control. True, government provides some basic utilities, police and fire protection, streets, and some other services. Businesses are required to conform to zoning and health laws. Otherwise the government plays no part in economic decisions within the city.

How does this happen? It happens by means of competition, prices, and markets. Each and every good and service provided has its price; labor's price is wages, the price of money is interest, and so on. If the price for a particular service or product is too high, the price must be lowered if sales of that product or service are to occur. The system works because buyers and sellers have good information about products and prices, there is competition in nearly every

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LESSON 3

Introduction to Supply and Demand

Objective

After completing this lesson, you will be able to:

- Demonstrate understanding of basic supply and demand principles by defining the following terms or by explaining the effects of these terms on supply/demand equilibrium:

- Supply schedule/demand schedule
- Supply curve/demand curve
- Law of downward sloping demand
- Law of upward sloping supply
- Subsidies
- Price controls
- Permit restrictions
- Changes in demand/supply schedules

The modern mixed economy relies on a system of prices and markets to determine what goods are produced, and for whom. Prices in the marketplace determine the level of production for most goods or services. If a price is too high, the quantity demanded by consumers drops, and the price or quantity supplied must also decline. However, the price of a good is not determined solely by the operation of the price system in the market for that time. The price of substitutes is also important. For example, if income level increases, people will tend to reduce their purchases of margarine and increase their purchases of butter. These items are direct substitutes for one another. As purchases of butter increase, initially the price of butter will increase, and the price of margarine will fall. As butter production becomes more profitable, the supply will increase as dairy herds grow larger. Eventually, the supply of butter will rise to meet the demands of consumers and equilibrium between supply and demand, at some price, will be reached.

As desires for certain goods change, manufacturing methods are refined, and the product mix offered in the marketplace also changes. Price levels fluctuate as the above changes occur. For example, in the 1980's personal computers were introduced. A basic machine that could perform fundamental computing tasks cost over \$4,000. When introduced the PC was essentially a substitute for a sophisticated calculator and typewriter, although more efficient and faster. Now, the price of a much faster and more efficient personal computer, with greatly enhanced software capabilities, is under \$1,000. As prices decreased, the quantities demanded by consumers increased dramatically.

When personal computers were first introduced, the numbers sold at the prevailing high prices were small. To increase the quantity demanded, the price had to be lowered. As you can see, how goods are produced is also determined by the price mechanism. As manufacturers became more efficient and introduced technological advances, prices declined. Now, in order to sell a

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LESSON 4

Savings, Consumption, and Investment

Objectives

After completing this lesson, you will be able to:

- Understand the interrelationships among savings, investment, and consumption.
- Solve simple problems concerning changes in investment and savings, National Product noting the effects of these basic changes on consumption.
- Define the following terms and concepts:

- Savings (economic definition)
- Investment (economic definition)
- Marginal propensity to consume
- Marginal propensity to save
- Average propensity to consume

Lesson 4 is an introduction to modern income analysis. Income analysis attempts to explain the relationships among savings, consumption, and investment, and to show how changes in savings and investment affect equilibrium Gross National Product and consumption (Gross National Product is the measure of all goods and services produced in the US in a given year). The writings of John Maynard Keynes are the foundation of income analysis and fiscal policy, although his theories do not completely explain the effects of changes in savings and investment on Gross National Product (GNP). His book, *The General Theory of Employment, Interest and Money* is an economic classic.

For an economy to grow over the long term, and for growth in the capital stock, some consumption must be forgone or deferred to later periods. Savings, in the economic sense, is the forgoing of current consumption to allow for greater production and consumption in the future. Savings and investment are the opposite sides of the same coin, but savings does not automatically lead to investment. Savings and investment can be done by the same person or organization. If a business spends money on machinery for new productive capacity and reduces current production temporarily, it is saving. It is also investing by adding to the stock of capital goods. Most saving is done by individuals. Although savings and investment are related, and can be done by the same individual or organization, they are normally done by different entities for different reasons.

Investment is extremely variable. It depends on a number of variables, including corporate profits, interest rates, the availability of credit, tax laws, confidence in the future, the level of consumer spending, and the amount of unused capacity.

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LESSON 5

The Federal Reserve System, Government Monetary and Fiscal Policy

Objectives

After completing this lesson, you will be able to explain:

- How the Fed controls money supply through the use of:
 - Open market activities
 - Control of reserve requirements
 - Discount rate changes
 - Other minor control tools
- The basic principles of monetarism
- How monetary policy has an effect on Gross National Product, inflation, unemployment, and interest rates.
- The difference between monetary policy and fiscal policy and the targets of each.

The Federal Reserve System, through its twelve regional banks, is the United States' central bank. Its primary function, other than issuing the nation's currency, is to control bank reserves and thus control the quantity of money, the rate of change in the money supply, and the availability of credit. The Fed tends to expand the money supply at a faster rate during a recession, and to keep the rate of growth of the money supply even with, or slower than, the rate of economic growth during expansions. The Fed rarely contracts the total money supply, but may restrict money growth to a rate less than the inflation rate or the real rate of Gross National Product growth. In real terms, this is actually a decline in the money supply. Money supply fluctuates weekly, but the general trend is upward along with Gross National Product.

The Federal Reserve's basic means to control money supply is through exercise of its power to control bank reserves. The level of reserves, both required and actual, affects lending and money creation by the banking system. If there is an inflationary gap at or near full employment, the Federal Reserve will act to reduce that gap. The Fed will reduce bank reserves. The reduction in bank reserves leads to a contraction in money supply and in the amount of lendable funds. Since credit becomes tight, investment decreases (it is quite sensitive to changes in the interest rate) and as investment declines, Gross National Product will decline. In theory, the Gross National Product will decline to an equilibrium point somewhere near full employment. Tight credit will decrease consumer spending and reduce excess aggregate demand, thereby dampening inflationary pressures. In a recession, if inflation is low, the Fed will do the opposite.

How does the Fed control the level of bank reserves, and thus the money supply? The Federal Reserve's primary asset is government securities (over \$100 billion); while its two major liabilities are Federal Reserve Notes (currency) and the reserves of its member banks. The Fed

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SECTION A – ECONOMICS AND THE FIRM
LESSON 6
How Price is Determined by Supply and Demand

Objectives

After completing this lesson, you will be able to:

➤ Define:

Price elasticity of demand
Price elasticity of supply
Perfect inelasticity (or infinite inelasticity)
Infinite elasticity

➤ Calculate elasticity for any two points on the demand (supply) curve(s)

In general, consumption of any good (quantity demanded) declines as price increases. Demand is very elastic if the quantity demanded changes a great deal as the price increases only slightly. If there is a small change in the quantity demanded as a result of a large change in price, then demand is inelastic. At present, we will not worry about formal definitions, just with the basic idea. The elasticity of supply refers to the change in the quantity supplied as the price of a product increases.

