



1999

# Introduction: School-to-Work Policies in Industrialized Countries as Responses to Push and Pull

David Stern

*University of California - Berkeley*

Daniel A. Wagner

*University of Pennsylvania, wagner@literacy.upenn.edu*

Follow this and additional works at: [https://repository.upenn.edu/literacyorg\\_chapters](https://repository.upenn.edu/literacyorg_chapters)

 Part of the [Curriculum and Social Inquiry Commons](#), [Educational Assessment, Evaluation, and Research Commons](#), [Education Economics Commons](#), and the [Other Education Commons](#)

---

## Recommended Citation (OVERRIDE)

Stern, D. & Wagner, D.A. (1999). Introduction: School-to-Work Policies in Industrialized Countries as Responses to Push and Pull. In Stern, D. & Wagner, D.A. (Eds.), *International Perspectives on the School-to-Work Transition*, 1-22. Cresskill NJ: Hampton Press.

This paper is posted at ScholarlyCommons. [https://repository.upenn.edu/literacyorg\\_chapters/15](https://repository.upenn.edu/literacyorg_chapters/15)  
For more information, please contact [repository@pobox.upenn.edu](mailto:repository@pobox.upenn.edu).

---

# Introduction: School-to-Work Policies in Industrialized Countries as Responses to Push and Pull

## **Abstract**

Two main forces propel policies that aim to improve the transition from school to stable employment. First is a high level of joblessness, which pushes policy makers to find solutions as quickly as possible. Because unemployment rates in most countries stay persistently higher for young people than for adults, youth unemployment in particular remains a chronic concern for public policy. This concern intensifies when demographic waves or economic recessions drive unemployment upward.

## **Disciplines**

Curriculum and Social Inquiry | Education | Educational Assessment, Evaluation, and Research | Education Economics | Other Education



***Introduction:  
School-to-Work  
Policies in  
Industrialized  
Countries as  
Responses to Push  
and Pull\****

***David Stern  
University of California at Berkeley***

***Daniel A. Wagner  
University of Pennsylvania***

Two main forces propel policies that aim to improve the transition from school to stable employment. First is a high level of joblessness, which pushes policy makers to find solutions as quickly as possible. Because unemployment rates in most countries stay persistently higher for young people than for adults, youth unemployment in particular remains a

---

\*For helpful comments on this chapter, we are grateful to Felix Rauner, Paul Ryan, and Harm van Lieshout. Miguel Urquiola prepared the table and figures. The authors remain responsible for any errors of fact or interpretation, and the opinions here do not necessarily represent those of the sponsoring agencies.

## 2 Stern and Wagner

chronic concern for public policy. This concern intensifies when demographic waves or economic recessions drive unemployment upward.

A second major motivation for school-to-work policy is the desire to prepare for an emerging postindustrial, computer-based, learning-intensive economy. This vision attracts forward-thinking policymakers to plan for future prosperity. Because plans for the future pertain especially to those who are relatively young, this second motive, like the first, also focuses on young people. In contrast to policies that are driven by high unemployment, however, the second motive becomes more compelling during periods of strong economic growth, when employers have greater difficulty finding and keeping qualified staff.

These two factors—the push to reduce present youth unemployment and the pull of expected future opportunities—operate in the various institutional and historical contexts of the countries described in this book. The following chapters describe those national particularities in some detail. This chapter offers a comparison of salient similarities and differences among countries. It begins with an analysis of youth unemployment, identifying countries that have been relatively successful or unsuccessful in keeping youth unemployment rates low relative to unemployment rates among adults. The most successful countries are those in which employers take responsibility for the training of young people. Countries that rely on school-based vocational education seem to be less successful in preventing relative youth unemployment:

To prepare young people for a learning-based economy, most industrialized countries are trying to reduce the traditional separation between vocational schooling, on the one hand, and general or academic education, on the other. There are also efforts in most countries to augment classroom instruction with practical, work-based learning, which occurs usually in enterprises outside the school but sometimes in productive enterprises sponsored by schools themselves. The blending of academic and vocational education with work-based learning takes various forms and may have different rationales in different countries, but it is a logical response to fundamental economic trends that have increased the importance of continued learning in the workplace. This requires staff who are capable of applying what they know and of learning in the context of productive problem solving.

### FIGHTING YOUTH UNEMPLOYMENT

The severity of youth unemployment varies over time and from one country to another. To illustrate these variations, Figures I.1 through I.4 display unemployment rates in Organization for Economic Cooperation and Development (OECD) countries for 1979, 1983, 1990, and 1993. The

