Labor Economics: Introduction and Overview

1. The relative scarcity of labor and other productive resources provides an incentive for society to use such resources efficiently.

2. The importance of labor economics is reflected in (a) current socioeconomic issues and problems, (b) the quantitative dominance of labor as a resource, and (c) the unique characteristics of labor supply and demand.

3. In the past two decades the field of labor economics has put greater emphasis on economic analysis and has deemphasized historical, institutional, and legal aspects.

4. The economic perspective assumes that (a) labor and other resources are relatively scarce, (b) individuals and institutions make rational or purposeful decisions, and (c) decisions are altered or adapted in the light of changing economic circumstances.

5. This volume examines a series of pertinent microeconomic and macroeconomic topics, as outlined in Figure 1.1.

6. An understanding of the content and analytic tools of labor economics contributes to more intelligent personal and social decisions.
The Theory of Individual Labor Supply

1. In the work-leisure choice model, an indifference curve shows the various combinations of income and leisure that will yield a given level of utility to an individual. Indifference curves are convex to the origin, reflecting a diminishing marginal rate of substitution of leisure for income. Curves farther from the origin indicate higher levels of utility.

2. The budget (wage) constraint line shows the various combinations of income and leisure that are obtainable at a given wage rate. The absolute value of the slope of the budget line reflects the wage rate.

3. The individual achieves an optimal or utility-maximizing position by selecting the point that puts him or her on the highest attainable indifference curve.

4. Changing the wage rate and observing predicted changes in one's optimal position suggest the possibility of a backward-bending individual labor supply curve.

5. The impact of a wage change on hours of work depends on the sizes of the income and substitution effects. The income effect measures the portion of a total change in desired hours of work that is due solely to the change in income caused by the wage change. The substitution effect is the portion of a total change in desired hours of work that is due solely to the wage rate change, the level of income or utility being held constant. For a wage increase (decrease), the income effect decreases (increases) while the substitution effect increases (decreases) desired hours of work.

6. Empirical evidence suggests that women are significantly more responsive to a wage change in their labor supply decisions than are men.

7. The responsiveness of the quantity of labor supplied to a given change in wage rates is measured by the elasticity of labor supply. This is calculated as the percentage change in quantity of labor supplied divided by the percentage change in the wage rate. In contrast, changes in nonlabor income or work-leisure preferences alter the location of an individual's labor supply curve.

8. The case of nonparticipants—individuals who choose not to do labor market work—is portrayed by a corner solution on the right vertical axis of the work-leisure model.

9. The reservation wage is the lowest wage rate at which a person would decide to work.

10. A worker may be overemployed or underemployed when forced to conform to a standard workday. A worker is overemployed (underemployed) when for the standard workday his or her marginal rate of substitution of leisure for income is greater (less) than the wage rate.

11. A system of premium pay—such as time and a half for overtime work—has a more positive effect on work incentives than the straight-time wage rate that would yield an equivalent income for the same hours of work.

12. Most income maintenance programs entail a basic benefit and a benefit reduction rate from which the break-even level of income can be calculated. Because (a) the basic benefit causes only an income effect and (b) the benefit reduction rate reduces the net wage rate, the income and substitution effects both contribute to a decline in desired hours of work.

13. Welfare is no longer an entitlement, but rather is a temporary assistance program. Between 1996 and 2008, the number of welfare recipients declined by about 65 percent.
Population, Participation Rates, and Hours of Work

1. The aggregate quantity of labor supplied depends on population size, the labor force participation rate, and the number of hours worked weekly and annually.

2. It is fruitful to examine and explain participation rates in terms of Becker's time allocation model. This model views households as producing utility-yielding commodities by combining goods and time. In this context, household members allocate their time to labor market work, household production, and consumption on the basis of comparative advantage.

3. The labor force participation rate is the actual labor force as a percentage of the potential or age-eligible population.

4. In the post-World War II period the aggregate participation rate has drifted upward from about 59 percent in 1950 to about 66 percent in 2008. This is basically the result of greater participation rates of women (particularly married women), which have more than offset the declining participation rates of males.

5. Older males account for most of the decline in male participation rates. The declining participation rates of older men are attributed to (a) rising real wages and earnings, (b) the availability of public and private pensions, (c) greater access to disability benefits, and (d) age-earnings profiles that suggest that the cost of leisure may decline for older workers.

6. Rising participation rates for women have been caused by (a) rising relative wage rates for women, (b) stronger female preferences for labor market work, (c) rising productivity within the household, (d) declining birthrates, (e) greater marital instability, (f) the greater accessibility of jobs, and (g) attempts to maintain family standards of living.

7. The participation rates of African-American women and white women are nearly identical today. In the past, the rates of African-American women exceeded those of white women.