Other factors affect elasticity besides price. Substitutes, or two or more goods fulfilling the same need, are important in determining elasticity for any product. If a product has many close substitutes its elasticity will be greater than for a product without substitutes. For example, the demand for beef is highly elastic, since there are many substitutes for beef as a source of protein. Among these are pork, poultry, fish, lamb, cheese, and legumes such as beans and peas. Some of these, such as beans, are what are called inferior goods; goods whose consumption increases with decreasing income. Thus producers of beef or any other protein food must take into account the price of substitutes before setting their retail price. If the price is too high in relation to other protein sources, beef consumption will decrease as other sources are substituted for beef.

Let us now move to more formal definitions of elasticity. Price elasticity of demand is the percent change in the quantity demanded divided by the percent change in price. If the percent change in the quantity demanded is equal to the percent change in price, then this is called unit elasticity (Graph 6.3). Note that under normal circumstances, demand elasticity is always negative, since the quantity demanded declines as price increases. If the demand curve is flat, elasticity is infinite, or perfectly elastic (Graph 6.1). No matter what quantity is demanded, price remains constant. If the quantity demanded does not change, no matter how much the price increases, we have infinite inelasticity (Graph 6.2). No commodity fits this definition exactly, but some come close. Examples could be opera tickets in San Francisco for a performance featuring Pavarotti, or tickets to the Nebraska-Oklahoma football game. It is not unheard of for people to pay in excess of \$500 for a ticket with an official price of \$60 for such events.

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LESSON 7
Competitive Supply

Objectives

After completing this lesson, you will be able to:

➤ Define:

Marginal cost
Average cost
Marginal revenue
Total cost
Total revenue

➤ Calculate the above from a graph or create a table of values when given the minimum necessary information.

Lesson 6 discussed how aggregate supply and demand affect price. This lesson will discuss, not demand, but how price for any single firm is determined under perfectly competitive conditions. In a competitive market for any commodity, the aggregate supply curve is the sum of all the individual supply curves for each individual producer. This technique for deriving aggregate supply (or demand) can be applied to the immediate future, the short run, or to long run equilibrium conditions. In a perfectly competitive market, no single seller can affect the market price. Both long run and short run demand curves are flat for each individual seller although aggregate demand may slope downward as the price increases. Thus, each seller's profit margin is determined by the quantity supplied, since the price does not change no matter how much a single seller puts on the market. Since the market is perfectly competitive, competition has driven down prices to the point where total revenue is equal to total costs (Remember, a "normal" rate of return to the business's owners is included in costs).

Because of these conditions, each producer does not focus on total costs, but on the cost of the last unit produced, the marginal cost. Marginal cost is defined as the additional cost incurred by producing one extra unit at any production level. The marginal cost curve tends to be U-shaped, falling as the first extra units are produced, then flattening, and finally rising as more and more units are produced. Why should this occur? The law of diminishing returns usually takes effect, no matter how large the business or industry. As output grows, economies of scale are encountered early in the expansion process, usually by using the most efficient equipment to its capacity. As output exceeds the capacity of the most efficient equipment and workers, less efficient equipment (usually older) and workers with less training and skill are brought into the production process. Costs rise for each increment of new labor and machinery brought into service. Average costs may still rise for a period after marginal costs have begun to rise. Average costs are merely the total costs divided by total units produced. In practice, production cannot increase by just one unit. In some instances, single workers or machines cannot be added, and entire production lines must be brought on line.

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LESSON 8

Long Run Equilibrium and Costs

Objectives

After completing this lesson, you will be able to:

➤ Define:

- Fixed costs
- Variable costs
- Average variable costs
- External economies
- External diseconomies
- Explicit costs
- Opportunity cost

➤ Explain the behavior of short-run, intermediate, and long-run costs

The basic goal of any firm is to earn a profit, and economic theory states that all managers and owners attempt to maximize profits. To do so (find the maximum profit equilibrium point), firms must know how marginal costs and total costs are related to fixed costs, variable costs and average variable costs. Table 8.1 lists some hypothetical costs in the above categories for a hypothetical firm.

Table 8.1

(All #'s except Quantity and Average Cost x 1000)

| Quantity | Fixed Cost | Variable Cost | Total Cost | Marginal Cost | Average Cost | AFC | AVC |
|----------|------------|---------------|------------|---------------|--------------|------|------|
| 0 | \$100 | \$0 | \$100 | \$0 | \$0 | \$0 | \$0 |
| 1,000 | \$100 | 25 | 125 | 25 | 125 | 100 | 25 |
| 2,000 | \$100 | 45 | 145 | 20 | 72.5 | 50 | 22.5 |
| 3,000 | \$100 | 60 | 160 | 15 | 55.3 | 33.3 | 20 |
| 4,000 | \$100 | 80 | 180 | 20 | 45 | 25 | 20 |
| 5,000 | \$100 | 110 | 210 | 30 | 42 | 20 | 22 |
| 6,000 | \$100 | 150 | 250 | 40 | 41.7 | 16.7 | 25 |
| 7,000 | \$100 | 210 | 310 | 80 | 44.3 | 14.3 | 30 |

Fixed costs are costs that a firm has as a result of its existence, even without producing any goods or services. Fixed costs, at least in the short run, are completely independent of output; although over a period of several years, all costs can either rise or fall. Variable costs are zero when the quantity of output is zero, since variable costs result directly from the productive process. Variable costs increase or decrease directly with changes in output, but the graph of variable costs is rarely a straight line. Variable costs usually decline early as economies of scale

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SECTION A – ECONOMICS AND THE FIRM

LESSON 9

Monopoly and Regulated Utilities

Objectives

After completing this lesson, you will be able to:

➤ Define:

Monopoly
Oligopoly
Product differentiation
Marginal revenue
Excess profits

➤ Explain why monopoly makes goods relatively scarce, and usually leads to an inequitable distribution of income.

➤ Explain how regulation of monopoly utilities attempts to resolve the above problems.

Up to this point, all our discussions of supply and demand, prices and equilibrium, have assumed that businesses are operating under perfectly competitive conditions. Perfect competition is important, since it allows us to more easily understand how the price system and market system efficiently allocate the nation's scarce resources. However, perfect competition rarely exists. We will now discuss the effects of imperfections in competition on price, production, and distribution: an attempt to describe how the real economy functions.