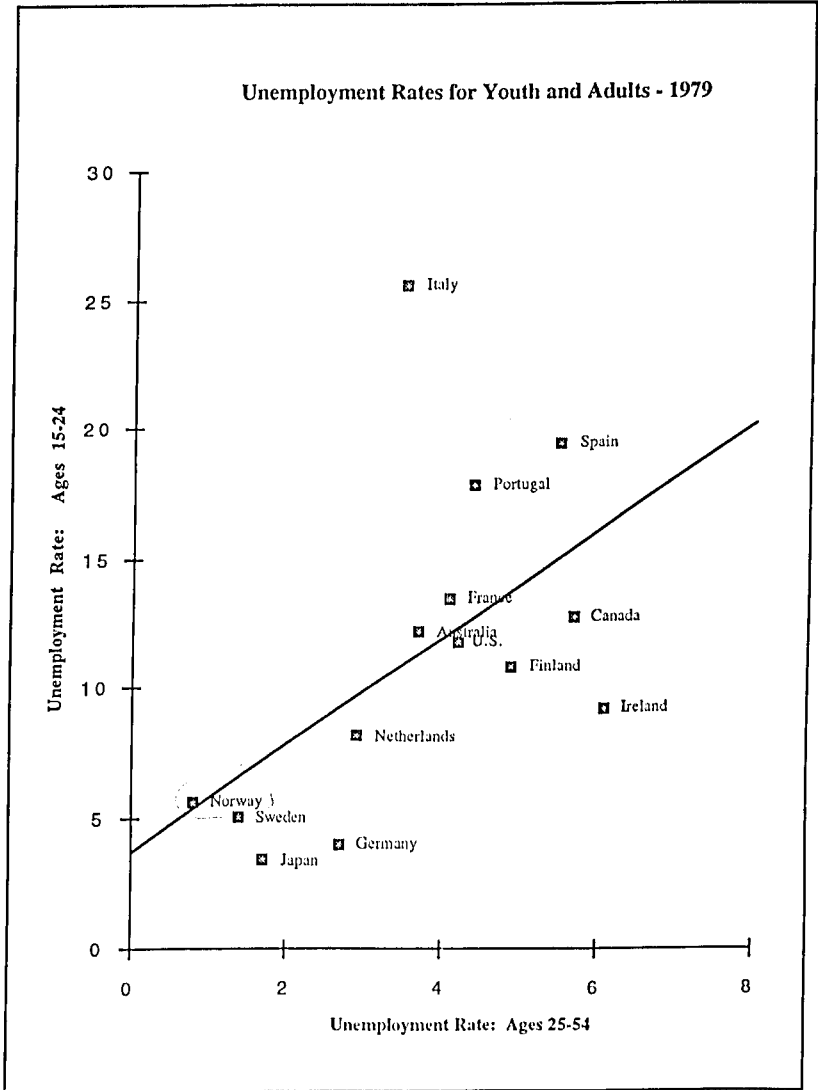


Figure I-1. Unemployment rates for youth and adults—1979

#### 4 Stern and Wagner

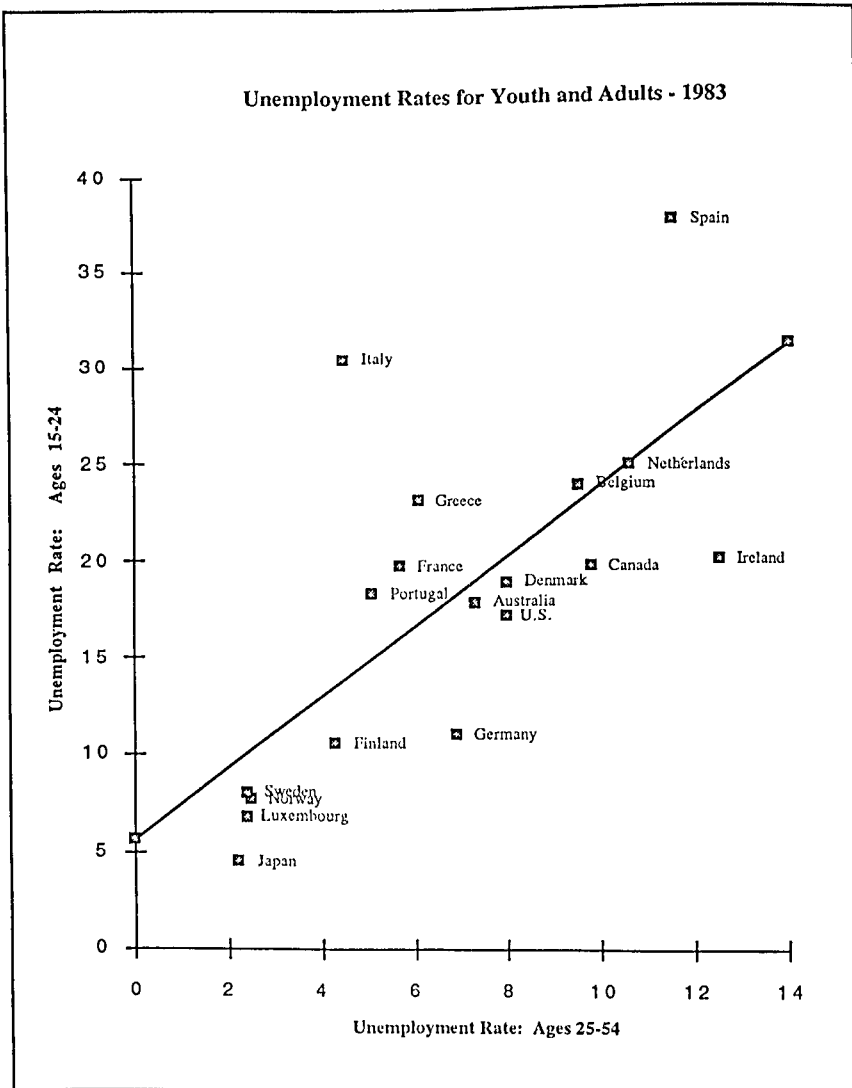


Figure I-2. Unemployment rates for youth and adults—1983

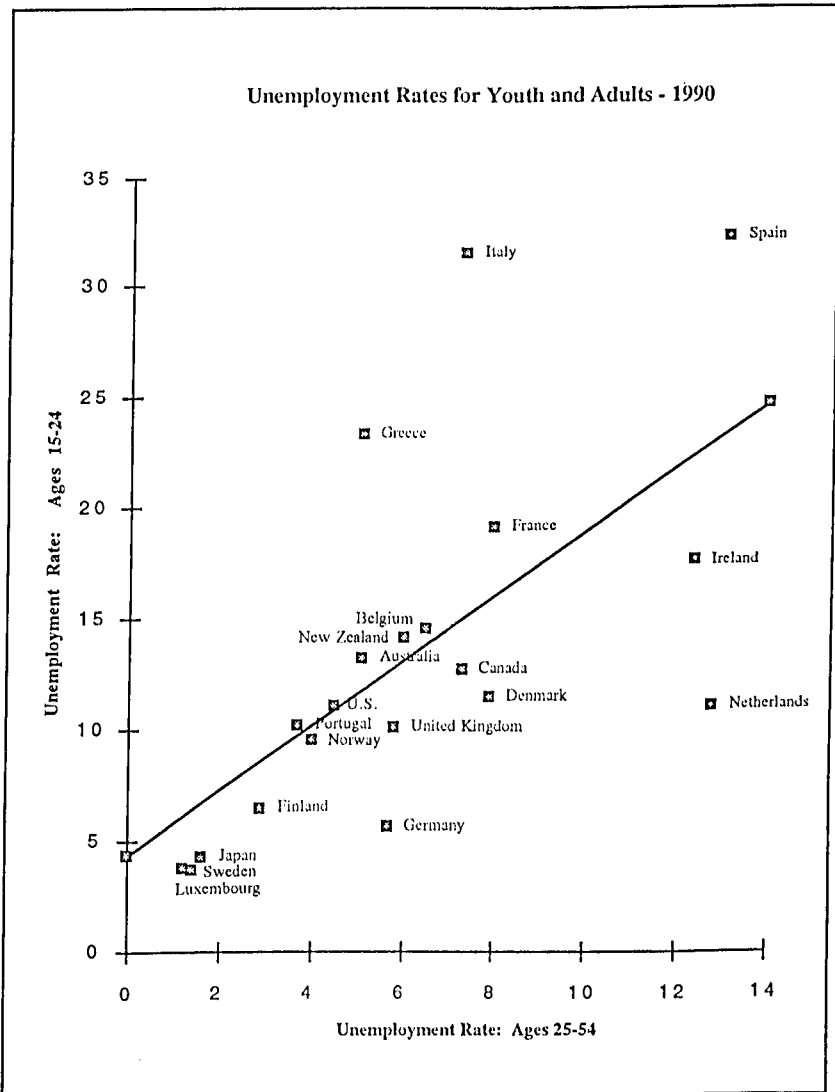


Figure I-3. Unemployment rates for youth and adults—1990

6 Stern and Wagner

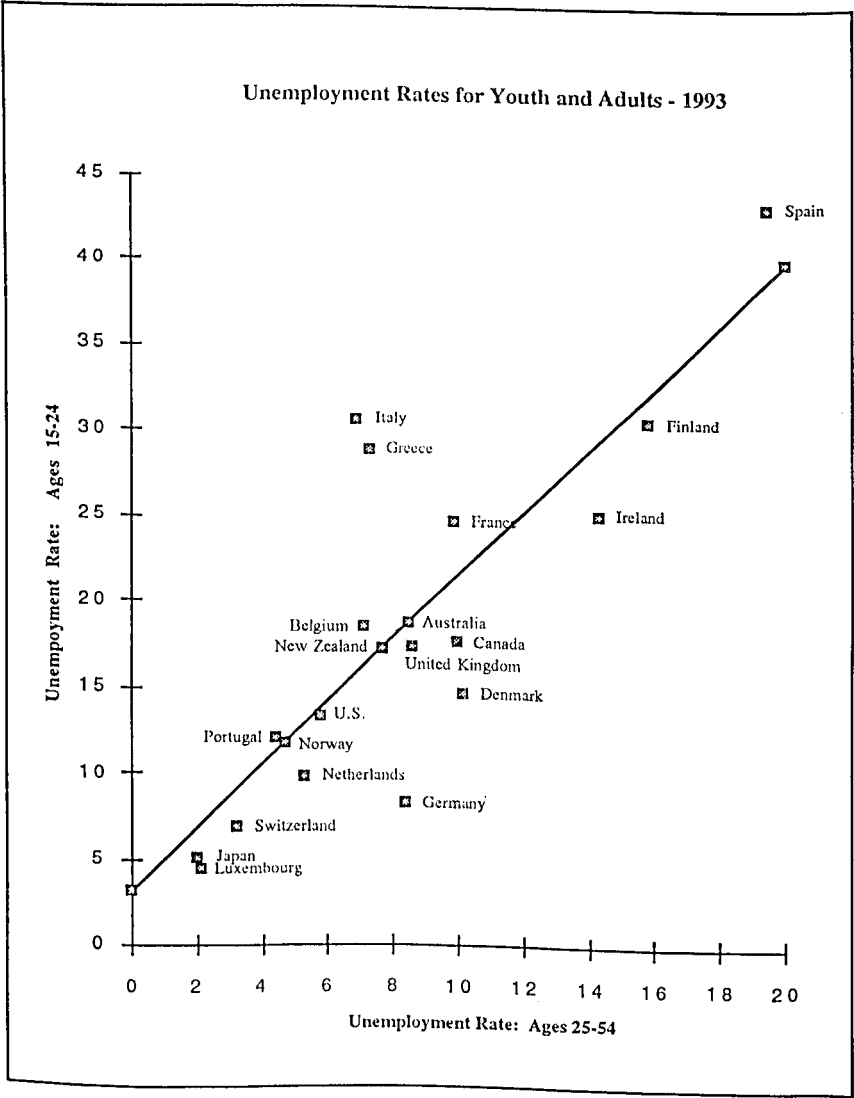


Figure I-4. Unemployment rates for youth and adults—1993



## School-to-Work Policies in Industrialized Countries 7

numerical data depicted in these charts are given in Table I.1. Unemployment rates for adults between the ages of 25 and 54 are plotted on the horizontal axis, and rates for youth between the ages of 15 and 24 are measured on the vertical axis. For most countries, unemployment rates were higher in 1983 and 1993 than in 1979 and 1990. In each year, countries with higher unemployment among adults tended also to have higher unemployment among young people. The straight line in each figure is the ordinary least-squares regression line showing the average relationship between youth and adult unemployment rates. Most countries lie fairly close to the line, indicating that the adult unemployment rate is