THE ECONOMIC AND SOCIAL CONTEXT OF SPECIAL POPULATIONS

INTRODUCTION

In theory, the characteristics of work (wages, job tenure and security, skill levels, and working conditions) are driven by supply and demand factors of the labor market. Supply factors include the skills and availability of labor, and the willingness of labor to work. Demand is producer- and consumer-derived from the production and distribution system of goods and services in the industrial and agricultural economy. In practice, however, because the factors that influence the supply of labor change relatively slowly, and because demand-side factors tend to be more volatile, demand drives the market—both within and among nations.

Literature focusing on the impressive performance of industrial economies in this century has argued that "technological innovation is the engine of economic growth."227 We now increasingly hear that "trade is the engine of growth."30 In truth, changes in both technology and international trade are altering the world economy and hence are affecting the demand and supply of labor, the nature of work, and working conditions. Sometimes these two forces—technological innovation and international trade—amplify the effects of each other on workers and jobs; they also may work in opposite directions.

Of one thing we can be sure: the nature of production and services in industrial economies is in a great state of flux. New materials, faster and more powerful computers, electronic and mobile communications, alternative energy systems, miniaturization, robotics, and biotechnology pose new opportunities, problems, and challenges.8,17 Tremendously expanded investment
in the information-based technologies of both manufacturing and services has caused impressive increases in productivity.\textsuperscript{16,24}

However, these changes also brought about the displacement and de-skilling of some labor by capital\textsuperscript{16,26} rising demand for new skills, in some instances;\textsuperscript{2} and the increase of contingent, part-time, and temporary work.\textsuperscript{2,22,23} In the United States, changes in the last two decades have resulted in a 10\textendash{}15\% decrease in the average real wages of production and nonsupervisory workers (the lower 80\% of wage earners) from 1973 levels.\textsuperscript{19} In addition to effects caused by factors within nations, international trading regimes increasingly are affecting both labor\textsuperscript{18} and environmental conditions\textsuperscript{21} in both exporting and importing countries as the globalization of the world's economies accelerates.

Labor, as a factor of production, of course is not monolithic. The particular nature and mix of people making up the workforce is defined by economic, social, and technological forces and trends. The important characteristics of the workforce are:

1. Age (with special concern for older, younger, and child labor)
2. Gender
3. Ethnic or racial makeup
4. Legal status (permanent resident, immigrant, or illegal workers)
5. Skill level (skilled industrial, skilled service, agricultural, and nonagricultural, unskilled workers)
6. The nature of employment (full-time, part-time, and contingent)
7. The extent and nature of disability, including formerly injured workers seeking to return to work
8. Sensitivity and susceptibility\textsuperscript{2}
9. The locus of employment (i.e., in developed or developing nations).

Workers in these categories or with these characteristics—what this volume refers to as "special populations"—may be differentially impacted in terms of wages, working conditions, the nature of their employment, medical care available to them, and disability or workers' compensation.

One additional issue must be addressed. Traditional labor market theory holds that the most important feature of labor that determines whether a worker at a given wage is hired, retained, or dismissed is the match of his/her skills and abilities to the production (or service-related) needs of the employer. However, this view was challenged more than two decades ago by economist Michael Piore at the Massachusetts Institute of Technology, who argued that "dual labor markets" exist for the same work.\textsuperscript{2,6} The workers that make up the so-called primary labor market classically are white, non-minority men, while the workers who make up the secondary labor market are blacks, other minorities, and women. Piore suggested that employment and higher wages went first to workers in the primary labor queue, while secondary workers often were hired later and at lower wages for the same work. Since Piore's classic work, we have witnessed many examples of preferential and prejudicial treatment of workers, as reflected in such terms as "the glass ceiling" and "the token Hispanic."

In \textit{Crisis in the Workplace},\textsuperscript{1} this author suggested that a corollary of the dual labor market would be manifest in (1) lower hazard pay for secondary workers and/or (2) secondary workers having the more hazardous jobs. Indeed, a study of wage differentials in dangerous jobs, when stratified by dividing workers in any particular job category by their primary or secondary nature, revealed a finite wage premium or hazard pay for those in the primary labor group and no wage premium for secondary workers.\textsuperscript{28} Secondary workers valued wages and an opportunity for employment relative to decent working conditions considerably higher than primary workers, with the result that they did not demand wage premiums for dangerous jobs. Furthermore, these special populations exhibit higher than usual injury and fatality rates.\textsuperscript{22} Despite advances made in affirmative action, fairer treatment of workers, and antidiscrimination laws, special populations continue to be more adversely impacted in the workplace, particularly in the areas of remuneration and employment security. In addition, a structural shift to a more temporary, contingent, and otherwise insecure workforce increases the numbers of workers at higher risk.