Under perfect competition, a firm has no control over the market price of its product(s). The demand curve for any single firm is infinitely elastic and thus horizontal, and no matter how much a firm sells, it cannot affect price. Under imperfect competition conditions, each firm's demand curve slopes downward, although the slope may not be very steep. The price declines as each producer puts more goods on the market. Thus, each producer has some degree of control over its market price by varying its output. Imperfect competition does not necessarily lead to monopoly.

Continually declining marginal cost destroys competition as each firm tries to expand its production and lower its marginal cost below the market price. Undercapitalized and marginal firms are forced out of business. If the first producer to expand its output forces its competitors out of business, it becomes a monopolist, and now has the power to set prices. Ultimately, marginal costs may turn upward, but the equilibrium point of the economy's supply and demand curves is reached at a quantity below that necessary for marginal costs to begin rising. In other cases, marginal cost may turn up before the industry demand can be produced by any one firm. Such markets will be dominated by a few giant firms, as in the auto industry. This pattern of competition is called oligopoly.

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SECTION A – ECONOMICS AND THE FIRM
LESSON 10
Imperfect Competition and Antitrust

Objectives

After completing this lesson, you will be able to:

➤ Define:

Market concentration ratio
Theory of countervailing power
Horizontal members

➤ Explain the basic features of:

The Celler-Kefauver Act
The Sherman Anti-Trust Act
The Clayton Anti-Trust Act

➤ Explain in your own words:

The reasons for various patterns of oligopoly and monopolistic competition
The goals of public utility regulation
The focus of future anti-trust efforts

The basis of the classical theory of the firm is the assumption that businesses attempt to maximize profit (by this we mean return to owners, not economic profit). In practice, this is a difficult task, but as a general statement, the idea is useful. Without an attempt to maximize the rate of return, a company would be quickly forced out of business by its competition.

Some firms do no calculations to determine their average and marginal cost curves, and their marginal revenue curves. They do arrive at approximately the point where marginal cost equals price by a trial and error process. Also, businesses may not know how elastic or inelastic is the demand for the products they sell with any degree of certainty. They must test elasticity by changing prices. In addition, prices are usually based on average costs, not on a competitively determined market price. This in itself is difficult, especially for manufacturing companies producing many items, in that they must allocate administrative costs in some arbitrary manner to each product made.

If a firm's guess as to the elasticity of demand for its products is wrong, i.e., if as the price is raised, volume drops by a greater percentage than was expected, total revenue may actually decline, and the price will be restored to its previous level. The reverse is true of price cuts to stimulate increase in sales volume and, hopefully, profit, as the increase in units sold is expected to make up for the decline in profit per unit sold.

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SECTION A – ECONOMICS AND THE FIRM

LESSON 11

Production and Marginal Products

Objectives

After completing this lesson, you will be able to:

➤ Define:

Marginal physical product
Marginal revenue product
Production future

➤ Explain how the marginal product of a productive factor determines the wage, rent, or interest paid to that factor.

Up to this point, we have discussed how the market system allocates scarce resources among consumers and how it defines prices. We have not looked at what role, if any, the market system plays in allocating income to the various factors of production. All the way back in Lesson 3, in the circular flow diagram, we listed the three factors of production, land, labor, and capital (money invested in productive assets). The earnings of these three basic factors of production are wages, interest, and rents. This lesson, and the next two, will give you an introduction to how the market system allocates the value of production to these three factors, and how it sets the price of any and all of these factors.

All factor inputs are interdependent. Capital cannot be productive without labor and land. Remember, all raw materials are grouped under land. The services of all workers, including proprietors who work in their own companies, are grouped under labor, and capital includes the value of all assets used in the production of goods and services. For example, a pile of lumber, plumbing and electrical parts, and the various tools used to build a house are useless without the labor required to assemble them, and a site on which to build. Usually, one cannot determine which factor of production is more important, since all factors reinforce or complement one another.

Since land, labor, and capital are interdependent and their product cannot be subdivided, how does the distribution of the value of this product occur among the three sectors? In our example, it is impossible to determine how much of the value of the house is labor produced by itself, since labor cannot produce anything independent of the other two factors. The problem is solved by the forces of supply and demand working through markets. Think back to the discussion of the law of diminishing returns. A certain amount of labor, land, and capital in the form of machinery are required to produce a certain output. How much is produced depends on the available technology.

The production function is the mathematical function that describes the relationship among the various factors of production. It shows how much output is available from X units of labor, Y

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SECTION A – ECONOMICS AND THE FIRM

LESSON 12

Organized Labor, Collective Bargaining, And Public Employment Policy

Objectives

After completing this lesson, you should be able to:

➤ Explain:

Reasons why labor unions attempt to raise the wage rate

Labor market equilibrium under perfect competition

The effects of unions on the general wage rate

The effect of unemployment insurance and retraining programs on the unemployment rate

Labor is not a commodity, as was implied in the last lesson for reasons of simplicity. Wages and skills differ widely among workers. The price of labor (wages) represents most of national income. Professionals' incomes are mostly wages, except that portion of partners' income that is not attributable to personal services. The balance is proprietors' income, rents, and interest. How are the different wage levels determined? Any sound economic theory of wages must explain these differences.

We begin with a simple example. Suppose we have a group of laborers, all performing similar tasks, all with similar skills, thus producing the same output per worker-hour. Competition in the labor markets will result in an equal wage for all workers. The wage rate will be the rate corresponding to the intersection point of the supply and demand curves for labor. A rate higher than the equilibrium point will result in fewer employers looking for workers and an oversupply of labor at that price. Competition by workers for jobs would soon drive the wage rate back to equilibrium. Conversely, a rate lower than the equilibrium rate would quickly be bid up to the equilibrium wage rate by employers attempting to obtain sufficient workers. This is, of course, barring any shift in the supply or demand curves for labor.

According to Malthusian economic theory, the long run supply curve for labor would be a flat curve. The wage rate at this constant supply level would be the minimum required for subsistence. This has been disproved by events, since advances in technology, manufacturing methods, management, and the elimination of many trade barriers have increased efficiency of all the factors of production. Marx postulated a "reserve army of unemployed" as the major force in reducing wages to the subsistence level. Supposedly wages would be kept low by the competition of this reserve army willing to work for less than the competitively determined wage. Only if the supply curve intersected the demand curve at the point corresponding to the subsistence wage, would such a wage occur.