usually a good predictor of the youth unemployment rate. The simple correlation between youth and adult unemployment ranges from 0.53 in 1979 to 0.82 in 1993. This means that whatever conditions and policies cause a country to have relatively low or high adult unemployment also tend to cause youth unemployment to be relatively low or high, compared to other countries.

**Table I-1. OECD Countries: Unemployment Rates by Age Group.**

|                | 1979  |       | 1983  |       | 1990  |       | 1993  |       |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | 15-24 | 25-54 | 15-24 | 25-54 | 15-24 | 25-54 | 15-24 | 25-54 |
| Australia      | 12.2  | 3.7   | 17.9  | 7.3   | 13.2  | 5.1   | 18.6  | 8.5   |
| Belgium        |       |       | 23.9  | 9.5   | 14.5  | 6.5   | 18.4  | 7.1   |
| Canada         | 12.8  | 5.7   | 19.7  | 9.8   | 12.7  | 7.3   | 17.6  | 10    |
| Denmark        |       |       | 18.9  | 8     | 11.5  | 7.9   | 14.6  | 10.2  |
| Finland        | 10.8  | 4.9   | 10.5  | 4.3   | 6.4   | 2.9   | 30.5  | 15.8  |
| France         | 13.5  | 4.1   | 19.7  | 5.7   | 19.1  | 8     | 24.6  | 9.9   |
| Germany        | 4     | 2.7   | 11    | 6.9   | 5.6   | 5.7   | 8.2   | 8.4   |