8. The participation rates of African-American males have declined over time and are currently 6-7 percentage points lower than for white males. Some analysts stress such demand-side factors as labor market discrimination, inferior educational opportunities, and the geographic inaccessibility of jobs in explaining lower African-American rates. Others focus on such supply-side factors as the availability of public assistance and illegal activities.

9. Cyclic changes in participation rates reflect the net impact of the added-worker and discouraged-worker effects. The added-worker effect suggests that when a family's primary breadwinner loses his or her job, other family members will become labor market participants to sustain the family's income. The discouraged-worker effect indicates that during recession, some unemployed workers will become pessimistic about their prospects for reemployment and will therefore withdraw from the labor force. Most empirical studies suggest that the discouraged-worker effect is dominant, with the result that the aggregate labor force participation rate varies inversely with the unemployment rate.

10. The average workweek and workyear declined during the 1910-1940 period, but since World War II both have been quite stable. The earlier workweek and workyear declines have been explained in terms of the income effect's domination of the substitution effect as real wage rates have risen historically. The post-World War II stability of the workweek and workyear has been attributed to increases in education as well as other factors.
Labor Quality: Investing in Human Capital

1. Expenditures on education and training that increase one’s productivity and future earnings in the labor market can be treated as a human capital investment decision.

2. The decision to invest in a college education entails both direct (out-of-pocket) and indirect (forgone earnings) costs. Benefits take the form of future incremental earnings.

3. There are two basic methods of comparing the benefits and costs associated with a human capital investment. The net present value approach uses a discounting formula to compare the present value of costs and benefits. If the net present value is positive, it is rational to invest. The internal rate of return is the rate of discount at which the net present value of the investment is zero. If the internal rate of return exceeds the interest rate, it is rational to invest.

4. Most empirical studies suggest that the rate of return on investing in a college education has ranged from 10 to 15 percent.

5. The college wage premium—the percentage differential in the earnings of college and high school graduates—has varied significantly over time, rising rapidly since 1979. Changes in the supply of and the demand for college and high school graduates can be used to explain changes in the college wage premium.

6. From a private perspective, the human capital decision excludes public subsidies to education, considers after-tax earnings, and ignores any social or external benefits associated with education. The social perspective includes public subsidies and external benefits and considers before-tax earnings.

7. The demand for human capital curve and the supply of investment funds curve can be combined to explain why various people invest in different amounts of human capital. Ability differences, discrimination, and varying access to financial resources all help explain differences in education and earnings among individuals.

8. The money market may provide funds for human capital investment on less favorable terms than for investment in physical capital, providing some justification for public subsidization of human capital investments.

9. It is useful to distinguish between general and specific on-the-job training. General training generates worker skills that are useful in all firms and industries. Specific training is useful only in the specific firm providing that training. Given competitive markets, workers will normally pay for general training provided by a firm by accepting lower wages during the training period. An exception may occur where firms must pay a legal minimum wage. Employers pay for specific training. Seeking to retain trained workers, employers may share with workers the increases in total revenue resulting from specific training.

10. Criticisms of human capital theory include the following: (a) By failing to recognize that a part of education expenditures is consumption rather than investment, empirical studies underestimate the rate of return on education; (b) empirical studies underestimate the rate of return on a college education by not taking into account that the jobs of college graduates are more pleasant and entail better fringe benefits than the jobs of high school graduates; (c) to the extent that the incremental earnings of college graduates are due to their greater ability and not to schooling per se, the rate of return on a college education will be overstated; (d) if a portion of the incremental earnings of college graduates is attributable to screening, the social rate of return on a college education will be overstated.
1. The demand for labor is a derived demand and therefore depends on the marginal productivity of labor and the price or market value of the product.

2. The segment of the marginal product curve that is positive and lies below the average product curve is the basis for the short-run labor demand curve. More specifically, the short-run demand curve for labor is determined by applying the \( MRP = W \) rule to the firm's marginal revenue product data.

3. Other things being equal, the demand for labor curve of a perfectly competitive seller is more elastic than that of an imperfectly competitive seller. This difference occurs because the imperfectly competitive seller needs to reduce product price to sell additional units of output, whereas the purely competitive seller does not. This also means that the imperfectly competitive seller's marginal revenue product curve lies to the left of the corresponding value of marginal product curve, whereas marginal revenue product and the value of the marginal product are identical for the perfectly competitive seller.

4. A firm's long-run labor demand curve is more elastic than its short-run curve because in the long run the firm has sufficient time to adjust nonlabor inputs such as capital. In the short run a wage change produces only an output effect; in the long run it also creates a substitution effect. Additionally, such factors as product demand elasticity, labor–capital interactions, and technology contribute to the greater long-run wage elasticity.