There is no reason to believe that the long run equilibrium price of labor is equal to the subsistence level. In any modern industrial economy, with high quality labor, skilled management, abundant capital, and access to raw materials, the wage level will be higher, even with free competition. If employers wished to pay lower wages, they could not, since workers

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LESSON 13
Assets, Capital, and Interest

Objectives

After completing this lesson, you will be able to:

➤ Define:

Economic rent
Interest
Net productivity of capital
Real interest rate
Nominal interest rate

➤ Explain:

How supply and demand for capital determine interest rates
The effects of interest rate ceilings on equilibrium
The effects of inflation on interest rates and investment
Some effects of fiscal policy on interest rates

Lesson 13 is concerned with the third major factor of production, capital, and how the market system determines the quantity of capital supplied and its price. Economics divides all factors of production into land, labor, and capital (a somewhat arbitrary division). The return on land is rent, and since the quantity of land is fixed within a narrow range, the supply is almost infinitely inelastic. The return on labor is wages, which includes the value of all labor: managers, workers, and owners, insofar as they provide services to the firm. The definition of capital is not the financial definition of invested funds, but goods used for further production. The return on capital is expressed as the percentage of a capital asset's value that can be earned annually. This rate of return on capital is interest. Notice that again this is different from what we normally think of as interest (the rate of return on invested money). In the economic sense, interest is the annual rate of return on one's investment in any form of capital investment.

$$\text{Interest rate} = \frac{\text{annual yield in money } (\$, \pounds, \text{¥, etc.)}}{\text{Value of capital } (\$, \pounds, \text{¥, etc.)}}$$

The interest rate is important in determining the value of capital assets. The value of any asset is the value of its annual earnings divided by the interest rate. As written by accountants and financial people $P = A/i$; P stands for the present value of an asset, A for its annual earnings, and i for the interest rate. If the interest rate increases, the value of an asset declines. Table 13.1 and Graph 13.1 depict this relationship using an asset that has annual earnings of \$1,000 with an interest rate varying from 2% to 50%. Note that the asset's value will never equal zero, no matter what the interest rate. At an annual interest rate of 1,000%, the asset would have a interest rates discourage investment.

BUSINESS ANALYSIS
SECTION A – ECONOMICS AND THE FIRM
LESSON 14
US Construction – An Industry Perspective

Objectives

After completing this lesson, you will be able to:

- Understand the characteristics of the US construction industry and its trends
- Understand the nature of the construction market
- Understand construction firms' strategic orientation and financial performance

Characteristics of the Construction Industry

The construction industry has some distinctive characteristics primarily because of the type of product and the method of delivery. The final construction product is a unique undertaking for a specific client. It generally represents a major investment for the owner requiring involvement in the production process. Typically, production is performed at the project site because of the size, weight, and unique site requirements of the final product. Production is accomplished using “temporary” plants at each project location with actual production often exposed to the ‘elements’ for a large portion of the construction duration. It is labor intensive and during production the workforce is exposed to numerous and changing hazardous conditions. The final product is often technically complex and incorporates a large number of components manufactured in other industries. In addition, the construction process is made even more challenging because of the *method of delivery*.

The ‘project’ method of delivery is typically used for production of the end product. The Project Management Institute (PMI) defines a ‘project’ as “a temporary endeavor undertaken to create a unique product or service” (PMI, 1996:4). A construction project involves assembling an ad hoc, cross functional group of individuals, from multiple business organizations, who often have differing project understanding and/or objectives. The project method of delivery requires extensive pre-planning and pervasive monitoring and control systems during production. It necessitates frequent communication with multiple individuals and organizations to coordinate production and refine project scope. In addition, the organization is assembled specifically for production of a unique final product and typically disbands upon completion.

The construction product is generally not a consumable good, but rather a capital good with a long life that represents an investment in facilities or infrastructure. Demand is heavily influenced by the economic state of the economy and governmental policy. Since each project is unique, price is typically determined in advance specifically for each construction effort. Pricing typically requires cost assembly for a multitude of resources from numerous organizations. Whether by competitive bid, or negotiation, project pricing is often conducted in a highly competitive environment.

BUSINESS ANALYSIS SECTION B – COST ACCOUNTING FOR CONSTRUCTION CONTRACTORS

Introduction

This text has been prepared to perform two functions:

1. To explain in simple language the theory of double-entry bookkeeping
2. To furnish an overview to bookkeepers who might find themselves for the first time with a set of construction job costs books

The reader should be aware that this text will familiarize one with the concepts employed in cost accounting. However, the necessarily limited information is not sufficient to qualify one to function as a professional accountant. Considerable additional education is required to attain that end.

The first two lessons deal with bookkeeping theory. They will be helpful to non-bookkeepers who wish to understand something of the language and theory of accounts. The lessons which pertain to job costs are intended to be a useful guide for the trained bookkeeper. There are questions at the end of each of these sections for use as a study guide. Answers are provided in Appendix I.

**BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS**

**LESSON 1
Accounting - A Definition**

Objectives

After completing this lesson, you will be able to:

- Define the basic definition of accounting
- Understand the difference between income and expense

Accounting is the process by which any economic entity makes a record of its financial activity. From the records so compiled financial information may be obtained which is useful in arriving at economic decisions.

The records, when summarized and refined so as to produce financial statements, will permit management to learn of the profitability of the enterprise and will furnish a summary of assets, liabilities and net worth which should offer a guide to future financial planning. This is accounting process in its simplest form. As the entity grows and becomes more complex, the accounting system must also grow so as to accommodate the increased need for management information.

Note that accounting applies to all kinds of economic entities, such as governments, churches and social clubs as well as businesses. We shall concern ourselves with business entities in general and construction contractors in particular after this introductory lesson.

The process of bookkeeping involves a systematic recording of financial transactions. In order to uniformly create these records, principles have been established throughout the business world. Here are some of the more important principles:

1. All transactions are expressed in the unit of monetary exchange of the country involved. Thus in the United States, we use Dollars.
2. All items are entered on the basis of monetary cost involved. For instance, if real property is acquired for \$70,000 which is actually worth \$100,000, this principle requires the asset to be entered at \$70,000.
3. It is assumed that the unit of monetary value is constant. Therefore, the effects of inflation and deflation are ignored. To illustrate: Assume land is purchased for \$30,000 in 1970; assume further that the purchasing value of the dollar declines from \$1.00 in 1970 to \$.50 in 2000 when the land is sold for \$60,000. In 2000 the entity is no better off financially by virtue of the sale; however, a \$30,000 gain must be reflected in the books of account.
4. The records and statements, within the limits stated above, are to reflect going-concern values. Thus it is assumed that the business entity has a continuing existence and that the basis upon which values have been established will continue indefinitely. However, if the business is to be liquidated or sold, then assets may be stated at estimated

BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS

LESSON 2
The Mechanics of Accounting

Objectives

After completing this lesson, you will be able to:

- Understand the basics and definitions of bookkeeping
- Understand the mechanics of debits and credits

The principles discussed in Lesson 1 establish a basis upon which records may be maintained. However, they do not furnish guidance as to methods and procedures involved.