This chapter addresses some of the salient factors, traceable to trends in the technological development of industrial economies and the increased globalization of the world economy, as well as the impacts on these special populations.

**THE SHIFT FROM AGRICULTURE TO MANUFACTURING TO SERVICE**

Much has been written about the industrial revolution, the transformation of the developed nations from agricultural to manufacturing economies, and the "postindustrial service economy." These changes brought new materials, machinery and equipment, skills, and work organization that are well-known; they also heralded changes in the structure of labor markets.\textsuperscript{3} The changes and trends in the last two decades are of particular importance, because (1) they are profound in their own right, (2) they have resulted in a reduced economic importance of labor as a factor of production \textit{as a whole}, from the perspective of the industrial firm and agricultural industry, and (3) they threaten social stability within both developed and developing nations. Nor is the shift to a service economy without adverse health and safety consequences.\textsuperscript{29,31

**Economic and Technologic Trends**

The postwar economic advances of the United States and Europe and the emergence of developed economies in Asia are generally credited to unprecedented technological innovation as the engine of growth. Capital replaced labor in every traditional economic sphere of activity, thereby increasing labor productivity while reducing the price of food, basic commodities, and consumer goods; these changes led to sufficiently increased demand and sales so that the hiring of workers could continue. Everyone benefited from technology-driven economic "trickle down." There seemed no end to the consumption-driven, production-fed, good economic times.

Sometime in the 1970s, however, various industrial countries began to experience an economic slowdown. The origins of this slowdown were complex, but were related in part to the saturation of demand (sometimes euphemistically referred to as overcapacity in production), reflecting the reduced ability of the employed labor force to keep consuming (in the United States) and the decreased number of consumers due to the rise in unemployment (in Western Europe). In the U.S., real wages fell about 18\% in 18 years,\textsuperscript{16} while Western Europe experienced double-digit unemployment. Awareness that something was wrong resulted in Jeremy Rifkin's controversial book entitled \textit{The End of Work}\textsuperscript{26} and informative essays such as "The Ruthless Economy"\textsuperscript{16} in the New York Review of Books. In Europe, the situation was so acute that the European Union (EU) produced a white paper entitled \textit{Growth, Competitiveness, and Employment},\textsuperscript{44} arguing that jobs had to be the centerpiece of European economic policy and explicitly rejecting the "American solution" that resulted in a downward trend in real wages. However, as discussed later, the EU report did not offer any realistic solutions.

Seldom mentioned is that the root cause of labor problems in the last two decades on both sides of the Atlantic was the gradual and continual replacement of
labor by capital. The labor market behaved in a quite predictable fashion to declin-
ing consumer demand and the diminished importance of labor as a factor of produc-
tion—resulting in either a loss in real wages (U.S.) or a loss of employment (Western Europe). Industrial nations with excess production capacity increasingly are turning their attention to expanding foreign trade in hopes of increasing rev-
ues, holding out prospects of creating new employment. Just what effects on em-
ployment and the consequential effects on health and safety increased reliance on
foreign trade will herald are discussed in the next section.

Five interrelated factors shape the conditions and experience of work:

* The **technology** used in a given job or workplace—and the scale, scope, and
  speed of technological change—are major determinants of the level of complexity,
  productivity, employee satisfaction, security, and risks to health and safety associ-
  ated with that work.

* The **structure of industry and of occupations** determines what kinds of jobs
  and in what kinds of environments we are likely to spend our working lives. Technol-
  ogy trends influence industrial structure and occupations.

* The **organization of work** also shapes the way we experience and relate to
  our jobs. If the workplace hierarchy is steep and rigid, and employee initiative is dis-
  couraged, job satisfaction (and worker productivity) is likely to be lower than if
  creativity and initiative are encouraged. Employment in small firms is likely to be
  very different than in large firms. Here, too, technology affects the organization of
  work or, perhaps more correctly, technology consists of the hardware, materials, and
  scope of production—plus the organization of work. Human and nonhuman factors
  of production jointly determine the nature of work.

* Labor-management relations, including the role of trade unions, influence
  how people interact in an industrial system. This system is shaped by internal dy-
  namics but also by technological change, historical patterns of work organization,
  and the kinds of industries and occupations that are growing and contracting. One’s
  experience of work is deeply affected by patterns of labor-management relations at
  the workplace—how employers treat employees and how workers react.