| Greece         |       |       | 23.1  | 6.1   | 23.3  | 5.1   | 28.8  | 7.3   |
| Ireland        | 9.2   | 6.1   | 20.1  | 12.5  | 17.6  | 12.4  | 25.1  | 14.3  |
| Italy          | 25.6  | 3.5   | 30.5  | 4.5   | 31.5  | 7.3   | 30.6  | 6.9   |
| Japan          | 3.4   | 1.7   | 4.5   | 2.2   | 4.3   | 1.6   | 5.1   | 2     |
| Luxembourg     |       |       | 6.8   | 2.4   | 3.7   | 1.4   | 4.4   | 2.1   |
| Netherlands    | 8.1   | 2.9   | 24.9  | 10.6  | 11.1  | 12.8  | 9.7   | 5.3   |
| New Zealand    |       |       |       |       | 14.1  | 6     | 17.2  | 7.7   |
| Norway         | 5.6   | 0.8   | 7.7   | 2.5   | 9.5   | 4     | 11.7  | 4.7   |
| Portugal       | 17.8  | 4.4   | 18.3  | 5.1   | 10.2  | 3.7   | 12    | 4.4   |
| Spain          | 19.4  | 5.5   | 37.6  | 11.5  | 32.3  | 13.1  | 43.2  | 19.4  |
| Sweden         | 5     | 1.4   | 8     | 2.4   | 3.8   | 1.2   | 18.4  | 7.1   |
| Switzerland    |       |       |       |       |       |       | 6.8   | 3.2   |
| United Kingdom |       |       |       |       | 10.1  | 5.8   | 17.3  | 8.6   |
| United States  | 11.8  | 4.2   | 17.2  | 8     | 11.1  | 4.5   | 13.3  | 5.8   |

Source: OECD 1995, Statistical Annex Table B.