The mechanics of record keeping involve a system commonly referred to as double-entry bookkeeping. The term "double-entry" refers to the multiple effect of each transaction upon the records. Records generally consist of two primary types – books of original entry and a general ledger.

The books of original entry, as the term implies, constitute specialized records in which specific transactions are introduced into the accounting system. There may be among the books of original entry records of sales, cash receipts, cash disbursements, purchases and other journals as required.

The general ledger is a record in which all of the other records are periodically summarized. It is from the general ledger that financial statements are prepared.

A general ledger consists of accounts in which items of a similar nature are segregated. Accounts are generally classified into five categories:

Assets
Liabilities
Net Worth
Income
Expense

There exists relationship's between these categories which may be expressed as follows:

$$\text{Assets} - \text{Liabilities} = \text{Net Worth.}$$

The above equation is known as the balance sheet equation and simply expresses an economic fact.

The remaining two categories of income and expense are offset and the difference between them represents economic income or loss which results in an addition to or subtraction from net worth.

BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS

LESSON 3

General Contracting Procedures for Design-Bid-Build Contracting

Objective

After completing this lesson, you will be able to:

- Understand how to “cost the contract”

Prior to discussing detailed accounting procedures involved in Job Costing, it might be useful to describe in some detail the process by which a contract is awarded and subsequently carried through to completion.

A potential customer will usually engage an architect and other experts such as engineers to draw plans and establish specifications regarding some improvement which is to be built.

Upon approval by local authorities such as a Planning Commission, City Council and other interested parties, the contract is generally put out to bid. At this point, the customer may choose a particular contractor rather than going through the bidding process. In any event, it is here that the contractor encounters for the first time the requirements which define the job.

Regardless of whether the contractor is awarded the contract by competitive bid or through negotiation, the contractor must estimate costs. Inspection of the plans and specifications will indicate the requirements of the job. At this point the contractor will "cost the contract" by determining the cost of each element involved. Some portions of the job will be subcontracted; therefore, it will be necessary to obtain from them their charges and commitments. The contractor must obtain costs of materials, calculate direct labor and estimate the indirect expenses which will apply to the work the contractor performs directly.

There will be other items in the contract such as provisions for architect's inspection, time limitations for completion, manner of payment, bonding requirements, retention of fees, insurance requirements and many more. After these costs have been determined, the contractor completes the contract by indicating the final amount of the contract for building the project.

This description indicates the complexity of the contracting business and the obvious problems concerned with the accounting processes involved.

BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS

LESSON 4
Accounting for Contractors

Objectives

After completing this lesson, you will be able to:

- Understand the challenges of construction accounting
- Understand the Completed Contract Method of accounting
- Understand the Percentage of Completion Method of accounting

The principles of double-entry bookkeeping discussed earlier are flexible enough to accommodate the financial record keeping of any conceivable enterprise. To render their application valid, however, it is necessary to investigate the characteristics of that enterprise and to make certain assumptions as to the nature of income and expense and the manner and time of their recognition.

Building Contractors have certain problems inherent in their operation which do not normally appear in other types of endeavor.

The contractor generally supplies and installs building materials and fixtures on property that belongs to the customer. This creates a situation where the contractor does not have title to the improvements which they create. Thus the job, in a legal sense, is not a part of the construction firm's inventory; but more closely resembles a claim or a lien that the firm may have on the property of the customer.

In the course of a job, the contractor will bill the customer for work performed and material supplied at the job site. This billing may be at regular intervals or may coincide with the completion of certain stages of the job. These billings do not necessarily match the costs involved and the matching process creates a primary problem.

A particular job, depending upon its size and complexity, may be of such duration that it extends over several accounting periods. During the course of the job there may have been several billings. The problem arises as to the method of matching income and expense over the duration of the job and the recognition of income in the accounting periods during which the job is in progress.

Accounting for contracts of short duration which do not extend beyond the end of the accounting year of the contractor does not present a serious problem. All costs may be matched against the income involved and gain or loss easily determined. For this reason a detailed discussion of this type of activity will not be discussed separately. The methods described below under the description of completed contract method will generally apply.

BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS

LESSON 5
The Elements of Cost

Objectives

After completing this lesson, you will be able to:

- Understand the difference between direct costs vs. indirect costs
- Understand the chart of accounts

The general scheme of cost accounting must be viewed as a process of gathering the elements of a job in such a manner as to enable the contractor to determine gain or loss. In this connection the AICPA statement of position referred to in Lesson 4 has this to say:

"Each individual contract is presumed to be the profit center for revenue recognition, cost accumulation and income measurement."

Thus costs, as well as income, are to be allocated to individual jobs or contracts. It is therefore necessary to allocate all costs associated with each job. The accounting records are generally organized so as to automatically assign to each job those costs which are characterized as "direct" costs. Direct costs are generally easy to identify with any particular job and can be summarized as the following categories:

- Direct Labor
- Direct Material
- Direct Equipment
- Subcontractors' Charges

There are other costs which, while they may not be identifiable as a part of the finished job, must be considered. These items are referred to as indirect costs. They are represented under the caption "Indirect Costs - 600" in the Chart of Accounts which follows.

In a general sense it may be argued that all costs and expenses, however incurred, must be met through the income of the contracts and therefore all should be included as a part of cost. While economically this is true, in the bidding of jobs general and administrative expenses (shown under the 700 series of accounts) must be considered, some contractors may not distribute indirect expenses directly to their projects. The approach as to the allocation of indirect costs varies. Contractors that acquire the majority of their work by competitive bidding incorporating Lump Sum (Stipulated Sum) Contracts may not allocate their indirect cost 'directly' to the project. Whereas, general contractors that negotiate a majority of their work and contract using Cost Plus (with or without a Guaranteed Maximum Price) Contracts may allocate a large percentage of their indirect costs, as well as some of their General and Administrative expenses, directly to the project - especially if these indirect, and/or general & administrative, costs are reimbursed under the contract. Irregardless of the approach, all indirect costs (and

**BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS**

**LESSON 6
Mechanics of Cost Accounting**

Objectives

After completing this lesson, you will be able to:

- Understand what constitutes the project cost baseline
- Understand how project costs are collected from the field
- Determine when payment is made for the various types of construction costs
- Understand how cost reports are used

In order to determine and control the performance of a contractor under conditions as described in Lessons 4 and 5, special journals are required. This is true regardless of whether income is determined on the completed job method or percentage-of-completion method.