5. The market demand for a given type of labor is less elastic than a simple horizontal summation of the short- or long-run demand curves of individual employers. The reason for this is that as employers as a group hire more workers and produce more output, product supply will increase significantly and product price will therefore decline.

6. The elasticity of labor demand is measured by comparing the percentage change in the quantity of labor demanded with a given percentage change in the wage rate. If the elasticity coefficient is greater than 1, demand is relatively elastic. If it is less than 1, demand is relatively inelastic. When demand is elastic, changes in the wage rate cause the total wage bill to change in the opposite direction. When demand is inelastic, changes in the wage rate cause the total wage bill to move in the same direction.

7. The demand for labor generally is more elastic (a) the greater the elasticity of product demand, (b) the larger the ratio of labor cost to total cost, (c) the greater the substitutability of other inputs for labor, and (d) the greater the elasticity of supply of other inputs.

8. The location of the labor demand curve depends on (a) product demand, (b) the marginal productivity of labor, (c) the number of employers, and (d) the prices of other inputs. When any of these determinants of demand change, the labor demand curve shifts to a new location.

9. Labor and capital can be either substitutes or pure complements in production. If they are substitutes in production, they can be either gross substitutes or gross complements. When the price of a gross substitute changes, the demand for the other resource changes in the same direction. When the price of gross complement changes, the demand for the other resource changes in the opposite direction.

10. The concepts of labor demand, changes in labor demand, and the elasticity of labor demand have great applicability to real-world situations.
**Wage Determination and the Allocation of Labor**

1. In a competitive labor market, the demand for labor is a price-adjusted summation of labor demand by independently acting individual employers, and the supply of labor is a summation of the responses of individual workers to various wage rates. Market supply and demand determine an equilibrium wage rate and level of employment.

2. The vertical height of the market labor supply curve measures the opportunity cost to society of employing the last worker in some specific use \( (P_l) \). The vertical height of the labor demand curve indicates the extra revenue the employer gains by hiring that unit of labor (MRP) and, given perfectly competitive markets, the value of that output to society (VMP).

3. The locations of the supply and demand curves in the labor market depend on the determinants of each (Table 6.1). When one of these determinants changes, the affected curve shifts either rightward or leftward, altering the equilibrium wage and employment levels.

4. The individual firm operating in a perfectly competitive labor market is a wage taker. This implies that its MWC equals the wage rate \( W \); that is, the supply of labor is perfectly elastic. This firm maximizes its profits by hiring the quantity of labor at which MRP = MWC, or MRP = \( W \).

5. An efficient allocation of labor occurs when the VMPs of a particular type of labor are equal in various uses and these VMPs also equal the opportunity cost \( P_l \) of that labor. Perfectly competitive product and resource markets result in allocative efficiency. By maximizing profits where MRP = MWC, firms also equate VMP and \( P \) because MRP = VMP and MWC = \( P_l \).

6. Monopoly in the product market causes marginal revenue to fall faster than product price as more workers are hired and output is expanded. Because product price \( P \) exceeds marginal revenue MR, it follows that MRP (= MP \times MR) is less than VMP (= MP \times \( P \)). The result is less employment and an underallocation of labor resources relative to the case of perfect competition in the product market.

7. Under monopsony MWC > \( S_l \) (or \( P_l \)) because the employer must bid up wages to attract a greater quantity of labor and pay the higher wage to all workers. Consequently, it will employ fewer workers than under competitive conditions and pay a wage rate below the MRP of labor. This underallocation of labor resources (VMP > \( P_l \)) reduces the total value of output in the economy.

8. The cobweb model traces labor supply adjustments to changes in labor demand and wage rates in markets characterized by long training periods. The equilibrium wage rate is achieved only after a period of oscillating wage rate changes caused by recurring labor shortages and surpluses.
1. Total compensation consists of wage and fringe benefits. Fringe benefits include *legally required benefits*, such as Social Security contributions, and *voluntary benefits*, such as paid leaves, insurance benefits, and private pensions. About 30 percent of total pay takes the form of fringe benefits, broadly defined.

2. An employee's preferences for wages and fringe benefits can be set forth in an indifference map. Each indifference curve shows the various combinations of wages and fringe benefits that yield a given level of utility. An employer's normal-profit isoprofit curve displays the various combinations of wages and fringe benefits that yield a normal profit. The worker achieves an optimal or utility-maximizing combination of wages and fringe benefits by selecting the wage–fringe mix that enables the worker to attain the highest possible indifference curve.

3. Several factors explain the historical growth of fringe benefits. These include (1) the tax advantages they confer; (2) the scale economies resulting from their collective purchase; (3) their ability to reduce job turnover and motivate workers; (4) the sensitivity of fringe benefits, such as medical and dental care, to increases in income; (5) legal mandates by the federal government; and (6) the historical growth of union contracts, in which fringe benefits are relatively large.