## 8 Stern and Wagner

Some countries, however, do not follow the usual pattern. In Figures I.1 through I.4, countries corresponding to points below the regression line have lower youth unemployment than would be expected from the adult unemployment rate. Germany, Japan, Finland, Ireland, and Canada fall consistently into this category. Germany and Japan are particularly notable because their youth unemployment rates are low not only relative to adult rates but also in absolute terms. In the four years reported here, the highest rate of youth unemployment was 5.1% in Japan and 11.0% in Germany, compared to 19.7% in Canada, 25.1% in Ireland, and 30.5% in Finland.

In contrast, the countries in which youth unemployment rates are consistently high relative to adult rates are Italy, Spain, Greece, and to a lesser extent France. In these Mediterranean countries, youth unemployment is also high in absolute terms: up to 43.2% in Spain, 31.5% in Italy, 28.8% in Greece, and 24.6% in France.

Why are young people in Germany and Japan relatively well protected against unemployment, compared to their counterparts in southern Europe? An obvious economic hypothesis would be that young people experience higher rates of unemployment relative to adults if their wages are constrained to be relatively high. Most countries have minimum wage laws, and in many countries wages above the minimum are regulated by government or collective agreements. In his chapter on Australia, Sweet suggests that the rise in youth wages due to institutional constraints has contributed to the reduction in the proportion of teenagers who work.

Low youth unemployment in Germany, in particular, is attributable to the employment of many young people as apprentices, and the chapter by Payne mentions that German apprentices in their final year are still earning less than half the pay of a qualified worker—a much lower relative wage than in the United Kingdom, in which apprenticeship is less prevalent and youth unemployment higher. Earlier research by Marsden and Ryan (1991) showed that relatively low wages for apprentices in both Germany and Britain were associated with larger numbers of apprentices in those countries compared to France and Italy in 1978. However, from 1965 to 1989, apprentices' pay rose faster in Britain than in Germany, and the ratio of apprentices to total employment fell in Britain while rose in Germany. Soskice (1994) also argues that low wages for apprentices are important to sustaining a large-scale apprenticeship system.

The belief that youth unemployment is attributable to high youth wages prompted the British government in the 1980s to adopt measures designed to reduce youth wages. Payne's chapter describes those measures, but in spite of them the proportion of British youth going to work after age 16 has decreased. Comparing a broad sample of countries,

Blanchflower in his chapter uses self-reported survey data (not official government data) to compute the correlation between the relative youth unemployment rate and the relative youth wage and finds only a weak relationship. In another paper (OECD, 1996), Blanchflower reviews additional data and previous studies, concluding that there is no consistent evidence linking lower youth wages to higher youth employment or lower unemployment. Constraints on youth wages may matter, but they do not appear to explain most of the variation in youth unemployment.

Another part of the explanation may be that employers take more responsibility for the training of young people in Germany and Japan than in most other countries. In Germany, the famous "dual system" places most older teenagers in employment-based apprenticeships. Rauner's chapter in this volume gives a current summary of the German system, in which a large number of enterprises employ and train apprentices. German employers also take part in the formulation and monitoring of training guidelines and examinations. Although some apprentices are sufficiently productive to pay back their employers during the training period, most are not. However, German companies consider their investment in the training of young people worthwhile because it creates a highly skilled workforce with specified occupational qualifications, which provide accurate assurance of what the trained workers know and can do. In the process, relatively few young people experience unemployment because apprentices are counted as employees.

Employers in Japan also take major responsibility for the training of young people, although the institutional arrangements are very different from those in Germany. The German employment and training system is centered on well-defined occupations, but the Japanese system is based on the individual firm and its partners. As described by Kariya in his chapter, Japanese companies seeking to recruit high school graduates rely on the schools to nominate suitable candidates. Typically, the number of job offers exceeds the number of candidates. Japanese firms prefer to hire young people directly from school because they expect to employ many of them for a long time, and they want to teach the company culture and procedures to fresh minds. Although about one in four Japanese students attends a vocational (now called "specialized") high school, the curriculum is mainly theoretical, and there is little or no practical, work-based training. Employers themselves take responsibility for that, after an employee is hired. As in Germany, the process exposes young people to very little unemployment.