It is doubtful whether any two contractors use exactly the same method to convert financial history into accounting records. The methods of recording vary as the jobs vary as to size, complexity, and with the wishes of the contractor. In certain cases, as in government contracts, specific records must be maintained and made available to the customer in the event of renegotiation. Other customers may not be so demanding.

Establishing the Project Cost Baseline

Regardless of the company's size and/or sophistication of their cost control system, the first step in cost accounting and subsequent cost control is to establish a *cost baseline*. The foundation for the cost baseline is the project estimate. The project estimate provides detailed information on estimated project quantities, unit costs, and total estimated labor, material, equipment, and subcontractor costs for the project. The typical format for the information provided by the project estimate is shown in Figure 6.1.

Figure 6.1
Estimate Format

| Cost Item | Quantity | Unit | Labor | | Material | | Equip. | Sub | Total |
|-----------|----------|------|------------|------|------------|------|--------|-----|-------|
| | | | Unit price | Cost | Unit Price | Cost | | | |
| | | | | | | | | | |
| | | | | | | | | | |

In addition to the detailed quantity and cost information for each work item, the estimate will provide estimated costs for items such as project supervision, general conditions, sales taxes, insurance, labor burden, bonding, and project markup for overhead and profit.

BUSINESS ANALYSIS

SECTION B – COST ACCOUNTING

FOR CONSTRUCTION CONTRACTORS

LESSON 7

Account Management

Objective

After completing this lesson, you will be able to:

- Identify the components of a successful cost system

Collecting and controlling the data needed for the proper function of the cost accounting system described in the foregoing chapters needs the support of the entire organization, particularly of the field supervisors on the projects. These are the persons responsible for gathering the basic input information consisting of labor and equipment time, work categories to which these times are charged, and quantities of work accomplished. Each individual associated with the cost system, whether he/she is in the office or in the field, must be impressed with the importance of their work and the need for accuracy, promptness, and reasonable care. A slipshod cost accounting system yields nothing of real value and is a waste of time and money.

The systematic regular checking of unit costs and production rates is crucial to the obtaining of reliable time averages. A cost system that evaluates field performance only sporadically in the form of occasional spot check does not provide trustworthy feed back information.

The source document for both payroll purposes and labor cost accounting is the labor time card/sheet. It is used to report the hours of labor time for each worker and the work categories to which the labor applies. The distribution of each worker's time to the proper cost accounts is normally done by the foreman because he/she is in the best position to know how each worker's time is actually spent. The importance of accurate and honest time reporting cannot be over emphasized. On the basis of the allocation of labor (and equipment) time to the various account numbers; costs and production information is generated. If this information is inaccurate or distorted, it not only is unusable, it can be seriously misleading when used for estimating or cost control purposes. Weekly cost summaries make it possible for company management to quickly assess the cost status of the project and to pinpoint those work areas in which expenses are proving to be excessive. In this way management attention is focused on the work items that need it. If the project cost information is developed in a timely fashion, it may be possible to bring the offending cost back into line. This is the essence of cost control.

A control system must result in corrective action when budget aberrations occur or there is no real control involved, only record keeping. In actual fact, project cost control truly starts when the job is first priced, because this is when the job budget is first established. No amount of management attention or corrective action can salvage a project that was priced too low in the beginning.

Collecting information from the cost system for use in estimating new work is not subject to the same time requirements as the cost control report. This is fortunate because estimating requires

**BUSINESS ANALYSIS
SECTION B – COST ACCOUNTING
FOR CONSTRUCTION CONTRACTORS**

**LESSON 8
Computer Use in Accounting**

Objectives

After completing this lesson, you will be able to:

- Understand the importance of computer technology in accounting
- Understand the difference between hardware vs. software

Because manual cost methods, even for relatively small operation, can become laborious and are subject to error, the computer offers the genuine advantage of economy, speed and accuracy.

This does not mean to say that it is impossible to generate cost data manually, but rather manual generation is generally time consuming to develop, prone to calculation errors, more difficult to effectively evaluate, and less accessible for future review.

The computer programs commonly used by contractors for cost accounting purposes actually perform a whole series of accounting functions. After input of cost and production information, the computer can generate payroll checks, keep payroll records, maintain the equipment ledger sheets, and perform other functions as well as produce labor and equipment cost summaries. Data entry is commonly accomplished using digital files produced in the file and transmitted to the central processing site using secured internet or intranet connections. Most software is designed with a wide array of output and management reporting options – often with on demand access to reports for the financial database.

A computer installation consists of two main parts: "hardware" and "software". Hardware describes the machinery involved and software refers to the programs which direct the procedures of the machinery.

In the establishment and installation of a computer system, considerations of software are primary and overriding. Thus the design of a program suitable to the situation is paramount. Once the software has been chosen, it is a relatively simple matter to find a computer which will adequately service the program. One caution to be observed in the choice of hardware is that the equipment be adequate with respect to anticipated business growth.

The entire process of developing software and selecting hardware is best accomplished with professional guidance. The amount invested can be substantial and mistakes can be costly and time-consuming.

BUSINESS ANALYSIS

SECTION C – INSURANCE AND BONDING

Introduction

In Section C of Business Analysis of the Certified Construction Associate Program for the NAWIC Education Foundation, you will study the principles and practices of Insurance and Surety Bonding.

There are eight lessons to be studied in sequence. Read the Study Guide material first. Then prepare your own dictionary by writing out the definition for each term mentioned in the Objectives at the beginning of each lesson, making certain you confirm your understanding by reviewing the lesson material. Follow that by answering the Questions; check your answers against the Answers to Review Questions presented in Appendix I at the end of this section; and review as needed before going on to the next lesson.

After studying Insurance and Bonding you should be able to:

- Understand the concept of Risk Management and use its terminology correctly
- Apply risk management tools to risk situations encountered in the construction industry
- Explain the principles underlying Insurance as a means of transferring risk
- Demonstrate a working knowledge of the organization and structure of the insurance industry
- Analyze and determine the proper type of insurance coverage for risk situations typically present in the construction industry
- Understand the concept of suretyship and how it is used in the construction industry

Comments on the Material

This material has been written to provide a brief and compact treatment of a complex subject, Insurance and Bonding. It should not be considered, however, as covering all that can be learned. For further study and in-depth coverage of selected topics, students should refer to the texts listed in the bibliography.