* Workplace health and safety is a critical determinant of job satisfaction and
  worker commitment. Moreover, the level of concern for health and safety in the
  workplace is an important indicator of a society’s commitment to the well-being of
  its workers.

In the past two decades, and particularly since the mid-1970s, a new era of
 technological development based on the development and diffusion of microelec-
 tronic-based products and processes has begun. New electromechanical and infor-
 mation technologies have had widespread impact on the structure of industry and
 occupations and on the nature of work. They have led to dramatic changes in the
 organization of production, making it possible to reorganize manufacturing away
 from the dominant standardized, long-run production systems toward more flexible,
 shorter-run, customized niche strategies. We are seeing the disintegration of mass
 production as the dominant form of work organization. These technologies also have
 had a dramatic effect in the service sector, which now employs 80% of American
 workers and more than 50% of workers in the European Union as a whole.

New technologies also are having an important, though sometimes contradic-
tory, impact on the organization of work. Computer technologies can raise or lower
 the level of skill required, as well as change the kind of skills needed. Taken to-
gether, trends in technology and product markets and intensified competition are plac-
ing new demands on American firms. Almost all new jobs today are being created in

the service industries. It is important to distinguish low-skill employment in fast-
 food, retail, maintenance, hazardous waste handling, and home care from high-skill,
 information system–based jobs, although all are part of the service sector. A report
 from the U.S. Council of Economic Advisers presents an interesting picture of the
 U.S. economy for the period February 1994 to February 1996. Two-thirds of the new
 growth in (mostly) full-time employment was due to the creation of jobs in a part of
 the service sector paying above-medium wages, namely in the high-paid managerial
 and professional specialty occupations. At the same time, the number of workers
 holding multiple jobs (6%) and the aggregate wage level stayed about the same.

Older, white-collar workers were considerably more at risk of displacement in
 1991–1992 than in the previous economic recession. Blue-collar and less-educated
 workers were more likely to be displaced than others. The partly good news of some
 higher-wage job creation could be explained by the fact that the information-based
 economy is gearing up in the service sector. Whether this part of the service sector
 will maintain employment or grow remains to be seen.

Although many occupational groups with an increasing share of employment
 require some post-secondary education, the large service sector is an exception.
 Most service workers still do not have post-secondary education, including those
 employed in the rapidly-growing fields of health services, home care, and business
 services (e.g., temporary agencies, building maintenance). While women, blacks,
 and other racial and ethnic groups have entered the workforce in growing numbers
 since the end of World War II, and their participation rates are setting new records,
 they are still disadvantaged as workers. Blacks and Hispanics are more likely to be
 employed in occupations that pay relatively low wages. Job segregation by sex in the
 labor market remains substantial, with negative effects on earnings and career mo-
 bility. Youth, especially black youth, have the highest unemployment rate. One com-
 mentator observes that “the willingness of people to work longer hours is stark
evidence not of a new prosperity but of the inability of most Americans to make ends
 meet after years of lagging wages.”

A significant trend is the dramatic increase in the number of people who com-
 prise the “contingent workforce” of part-time, temporary, and contract employees.
 More than a decade of corporate restructuring (outsourcing, franchising, and down-
sizing) has led many firms to re-engineer, shift to lean production, and seek flexibil-
 ity (and lower labor costs) through hiring on a part-time or temporary basis, rather
 than creating new permanent jobs. Groups at the bottom of the employment hierar-
chy—women, minorities, youth, and the elderly—are over-represented in the con-
tingent workforce.

As these changes have occurred in the structure of industry and in the nature of
 work, membership in trade unions has declined significantly, especially in industries
 with high injury experience. Unions are practically absent in the service sector. Inasmuch as unions can play an important role as protectors of worker health and
 safety, this decline could have a significant effect on occupational injury and dis-
 ease. Five long-recognized areas of concern related to the proliferation of microelec-
 tronics-based technologies are: chemical hazards, musculoskeletal problems, video
 display hazards, stress, and job loss and fear of job loss. The nature of occupational
 injuries has changed dramatically. The category of repetitive strain injuries has the
 highest incidence and fastest growth. Chemical exposures are a continuing concern,
 from both a classic toxicological perspective and based on a new appreciation for
 low-level chemical sensitivity, probably initiated by neurotoxins in the industrial
 workplace and office as well as in the home and general environment.
Effects on Special Populations

Quinlan and Mayhew have provided the most thorough and contemporary analysis of changes in labor market structuring and the adverse consequences for health and safety in industrialized economies. This author is indebted to them for their impressive research and insightful analysis, which forms the basis for the following discussion.