4. The relationship between firms and workers is one of principals (firms) and agents (workers). Firms attempt to reduce the so-called principal–agent problem, which occurs when agents pursue their own goals rather than the objectives of the principals.

5. Piece rates, commissions, and royalties are pay schemes designed to tie pay directly to productivity.

6. Workers receiving annual salaries may have an incentive to reduce work hours below levels that they would work if they were paid by the hour. The prospect of raises and promotions reduces this principal–agent problem.

7. Bonuses can elicit greater work effort and thereby increase productivity. But bonuses attached to personal performance may direct behavior away from team goals. Bonuses based on team or firm performance help solve this problem but create a potential free-rider problem when the team is large. Research indicates that executive bonuses have some positive effect on corporate performance.

8. Assuming minimal free-rider problems, profit-sharing plans and stock options synchronize the interests of firms and their workers. Recent research points toward a positive link between profit sharing and productivity.

9. Tournament pay assigns an extraordinarily high reward to the top performer and is designed to maximize performance by all who are striving to achieve the top spot. Some observers view high CEO pay as an efficient aspect of such pay schemes. Critics dismiss this idea as being a rationalization of excessive CEO pay, arguing instead that high CEO pay has resulted from improper corporate board oversight of stockholders' interests.

10. In situations where supervision of workers is minimal, a dependence between the wage paid and productivity may occur. The firm may find that it can increase its profits by paying an efficiency wage—a wage above the market-clearing wage. An interesting implication of efficiency wage theories is that persistent unemployment may be consistent with equilibrium in the labor market.
The Wage Structure

1. Theoretically, if all workers and jobs were homogeneous and all labor markets were perfectly competitive, then workers would move among the various jobs until the wages paid in all markets were identical.

2. Casual and empirical examinations of wage rates and weekly earnings reveal that a variety of wage differentials exist and that many of them persist over time.

3. Several nonwage aspects of jobs influence supply decisions in ways that generate compensating wage differentials. These nonwage factors include (a) risk of job injury and death, (b) fringe benefits, (c) job status, (d) job location, (e) the regularity of earnings, and (f) the prospect for wage advancement.

4. Differences in skill requirements also produce wage differences. Other things being equal, to attract enough laborers to an occupation requiring considerable prior investment in human capital, employers must pay these workers more than they pay less skilled employees.

5. Efficiency wage theories have been advanced to explain pay differences within and among industries. These theories predict that wages will be higher where it is difficult to monitor the performance of workers, where the costs to employers of mistakes by individual workers are large, and where high labor turnover significantly reduces productivity.

6. Another major source of wage disparities is heterogeneous workers. Specifically, workers possess greatly varying stocks of human capital and differing preferences for various nonwage aspects of work. Consequently, the overall labor market is composed of numerous submarkets consisting of groups of workers who offer little competition to other groups.

7. The hedonic theory of wages hypothesizes that workers who possess differing subjective preferences for wages compared to nonwage job amenities seek optimal matches with employers who differ in their costs of providing those nonwage attributes. Among a wide variety of implications that flow from this model is the basic one that labor markets will generate sustained wage differentials, even among people who have similar stocks of human capital.

8. Imperfect and costly market information is another reason that wage differentials exist. Imperfect and costly information creates ranges of wage rates, independent of other factors, and explains why transitional wage differentials often are long-lasting.

9. Labor market immobilities—geographic, institutional, and sociological—also help explain persistent earnings differences among workers.
1. Mobility takes numerous forms, including occupational mobility and geographic mobility.

2. The decision to migrate can be viewed from a human capital perspective, by which the present value of expected gains in lifetime earnings is compared to investment costs (transportation expenses, forgone income during the move, and psychic costs).

3. Various factors can influence the decision to migrate. Age is inversely related to the probability of migrating; family status influences the migration decision in several ways; educational attainment and mobility are positively related; the likelihood of migration and the distance of the move are negatively related; unemployed people are more likely to move than those who have jobs; and a high unemployment rate in a destination area reduces the probability that an unemployed worker will migrate there.

4. The average lifetime rate of return on migration is positive and is estimated to be in the 10 to 15 percent range.

5. Labor mobility contributes to allocative efficiency by relocating labor resources away from lower-valued and toward higher-valued employment. Under conditions of perfect competition and costless migration, workers of a given type will relocate until the value of the marginal product of labor (VMP) is the same in all similar employments (VMP_a = VMP_b = . . . = VMP_n), at which point labor is being allocated efficiently.