Before beginning this course, locate your own insurance policies – auto, homeowners, life and health – so that you can examine them as you study.

Look also at any business policies to which you have access, whether relating to construction or not. The insurance policy is the most important part of the transaction and you should maximize your understanding of its terms. To obtain a set of specimen policies for all lines of insurance, see the Bibliography, Appendix II.

BUSINESS ANALYSIS
SECTION C – INSURANCE AND BONDING

LESSON 1
The Concept of Risk Management

Objectives

After completing this lesson, you will be able to:

- Explain the concept of Risk Management
- Define:

| | |
|----------------|-----------|
| Assumption | Retention |
| Avoidance | Risk |
| Chance of Loss | Transfer |
| Hazard | |

Risk is all around us but rather than be worried about it, we can in fact do many things to get rid of it or at least minimize how it affects our financial (and emotional) health. That's what this lesson is all about.

Risk and Loss

Risk is defined as uncertainty as to the occurrence of loss in the future. Here we will often refer to a "risk event," meaning an unintentional accident or occurrence resulting in loss or damage. Although there are different types of loss, we are concerned only with financial loss. We can take action with regard to certain risks, be oblivious to some, and pay no attention to others. As individuals and families we face risks but so do business entities (sole proprietors, partnerships, and corporations), and even non-profit and governmental entities.

There are risks for which there is both a chance to lose or to gain. These are termed speculative. If you open a new business or hire a new employee or take on a contract to build a building, you stand a chance of making a profit or taking a loss. On the other hand, the risk of a fire or windstorm damage to a building poses only a threat of loss; there's no gain if there isn't a fire. Any risk for which there is only a chance of loss is called a pure risk. We are concerned here only with pure risk. Note that we mean only risks that are fortuitous from the point of view of the person or entity suffering, not intentional losses.

There are many conditions that affect the likelihood (chance) a loss will occur. These are known as hazards. An untidy work place, unsafe equipment, inadequate training all increase the chance of loss. Many losses can be avoided altogether by careful attention to reducing or eliminating hazards.

What we do about pure risk depends largely on how serious we consider it to be. This means we have to have a way to measure it. This involves two considerations:

BUSINESS ANALYSIS

SECTION C – INSURANCE AND BONDING

LESSON 2

Principles of Insurance

Objectives

After completing this lesson, you will be able to:

➤ Explain:

What insurance is and how it works
The structure of a policy

➤ Define:

| | |
|----------------------|--------------------|
| Peril | Indemnity |
| Subject of insurance | Insurable interest |
| Subrogation | Lines of insurance |
| Actual cash value | Probability |

Insurance provides peace of mind and financial security. Few enjoy paying premiums but those who collect for losses are glad they had insurance protection. Here we will study how the insurance mechanism operates and learn that the premium we pay is simply our share of the losses suffered by the policyholder group to which we belong.

What Is Insurance?

Insurance is a device for sharing the financial cost of losses. Assume for example, 100 homeowners each with the same type and value of home located in the same neighborhood get together to protect themselves against loss by fire. No one knows in advance who will suffer a loss or how much the damage will be, if any. The maximum would be the value of the dwelling for each. One member of the group, a mathematician, estimates by using probability theory and statistics of prior losses, that the expected total amount of loss to the group as a whole during the next year will be \$20,000. This means that each homeowner's share of this total will be \$200. By each contributing \$200 to a fund, there will be enough money to pay those who have a loss, up to the total of \$20,000. If the losses are not that large there would be a surplus for use in later years; if the losses exceeded the funds each member would have to be assessed unless there was a reserve.

Before you buy insurance you face uncertainty: Will a loss occur? If it does, how much will you suffer? Through the purchase of an insurance policy you transfer risk and thus eliminate the uncertainty. If you have a loss, the insurer will pay, presuming you obtained adequate coverage. There's little uncertainty for the insurance company because it can estimate fairly closely what its losses will be. We say that the insurer is a professional risk-bearer to which each of us can pass (transfer) our risks.

BUSINESS ANALYSIS
SECTION C – INSURANCE AND BONDING
LESSON 3
Organization of the Insurance Industry

Objectives

After completing this lesson, you will be able to:

➤ Explain:

The major functions of an insurance company
The role of agents and brokers

➤ Define:

| | |
|---------------------------|--------------|
| Carrier | Reciprocal |
| Direct Writing | Reinsurance |
| Excess and Surplus | Stock |
| Independent Agency System | Underwriting |
| Mutual | |

The insurance industry has three components: State regulators, intermediaries (agents and brokers) and insurance companies. Intermediaries may also be called producers; companies are called carriers. Your contact will primarily be with intermediaries but you need to know how everything fits together to form one of the most important industries in the country.

Insurance Regulation

Each state has an insurance department or commission which regulates both life and non-life business through licensing and periodic examination of licenses. Statutory authority for this regulation is found in the state Insurance Code. Note there is no direct Federal regulation; although agencies, such as the Federal Trade Commission (FTC) and the Securities and Exchange Commission (SEC) do have jurisdiction over some activities.

The goal of state regulation is to avoid insurer insolvencies and abuse of policyholders. It works to achieve these objectives by imposing minimum financial strength for new insurers, regulating the type of investments carriers can make with premium funds, requiring submission of detailed statements which are examined to detect financial instability, and by maintaining a policyholder "complaint department" to assist insureds and claimants in resolving controversies with insurers and producers.

BUSINESS ANALYSIS
SECTION C – INSURANCE AND BONDING
LESSON 4
Personal Insurance

Objectives

After completing this lesson, you will be able to:

➤ Explain:

How to identify the risks that threaten your financial security
The major personal insurance policies

➤ Define:

| | |
|------------|---------------|
| Annuity | Major Medical |
| CPI | Negligence |
| Disability | Umbrella |
| Homeowners | |

Each of us should be aware of the risks we face and learn how to manage and control them to minimize the impact on our economic health. In this lesson we will look at the wide variety of personal (non-business) loss exposures that individuals face and study the major personal lines insurance policies.

Exposure to Loss

Individuals face four major categories of exposure to loss:

- | | | |
|----|------------|--|
| A. | Property: | home and personal property; |
| B. | Liability: | being held responsible for injuries cause to others; |
| C. | Person: | illness, accident, death; |
| D. | Income: | unemployment; disability, investment. |

Here's how you can analyze each category and use insurance to transfer your risk.