Kariya mentions that approximately 15% of Japanese high school graduates from the class of 1993 were neither employed nor enrolled in postsecondary education because they were studying to retake the university entrance examination after having failed to win

## 10 Stern and Wagner

admission the first time. These so-called ronin are not seeking work—given school-based recruitment, it may be difficult for a young person to find work on the open market—and therefore they are not counted as unemployed. This keeps the official youth unemployment rate lower in Japan than it would be if some of the ronin were actively looking for work. However, a similar phenomenon also occurs in other countries, including France and the United Kingdom, in which some students who perform poorly on the examinations at the end of secondary school spend a year or more studying to take them again. More generally, the unemployment rate by definition ignores all those who are not actively seeking paid work, whether because they are discouraged, are full-time students or household workers, or for other reasons. Unemployment is not the same as nonemployment, but it is still an important measure because it reflects the lack of opportunities for active job seekers.

The unusual degree to which employers in Germany and Japan are involved in the training of young people is evident from the descriptions in this volume, as well as other accounts (Dore & Sako, 1989; Koike & Inoki, 1990; Schmidt, 1994). Whether the degree of involvement is especially low in southern Europe is not as well documented. In the chapter on Spain in this book, Planas mentions that a new law enacted in 1994 is creating an apprenticeship system for the first time. If apprenticeship has in fact been nonexistent before now, that would indicate a relative absence of employer involvement compared to other OECD countries, in which traditional apprenticeship has continued to exist at least on a small scale.

Other chapters in this collection provide additional corroboration that direct involvement of employers in the training of young people facilitates the transition to stable employment. In the Netherlands, Streumer reports that the number of apprentices grew by 50% between 1986 and 1992. From 1980 to 1991, the number of students enrolled in secondary vocational education nearly doubled and, as Streumer explains, at the same time employers were taking a bigger role through provision of work-based learning. These changes may have contributed to the improvement of the relative and absolute rates of youth unemployment in the Netherlands after 1983, as indicated in Figures I.2 through I.4. Establishment in the early 1980s of lower minimum wages for young people, and creation of new subsidies for youth employment, also stimulated demand for young workers in the Netherlands. In Australia, Sweet mentions evidence that young people who complete apprenticeships achieve greater success in the labor market than graduates of technical and vocational training programs based in educational institutions. Conversely, de Broucker's chapter on Canada refers to evidence that graduates from school-based vocational education had the most difficult transition to stable employment.

Many countries, inspired by the German example, have enacted new policies to promote the involvement of employers in the training of young people, either by increasing the number of apprenticeship opportunities or by forming partnerships between schools and businesses. Recent initiatives to create new apprenticeships or expand existing apprenticeship systems are described in the chapters on Australia, France, the Netherlands, Spain, and the United Kingdom. Because apprentices are counted as employees, these initiatives contribute directly to youth employment.

Contrastingly, many countries have also promoted school-business partnerships, which affect youth employment less directly. These partnerships occur in systems in which employment-related education and training are primarily the responsibility of schools or colleges, and young people in the course of training are primarily identified as students, not employees. After the training period, employers who provided work-based learning opportunities for students under a school-business partnership are not necessarily expected to hire them as permanent employees, although this may happen. Such partnerships have less to do with reducing youth unemployment than with reforming education, and they are discussed accordingly later in this chapter.

Another kind of educational reform—extending the number of years that young people stay in school—does have a direct effect on youth unemployment, at least in the short run. Generally, the average years of schooling have continued to increase during the past 150 years in OECD countries, as education has become a more important gateway to higher-paying jobs. In the past 20 or 30 years, vocational and technical education in particular have been extended to higher levels of the educational system. Longer schooling keeps young people out of the labor market and off the unemployment rolls, at least temporarily. Although unemployment rates traditionally have been lower for individuals with more schooling, there is concern in many countries that growing numbers of highly educated people will not find jobs, and the educational investment will have been wasted. This depends on the extent to which the content of schooling meets the demands of future employment, an issue discussed in the next section of this chapter.

Finally, with regard to fighting youth unemployment, it is important to consider young people who have left school, especially without a secondary diploma or employment qualification. This is the group with the highest unemployment rate, and governments have tried many kinds of employment and training programs to help them obtain stable, unsubsidized jobs. Unfortunately, it is difficult to find evidence that any of these measures have succeeded. The chapters in this book on Australia, France, Mexico, and the United Kingdom all provide mainly

negative accounts of programs in those countries for out-of-school youth, and recent reviews of the literature have come to similar conclusions (Grubb, 1995a; Ryan & Buechtemann, 1995). Although some approaches to basic literacy education appear promising for adults (National Center on Adult Literacy, 1995), the stigma of school failure is hard to overcome for a young person. For that reason, it is important to develop educational reforms that will reduce the chances of school failure in the first place.