6. Along with the positive outcomes, migration may generate negative externalities, which if real may reduce the efficiency gains of migration and if pecuniary may alter the distribution of income among various individuals and groups in origin and destination areas.

7. Wage differentials may generate capital and product flows that tend to equalize wages in the long run and reduce the extent of labor migration.

8. Total annual immigration to the United States has averaged about 650,000 during the 1980s and about 850,000 since 1992.

9. Illegal aliens in the United States do not reduce native employment by the full extent of the employment of the illegals, but they do depress wage rates in some labor markets. The overall wage effect of illegal immigration is thought to be slight.
Labor Unions and Collective Bargaining

1. Unions are in part the consequence of industrialization, which changed the economy from one dominated by self-employment to one where labor depends on management for employment and earnings.

2. Approximately 16.1 million workers—about one worker in nine—belong to a labor union. Membership is relatively strong in goods-producing industries and weak in service-providing industries. Unionization is also relatively strong in the public sector.

3. Male, older, and African–American workers are more likely to belong to unions than female, young, and white workers. These differences are largely explained by the industrial and occupational affiliations of these demographic groups.

4. Labor unions are strongest in the heavily urbanized, heavily industrialized states and are relatively weak in the South.

5. The structure of the labor movements reveals three basic levels of union organization. The American Federation of Labor and Congress of Industrial Organizations (AFL–CIO) is concerned with formulating and expressing labor's political views and resolving jurisdictional disputes among national unions. The Change to Win federation focuses on organizing unorganized workers. The national unions negotiate collective bargaining agreements as well as organize workers. The task of administering bargaining agreements falls primarily to the local unions. Bargaining structures are many and diverse.

6. Unionism has been declining relatively in the United States. Some labor economists attribute this to changes in the composition of domestic output and in the demographic structure of the labor force that have been uncongenial to union growth. Others contend that employers, recognizing that unionization lowers profitability, have more aggressively sought by both legal and illegal means to dissuade workers from being union members. Still others feel that government programs and "progressive" labor relations by employers have usurped many of organized labor's traditional functions, lessening workers' perceived need for union membership.

7. The monopoly union model assumes that the union sets the wage rate, and the firm determines the level of union employment based on this wage rate. The model results in a settlement on the firm's labor demand curve. Compared to the nonunion outcome, the wage rate will be higher and the employment level will be lower.

8. The monopoly union model outcome is not efficient for the firm and union because other wage and employment combinations can make at least one party better off without making the other party worse off.

9. The efficient contracts model assumes that the union and firm bargain over the wage rate and employment, rather than just the wage rate. In general, the efficient contract outcome will result in lower wages and more employment than the monopoly union outcome.

10. Unions can increase the wage rate paid to members who are employed by (a) increasing the demand for labor, (b) restricting the supply of labor, and (c) bargaining for an above-equilibrium wage. To increase the demand for labor, unions try to increase product demand, enhance productivity, influence the price of related inputs, and increase the number of employers. To restrict labor supply, unions attempt to affect the number of qualified suppliers, nonwage income, and alternative wages. To control labor supply, unions organize inclusively and bargain for union shops.

11. In the accident strike model, strikes occur because one or both parties misperceive the willingness of the other party to concede.

12. Models of strikes based on asymmetric information imply that strikes result from information differences either between union leaders and the rank-and-file union members or between the union and the firm.
The Economic Impact of Unions

1. Considerations other than the presence of unions may explain at least in part why strongly unionized industries pay higher wages than weakly organized industries. These factors include relatively fewer female workers, larger-scale plants, and more capital-intensive production methods in the strongly unionized industries.

2. The pure union wage advantage \( A \) is equal to \( \frac{(W_u - W_n)}{W_n} \times 100 \), where \( W_u \) is the union wage and \( W_n \) the nonunion wage that would exist without unions.

3. The spillover and superior worker effects cause the measured union wage advantage to overstate the pure wage advantage; the threat and product market effects cause the measured union wage advantage to understate the pure wage advantage.

4. Research evidence consistently indicates that unions achieve a wage advantage for their constituents, although the size of the advantage varies substantially by occupation, industry, race, and gender. Estimates by Lewis for the 1923–1958 period suggest that the average union wage advantage was on the order of 10–15 percent, but the advantage widens during depression and diminishes when unexpected inflation occurs. The union wage advantage widened in the mid-1970s. The advantage has fallen since then to 17 percent.

5. Union workers also generally receive a higher level and greater variety of fringe benefits, causing the union total compensation advantage to exceed the wage advantage.

6. Disagreement exists about whether the net effect of unions on allocative efficiency and productivity is positive or negative. The negative view cites (a) the inefficiencies associated with union-imposed work rules, (b) the loss of output through strikes, and (c) the misallocation of labor created by the union wage advantage.