Several trends, coupled with a dual labor market, produce an outcome in which special populations are desperate enough to accept lower wages and unsafe working conditions in exchange for a job; and employers seek financial advantage by hiring special populations as part-time, temporary, or otherwise contingent workers without providing workers’ compensation and other labor protection safeguards. Additionally, the plight of agricultural workers, known for decades to result in a disproportionate share of injuries and fatalities from farm machinery, pesticides, and substandard living conditions in the fields, continues.

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Increased participation of illegal immigrants further exacerbates the already weak bargaining position of farm workers in obtaining decent and safe working conditions.

GLOBALIZED TRADE AND ITS EFFECTS ON SPECIAL POPULATIONS

The increased emphasis on trade expansion among both industrialized and less-industrialized nations is expected to have both direct and indirect effects on the nature of work and labor standards. The major trading regimes—the General Agreement on Tariffs and Trade administered by the World Trade Organization, the North American Free Trade Agreement (NAFTA), and the Association of South East Asian Nations Agreement—are particularly important for U.S. workers. Only NAFTA, through its side agreement on labor, officially recognizes the potentially adverse effects of trade on labor standards and working conditions and provides at least some legal machinery to prevent or redress those concerns. However, while NAFTA allows affected parties in any of the three trading country partners to sue any government for the failure to enforce to its own labor laws and standards, it does not require harmonization of labor standards and practices as a matter of law.

Although for two decades we have witnessed falling wages in the U.S., increasing unemployment in Europe, and widening wage gaps in all industrialized countries, there seems to be little causal evidence associating these changes with trade liberalization. However, the reader is cautioned to focus on the term “causal evidence.” The absence of evidence (because the issue has not been adequately researched or because the effects are not yet manifest) is not the same as the evidence of absence of the effect. Furthermore, the baseline for analysis and the effects of increased trade are moving targets because technological changes, industrial restructuring, and trade liberalization are all going on at the same time.

Apprehension concerning trade liberalization is focused on several interrelated potential effects, for which the strength of the evidence varies. Changes in U.S. jobs and working conditions may arise from:

- The threat of moving, or actual shift of, jobs to production centers in countries with lower wages or less protective labor standards, creating downward pressures on employment security and wages, especially among unskilled workers, so that workers demand less protection
- A widening gap between the wages, job security, and working conditions of skilled, special-niche workers and their unskilled counterparts
- The weakening of the regulatory willingness and capacity of governments to enforce existing labor standards or adopt new ones (such as for ergonomics) in the face of heightened international economic competition
- Heightened competition leading to cost-minimization strategies on the part of the firms, which have potentially adverse effects on the conditions of employment through the reduction of investments in safety and health and in the maintenance of equipment and good working conditions
- Heightened competition leading to cost-saving measures to lower labor costs, which exacerbate the already existing trends to outsource, use part-time and contingent workers, and hire immigrant and illegal workers (especially in agriculture)
- A shift of production to smaller, independent, nonunionized workplaces, which often are less safety-wise
- Outflows of direct investment to create centers of production in other countries that are likely to have less stringent labor standards and union protection.

It has been suggested that these threats can be countered by taking the “high road”: raising labor productivity through investments in skill development; exploiting the productivity-raising potential of high labor standards and cooperative work organization; and making productivity-augmenting investments in infrastructure and research and development. Many believe that “[n]ational policies are still paramount in determining levels of employment and labour standards.” Robert Reich, former U.S. Secretary of Labor, echoed the same sentiments, and the European Union also placed faith in investing in its workers to reduce unemployment without resorting to the “American solution.”
However, this optimism fails to include a survey of the history—two decades of technological changes, displacement of labor by capital, and corresponding restructuring of industry—which is unlikely to produce a future that includes enough jobs to reverse the trends well underway. Of clear benefit would be international harmonization of labor standards, the inclusion of a “social clause” in trade regimes and international labor agreements, and a commitment to placing jobs—safe, decent, well-paying jobs—at the center of national industrial policy. But more may be needed. Either a reversal or slowing of labor-displacing trends to encourage increased labor intensiveness of production and services, or the provision of access to investment capital so that workers can become the new capitalists may be what is required to prevent an erosion of the importance of labor and worker health and safety.

REFERENCES