### EMBRACING UNPREDICTABLE OPPORTUNITIES

In addition to fighting youth unemployment, public policy seeks to prepare young people to thrive in the decades to come. Most economic analysts agree that fundamental conditions of employment are changing in the transition from an industrial to a computer-based society. In the emerging economy, increasingly rapid mobility of information and capital forces firms to become ever more nimble. Constant change within organizations and mobility of workers among firms increase the importance of learning as part of work. Learning includes transfer of existing information, knowledge, and skill from those who have them to those who need them. It also includes the discovery of previously unknown facts and principles. Within firms, the accumulation of many small new discoveries is vital to the continuous improvement of products, services, and methods of production. This is often called a knowledge-based economy, but more accurately it is learning-based because the success of companies and individuals depends especially on how fast information can be acquired, evaluated, and assimilated.

More rapid change in markets and technologies makes it relatively more efficient to locate the creation and transmission of productive knowledge close to the actual productive process. Procedural knowledge and skill developed outside the work situation are increasingly likely to become obsolete before they can be put to use. Enterprises are experimenting with arrangements designed to promote online learning, which is embedded in the regular work process. Examples of such procedures include cross-training within work teams, rotation of staff through a sequence of related jobs, problem-solving groups, more powerful incentives for eliciting employee suggestions, and compensation based on knowledge or skill (for more detail, see Stern, 1996). Young people must therefore be prepared to operate in more learning-intensive work environments.

Online learning, however, does not eliminate the necessity for prior preparation. To the contrary, a learning-intensive workplace requires members who possess the theory and knowledge base to envision new possibilities, ask pertinent questions, critically evaluate new

ideas, and participate in the actual shaping of technology and work (see the chapter by Rauner). That is one reason why the average educational attainment of the workforce keeps rising in all countries. However, the growing importance of continual learning at work also poses a challenge for those educational systems that have maintained a separation between theory and practice. Increasingly, policymakers in these countries are seeking a new kind of education that combines rigorous theoretical training with the acquisition and application of knowledge in practical contexts.

### **Convergence of Academic and Vocational Education**

To prepare individuals for work that demands continual learning, many employers now call on schools to develop theoretical understanding and a capacity for independent inquiry in all students, not just the elite. School-based vocational education, which traditionally has offered practical instruction for students who were considered to possess relatively low academic ability, is now being reformed and in some places radically reconstituted. Reforms include strengthening the academic content of vocational classes and making it easier for vocational graduates to pursue further studies at university level. These changes are intended to attract more intellectually talented students into vocational programs, to give them sufficient theoretical grounding to deal with changing technology, and to prepare them for continual problem solving and active innovation. As change proceeds in this direction, the line between vocational and academic education becomes indistinct. Instead of serving as an alternative to general education, vocational education becomes a method for promoting it. On the academic side, growing numbers of educators now recognize that students are more likely to remember and be able to use what they know if they acquire knowledge in the context of meaningful problem solving. The blending of vocational and academic education mirrors the convergence of working and learning in the workplace.

These developments are occurring in most of the countries described in this volume. The German dual system has already been providing a high level of theoretical and general knowledge to many apprentices, but policymakers in Germany are not resting on their laurels. Increasing numbers of students are combining apprenticeship with university: According to Rauner, the proportion of university students who had completed apprenticeships grew from 21% in 1985 to 30% in 1994. Policymakers are seeking to make universities and other forms of higher education more accessible to graduates of the dual system, in order to prevent academically talented young people from abandoning that system and going straight from secondary school to higher educa-

tion. Keeping academically talented young people in the system is essential to preserving its credibility with employers, some of whom have recently cut back their own apprenticeship programs and started hiring graduates of higher education for positions formerly filled by graduates of the dual system (OECD, 1994). Another fundamental concern is that the desire of employers to reallocate staff responsibilities in new and unpredictable ways threatens the dual system because it may undermine long-standing occupational definitions. Rauner believes the German system can and should continue to be based on well-defined occupations but with added emphasis on preparing employees to engage in "active shaping" of their work organization. The necessity to prepare young people for continuing innovation and unforeseeable challenges at work has prompted Hermann Schmidt (1994), who presides over the agency that governs the dual system, to assert that "the separation between general and vocational education is becoming obsolete" (p. 9).

Other countries with strong employment-based vocational training are also witnessing the advantages of combining it with more academic education. In Denmark, where a large proportion of young people still complete apprenticeships consisting of alternating periods of school and work, Østerlund remarks in his chapter that about half the students who graduate from the theoretically oriented commercial college program (HHX) subsequently enter apprenticeships. Apparently the students do not feel fully qualified to begin their careers after having received only theoretical instruction. Similarly, in the chapter on the Netherlands, Streumer notes that graduates of upper-secondary vocational education (MBO) are more successful if they first passed through general secondary education (MAVO) rather than lower vocational education (LBO); more students take the MAVO route.

Toward the more school-based end of the continuum, France and Sweden both continue to place students in vocational education tracks at the secondary level that are quite separate and distinct from the preuniversity tracks, but both countries have taken major steps recently to upgrade the academic content of vocational studies. In 1992, Sweden consolidated its upper-secondary vocational "lines" into 14 major programs and extended the length from two to three years. France, in 1986, created a new upper-secondary vocational diploma, the *baccalauréat professionnel*, which now provides an option for students who begin vocational education at the lower secondary level to obtain the much-valued *baccalauréat*. As mentioned in the chapter by Romani and Werquin, a 1994 law also encourages the location of apprenticeship programs in regular high schools (*lycées*), instead of in the separate centers where they have been housed.