7. The positive view contends that (a) union wage pressure spurs technological advance and the mechanization of the production process and (b) as collective voice institutions, unions contribute to rising productivity by resolving worker grievances, reducing labor turnover, enhancing worker security, and inducing greater managerial efficiency.

8. Consensus exists that unions reduce firm profitability, but disagreement arises over whether this reduction has undesirable effects on economic efficiency.

9. Those who contend that unions increase earnings inequality argue that (a) unionization increases the wages of union workers but lowers the wages of nonunion workers; (b) unions are strongest among highly paid, skilled blue-collar workers but are relatively weak among low-paid, unskilled blue-collar workers; and (c) union wage increases generate an increase in the demand for high-quality workers and a decline in the demand for low-quality workers. The opposing view is that unions contribute to greater earnings equality because (a) unions seek uniform wages for given jobs within firms, (b) unions favor uniform wages among firms, and (c) unions have achieved higher wage gains for relatively low-paid blue-collar workers than for relatively high-paid white-collar workers. Recent empirical evidence finds that unionism does reduce wage inequality and that the decline of unionism has contributed to growing wage inequality.
Government and the Labor Market: Employment, Expenditures, and Taxation

1. Government employment has increased both absolutely and as a percentage of total employment since 1950. The growth rate of public sector employment has been greatest at the state and local levels of government.

2. Federal workers had higher wage rates in the 1970s than comparably educated and experienced private sector employees, but that pay differential largely eroded during the 1980s and 1990s.

3. The total economic cost of allocating labor to the military consists of the total value of the alternative output (income) that is forgone. A voluntary army requires that economic costs be paid by taxpayers; a drafted army at below-market wage rates imposes some of the costs on those who are conscripted.

4. Taken alone, government’s provision of goods and services may create an income effect that reduces one’s optimal supply of hours of work.

5. Government transfer payments and subsidies affect the composition of labor demand in the economy and also influence labor supply decisions.

6. Other things being equal, the more elastic the overall labor supply in the economy, the greater the extent to which a personal income tax will cause (a) a decline in the hours of labor supplied, (b) an increase in the market wage, and (c) lower overall employment. Most economists, however, judge the aggregate labor supply curve to be highly inelastic.

7. The impact of an income tax on an individual’s optimal supply of labor is theoretically indeterminate in that the tax generates income and substitution effects that work in opposite directions with respect to the quantity of labor supplied.
Government and the Labor Market: Legislation and Regulation

1. Labor relations laws and regulations have influenced the growth of both private and public sector unionism in the United States. To the extent that union membership and union bargaining power are positively correlated, labor law influences the determination of wages and employment in labor markets.

2. Labor law in general and specific provisions of labor law in particular influence union bargaining power—and therefore labor market results—indpendently of impacts on union membership.

3. The basic model of a competitive labor market predicts that an above-equilibrium minimum wage applied to all sections of the economy will reduce employment. The more elastic the supply and demand for labor, the greater the resulting unemployment.

4. The existence of a nondiscriminatory monopsony may cause the negative employment and efficiency consequences predicted by the competitive model to not fully materialize.

5. Empirical evidence indicates that the minimum wage (a) reduces employment, particularly for teenagers; (b) increases unemployment of teenagers by less than the reduction in employment; (c) reduces the amount of on-the-job training offered to low-wage workers; and (d) does not greatly alter the degree of family income inequality and extent of poverty.

6. A firm incurs both costs and benefits when it improves the safety of its workplace. A profit-maximizing firm will provide a level of job safety at which its marginal benefit and marginal cost of safety are equal.

7. If workers have full information about possible work hazards and accurately assess job risks, the profit-maximizing level of job safety will tend to be optimal from society's viewpoint. If information is incomplete and job risks are inaccurately assessed, then society's optimal level of job safety may be greater than the level willingly provided by profit-maximizing firms.

8. The Occupational Safety and Health Act imposed a set of workplace safety standards on individual firms. The act is controversial, and the debate over its provisions and methods of enforcement has been heightened by studies that present mixed findings about its effect on the number of work-related accidents.

9. Government affects wages and employment in specific occupations through its rent provision activities. Two examples are (a) occupational licensure that restricts labor supply; and (b) tariffs, import quotas, and domestic content laws, which increase labor demand for protected domestic workers.
Labor Market Discrimination

1. Empirical data suggest that (a) the earnings of full-time female and African–American workers are substantially less than those of white male workers; (b) African–Americans have higher unemployment rates than whites; (c) occupational distributions differ significantly by gender and race; (d) there are gender and racial differences in human capital acquisition; and (e) women and African–Americans have lower total earnings than white men at each level of educational attainment.