Property Insurance

If you own a house or condo unit, you would suffer a loss if it were damaged or destroyed by a physical peril. In condominiums the structure will be insured by the condo homeowners association but each unit owner needs to have coverage on the interior and personal property. If you rent, your living accommodation will not suffer the loss of the structure (the owner will), but if you cause the damage, you might be held liable for it.

BUSINESS ANALYSIS
SECTION C – INSURANCE AND BONDING

LESSON 5
Loss to Business Property

Objectives

After completing this lesson, you will be able to:

➤ Explain:

How to identify the property risks a business faces.
The major business property insurance policies

➤ Define:

| | |
|--------------------------|----------------------|
| Agreed Amount | Dishonesty Insurance |
| Apportionment | Extra Expense |
| Bailee | Fire Legal Liability |
| Blanket | Leasehold Interest |
| Builder's Risk | Non-concurrency |
| Business Interruption | Pro Rata Liability |
| Contingent Liability | Reporting Form |
| Coinsurance | Valuable Papers |
| Difference in Conditions | |

A business is exposed to the possibility of loss or damage to tangible property it owns, or for which it is responsible. The perils include all the physical causes you can think of as well as crime, including those committed by employees. Here we will examine the major property insurance forms, with special emphasis on those used for the construction industry; liability risks will be treated in Lesson 6.

Exposure to Property Loss

There are three major exposure areas:

1. Buildings – both owned and rented or leased structures of all types;
2. Business Personal Property – all types including furniture and fixtures, manufacturing machinery and equipment, inventory or stock, electronic equipment such as computers, fax, scanners, and contractor's tools and mobile equipment;
3. Business Income – including profits and rental income.

In the Business Income area, we are concerned with loss from the shutdown of the business as a result of physical damage to or destruction of business property. In addition, destruction of records and documents may prevent the collection of accounts receivable or make it necessary to prevent the collection of accounts receivable or make it necessary to recreate plans,

BUSINESS ANALYSIS

SECTION C – INSURANCE AND BONDING

LESSON 6

Business Liability

Objectives

After completing this lesson, you will be able to:

➤ Explain:

How to identify the liability risks a business faces
The major business liability insurance policies

➤ Define:

| | |
|----------------------------|------------------|
| Care, custody, and control | Occurrence |
| Completed operations | Personal injury |
| Contingent | Products |
| Contractual | Punitive damages |
| Experience credit | Tort-feasor |
| Hazards | |

The liability exposure for a business is by far the most serious of all the risks it faces. A simple negligent act may result in the firm being held liable for millions of dollars in damages. Without adequate liability coverage, a business can be destroyed.

Although having high enough liability limits is critical, it's imperative that the firm's liability insurance cover all of the hazards. To make certain it does careful risk analysis is essential. In this lesson, we'll examine the nature of liability risk and the ways in which hazards can be insured.

Liability Exposure

As business operators and their employees carry on business activities there is a chance that people will be injured or property will be damaged. These events lead to claims for damages. It then is necessary to determine whether the firm is liable, how much actual injury or damage has occurred, and how the claim can be settled. Here we are concerned only with claims arising from accidental or fortuitous events, not intentionally caused damage. In general, intentional acts are not insurable.

Law of Negligence: The law imposed the obligation on everyone, including business entities, to avoid injury to others. The expression "Law of Negligence" really applies to many different statutes, not a single law. These vary somewhat from one state to another but the basic result is universal: If someone is hurt or their property is damaged as a consequence of the actions of a business owner or employee, the firm may be held liable. (You should review lesson Four to

BUSINESS ANALYSIS
SECTION C – INSURANCE AND BONDING
LESSON 7
Insurance for Personnel

Objectives

After completing this lesson, you will be able to:

➤ Explain:

How to identify the risks a business faces with respect to its employees

Workers' Compensation and insurance coverage for employee benefit programs

➤ Define:

Dividends

Industrial injury

Employers' liability

ERISA

Participating Policies

OASHDI

State Funds

Workers' Compensation

In addition to risking the loss of property and facing the possibility of being held liable for negligence, an employer must also be concerned about employees being hurt on the job. But that's not all. Employers must also provide employee benefit packages including life and health insurance and retirement plans. And finally, employers must pay taxes to cover unemployment compensation and social security. It's a wonder there's anything left to pay the employer! In this lesson we will analyze these exposures and review the major insurance contracts customarily used to transfer the risk.

Personnel Exposures

The greatest exposure is that of industrial accident. For all practical purposes, whenever an employee is hurt on the job the employer will have to provide medical care and payment for lost wages. The extent of the employer's responsibility varies somewhat from one state to another and there is continuing pressure to bring all states into uniformity. Note that the employer may also be responsible for occupational disease.

How about responsibility for loss or damage to employees' personal property such as tools, equipment (including autos) and even clothing? When it can be shown that loss to such property is attributable to an employer's failure to protect it, employers have been held liable. In general, this exposure can be insured under the firm's property insurance but requires specific action.

Few employers can attract new employees or retain present staff if they do not provide a benefit package of life, health, dental, and retirement coverage.

BUSINESS ANALYSIS
SECTION C – INSURANCE AND BONDING

LESSON 8
Suretyship

Objectives

After completing this lesson, you will be able to:

➤ Explain:

How to identify the risks a business faces with respect to Suretyship obligations

Dishonesty insurance

The procedure for contract bonding

➤ Define:

Attorney-in-Fact

Bid Bond

Dishonesty Insurance

Fidelity Bond

Indemnity

Net Quick

Payment Bond

Performance Bond

Principal

Obligee

Suretyship

Every employer faces the risk of financial loss because of the dishonesty of employees. The most trusted employee is the one with the greatest opportunity to cause a loss. Many businesses require surety bonds to meet government requirements, such as to support a license or permit, to guarantee court costs when there is litigation, and for a variety of other circumstances. Public officials, including a Notary Public, must post a bond assuring faithful performance. Contractors need surety bonds to support construction and supply contracts for both public and private work.

While surety bonds are clearly not insurance contracts, they are underwritten by property and casualty insurers and are obtained through the same agent or broker used for insurance. In this lesson, we'll study how bonding differs from insurance and the significance of these differences.

Suretyship Exposure

Here we are concerned, in all instances, with an agreement or promise one entity makes to another, and how that undertaking is backed by an entity acting as surety. The terminology is important:

Principal: the person who makes a promise;

Obligee: the person or entity to whom the promise is made;

Surety: the person or entity who agrees to step in to perform if the Principal defaults.