2. Discrimination occurs when female or African–American workers—who have the same abilities, education, training, and experience as male or white workers—are accorded inferior treatment with respect to hiring, occupational access, promotion, or wage rates.

3. Forms of labor market discrimination include wage, employment, occupational, and human capital discrimination.

4. According to Becker, some white employers have a "taste for discrimination" that can be measured by the discrimination coefficient \( d \). Prejudiced white employers will be indifferent to hiring African–Americans only when the wage rate of African–Americans is less than that of whites by the monetary value of \( d \). In supply and demand form, the model indicates (a) that a decline in the discrimination coefficient will increase the ratio of African–American to white wages and increase African–American employment, and (b) that the size of the African–American to white wage differential will vary directly with the supply of African–American workers.

5. The theory of statistical discrimination indicates that because detailed information concerning the potential productivity of job applicants is costly to obtain, profit-seeking employers base employment decisions on the perceived characteristics of groups of workers. The imputation of group characteristics to individuals discriminates against many individuals within those groups.

6. The crowding model focuses on occupational segregation. Using supply and demand analysis, it demonstrates that occupational crowding results in lower wages for women (African–Americans), higher wages for men (whites), and a net loss of domestic output. The index of occupational segregation measures the percentage of women or men who would have to change occupations for the occupational distribution of women to be the same as for men. The index for the United States has declined significantly since 1973.

7. Much disagreement exists about the extent to which earnings differentials based on gender or race are rooted in discrimination per se as opposed to rational decision making by women and African–Americans.

8. Economists have found several nondiscriminatory factors that help explain gender and racial pay differentials. Nevertheless, even after these factors are accounted for, large unexplained pay disadvantages for African–Americans and women remain. Many economists attribute these unexplained pay differences to discrimination.

9. Governmental antidiscrimination legislation, policies, and proposals involving direct labor market intervention include the Equal Pay Act of 1963, the Civil Rights Act of 1964, and executive orders applicable to federal contractors.

10. Statistical evidence suggests that antidiscrimination policy has reduced the racial pay gap. There is also evidence indicating that affirmative action programs have increased African–American employment and earnings in affected industries.
Job Search: External and Internal

1. Job search is a natural and often constructive occurrence in a dynamic economy characterized by heterogeneous workers and jobs and by imperfect information.

2. The rational job seeker forms an acceptance wage at a level where the expected marginal costs and benefits of continued search are equal and then compares this wage to actual wage offers.

3. Fully anticipated inflation has no impact on the optimal length of job search because job seekers will adjust their acceptance wages upward at the same rate that nominal wage offers rise. But if job searchers mistakenly view inflation-caused rises in nominal wage offers as real wage increases, they will shorten their job search, and unemployment will temporarily fall.

4. Unemployment benefits extend the optimal length of job search by reducing the net opportunity cost of continuing to seek still higher wage offers.

5. Most firms and plants embody internal labor markets in which wages and the allocation of labor are determined by administrative rules and procedures rather than strictly by supply and demand.

6. Internal labor markets entail hierarchies of jobs called job ladders, which focus on a certain job skill, function, or technology. Having entered the job ladder through a port of entry, internal labor market workers are largely shielded from the competitive pressure of external labor markets.

7. Internal labor markets exist because they generate advantages for both employers and workers. For employers, internal labor markets reduce worker turnover and thereby increase the return on specific training and reduce recruitment and training costs. For workers, internal labor markets provide job security, opportunities for training and promotion, and protection from arbitrary managerial decisions.

8. By providing labor force stability, internal labor markets attract unions; conversely, unions promote and accelerate the development of internal labor markets.

9. It is unclear whether internal labor markets diminish or enhance productive efficiency.
The Distribution of Personal Earning

1. The degree of inequality in personal earnings can be shown by a histogram (absolute frequency distribution), a relative frequency distribution, or a Lorenz curve. A frequency distribution shows either the absolute or the relative number of employed individuals whose annual earnings fall within various ranges of annual earnings. The Lorenz curve portrays the cumulative percentage of all wage and salary earners and their corresponding cumulative percentage of total earnings.

2. The frequency distribution for U.S. earnings evidences considerable bunching around a single mode that is to the left of the median and mean and displays a long rightwardly skewed tail, indicating wide disparities in personal earnings.

3. The Gini coefficient measures the degree of earnings inequality on a scale of zero (complete equality) to 1 (complete inequality). It can be found graphically by comparing the area between the diagonal line and the Lorenz curve to the entire area below the diagonal.

4. Frequency distributions, Lorenz curves, and Gini coefficients of personal earnings must be interpreted cautiously because they (a) differ depending on whether part-time workers are included or excluded, (b) fail to include fringe benefits, (c) do not provide information about family earnings, and (d) display more inequality than when based on income after transfers.

5. According to human capital theorists, approximately one-half to two-thirds of earnings inequality is explained by the interactive differences in people's formal education and on-the-job training.

6. Ability (a) is thought by some economists to influence earnings directly through enhancement of productivity, (b) may take several forms that interact multiplicatively to produce the observed skewed distribution of earnings, and (c) may indirectly have an impact on earnings by determining the return from—and hence the optimal amount of—investment in human capital.

7. Family background, discrimination, extent of risk taking, and degree of luck also are variables that help explain earnings inequality and the rightwardly skewed tail of the earnings distribution.

8. There is considerable movement by individuals within the overall distribution of earnings. This mobility is related to the life cycle, reflecting the generally positive relationship between age and earnings. It can also be of a "churning" nature, in which people with more education, training, ability, or luck rise from lower to higher levels of age-adjusted earnings.

9. The distribution of earnings in the United States has become more unequal over the past 25 years. Potential causes that have been cited include (a) deindustrialization, (b) import competition and the decline of unionism, (c) increased demand for skilled workers, and (d) demographic changes. None of these factors alone can explain the increase in wage and salary inequality. It would appear that demand-side, supply-side, and institutional factors all are involved.
1. Productivity is the relationship between real output and inputs. The "official" Bureau of Labor Statistics (BLS) index of labor productivity is the ratio of real GDP originating in the private sector to the number of worker-hours employed in the private sector.

2. The BLS index overstates productivity growth because it excludes the public sector. On the other hand, it understates productivity growth in that quality improvements in output are ignored. The BLS index measures, but does not reveal the causes of, productivity growth.

3. The advantages of the BLS index are that (a) it is conceptually simple, (b) it automatically takes changes in the length of the workweek into account, and (c) it is directly comparable to hourly wage rates.

4. Economists are interested in labor productivity primarily because changes in productivity correlate closely with changes in real wage rates.

5. Other things being equal, productivity growth offsets increases in nominal wages and thereby restrains increases in unit labor costs and product prices.

6. The basic factors that determine productivity growth are (a) improvements in the quality of labor, (b) increases in the capital–labor ratio, and (c) increased efficiency in the use of labor and capital inputs. Increased efficiency is quantitatively the most important factor.

7. Labor productivity falls below the long-term rate of growth during recession and rises above that rate during recovery. Causal factors include cyclic changes in the use of labor and capital and changes in the relative importance of the manufacturing sector.

8. There is no easily discernible relationship between productivity growth and employment changes in various industries. Price and income elasticities of product demand, coupled with demand shifts from changes in such factors as consumer tastes or public policy, make it virtually impossible to predict whether a productivity increase will be associated with increasing or declining employment in any given industry.

9. The rate of productivity growth accelerated dramatically starting in the second half of the 1990s. Possible structural factors in the rise include (a) increased use of capital relating to information technology and (b) increased technological progress and efficiency.
Employment and Unemployment

1. A person is officially unemployed if she or he is 16 years of age or older, is not institutionalized, and is actively seeking work, waiting to be called back to a job after being laid off, or waiting to report to a new job within 30 days.

2. The official unemployment data have several limitations as measures of economic hardship and as guides to public policy. The stock–flow model sorts out causes of changes in the unemployment rate and provides information about the duration of employment spells for individuals.

3. An unemployment rate of about 4.0–5.0 percent represents a “full” or natural rate of unemployment. At this rate neither an excess demand nor an excess supply of labor occurs, and the actual and expected rates of inflation are equal.

4. Frictional unemployment is a natural and often constructive occurrence in a dynamic economy characterized by heterogeneous workers and jobs, imperfect information, and continuous movements of people among the various categories of labor force status. It can take two basic forms: search unemployment, which is associated with the time required to find a job; and wait unemployment, where workers either wait to be recalled to former jobs or remain in job queues resulting from above-market-clearing wages.

5. Structural unemployment results from a mismatch between the skills needed for available jobs and the skills possessed by those seeking employment. Many of those structurally unemployed are displaced workers who lose their jobs because of permanent plant closings or job cutbacks.

6. Declines in the aggregate demand for goods and services cause a deficiency in the aggregate demand for labor. Wage rates tend to be inflexible downward for a variety of reasons, including the presence of unions, a bias toward layoffs by firms, implicit contracts, and insider–outsider relationships. As a result, involuntary demand-deficient unemployment arises when aggregate demand declines.

7. Unemployment is distributed unevenly in the labor force. For example, the unemployment rate for African–Americans is about twice that for whites.

8. Fiscal policy is a major tool used to combat demand-deficient unemployment, but it is fraught with several complications, including (a) time lags, (b) the need to coordinate fiscal and monetary policies to avoid the crowding-out effect, and (c) tendencies to create inflation.