Japan has maintained separate technical and commercial high schools—both now to be called "specialized high schools"—as distinct



from general high schools that prepare students for the university entrance examinations. Although vocationally oriented, the specialized high schools have offered a theoretical curriculum without much practical work-based training. As explained earlier in this chapter, practical training is provided by firms after the new high school graduate has been hired. Kariya's chapter demonstrates that this system has successfully facilitated the transition from school to work in the past. Recently, however, the proportion of students attending specialized high schools has diminished to about one in four, and Kariya notes that some of these students would have preferred a general high school but were unable to get in. At the same time, some graduates of general high schools are unable to win admission to university, but they are unprepared for the job market. In an attempt to make specialized high schools more attractive and reduce the number of high school graduates who are unprepared for either university or work, the Japanese government in 1994 developed the concept of an "integrated course," which allows individual students to depart from the prescribed technical or commercial curriculum and to create a sequence tailored to their own interests (Japanese Ministry of Education, Science, and Culture, 1995). The integrated course sequence would normally have a career focus, but could also prepare the student for university entrance examinations. Although still in the early stages of implementation, this initiative recognizes that students' career interests can provide an organizing theme for academic studies.

The idea of using career-related themes to organize and motivate the academic curriculum has been implemented on a larger scale in Britain, Norway, and the United States. The British initiative, called GNVQs (General National Vocational Qualifications), is described in Payne's chapter. Postcompulsory courses of study are grouped around certain broad industries or occupational clusters. Students who acquire GNVQs at the "advanced" level are eligible for admission to university, as if they had followed a purely academic course of study enabling them to pass A-level examinations. Norway passed a reform law in 1994 that envisions a very similar system.

In the United States, new programs designed to integrate academic and vocational education have proliferated since the 1990 revision of the federal law that subsidizes vocational education programs run by states and localities. Prominent spokesmen for employers in the 1980s had complained about the poor preparation of vocational graduates from secondary schools (Committee for Economic Development, 1985; Kearns & Doyle, 1988; National Academy of Sciences, 1984). Because employers had traditionally provided decisive political support for vocational education as a separate track, their complaints had a major impact. The 1990 law directed federal money for vocational education to

be spent only for programs that integrate academic and vocational instruction. This financial stimulus—combined with the growing perception that the emerging economy requires a new kind of secondary education—prompted many high schools to develop various kinds of “career majors”, “career clusters,” “career pathways,” or other forms of curriculum that prepare participating students for both work and post-secondary education (Grubb, 1995b).

Among the earliest and best-developed examples of this approach are “career academies,” subschools inside comprehensive high schools, in which the core academic curriculum is organized around an occupational theme such as health careers, electronics, or computer-related occupations. Graduates from career academies may enter the workforce full time, or they may pursue further studies at a college or university, in which they may continue in the same field or change to an entirely different one. Evaluations have found that students in career academies attend school more regularly, achieve higher grades, and are more likely to complete secondary school compared to similar students (Stern, Raby, & Dayton, 1992). These findings have been reinforced by evaluations of career magnet high schools—whole high schools or subschools in which the academic curriculum is oriented toward an industry or broad occupational theme—which have also been found to improve students’ academic performance (Crain, Heebner, & Si, 1992). This kind of integrated curriculum received additional impetus from passage of the 1994 federal School-to-Work Opportunities Act.

These initiatives in the United Kingdom, Norway, and the United States have broken new ground by deliberately combining in the same classrooms students who intend to go to university and students who plan to work full time after secondary school. This avoids the cost of students changing their minds. If some of the university-bound students decide they really would rather not continue in school right away, or if they fail to win entry to university, they will have received some preparation that increases their chance of finding a desirable job instead. At the same time, any student who does not proceed immediately to postsecondary education will have acquired most or all of the necessary academic qualifications to go back later. Because the necessity for continual learning at work may entail periodic returns to formal schooling, it is important that secondary education keeps this option open.

As academic and vocational education converge, difficult questions arise about standards. What should a young person know and be able to do? Traditionally, general education has maintained one set of standards to determine which students may progress from each level of schooling to the next, and vocational education has kept another set of standards to determine which students are qualified to work. Vocational

standards have been undergoing significant reformulation recently, in response to demands of the learning-based economy. The chapters on Canada, Germany, and the Netherlands consider some of the issues relating to new vocational standards. Changing academic standards are not discussed in this book, and in some countries they may not yet be the subject of policy debate. However, in some countries they are, and it seems likely that the question of how to make academic and vocational standards fit together will emerge before long as a key strategic issue (see, e.g., Stites, Foley, & Wagner, 1995).

### **Work-Based Learning as Part of Schooling**

Because one hallmark of the emerging economy is the necessity for continual learning in the context of work, a logical implication for initial education and training is that young people should be given some experience in work-based learning. What is called for is not merely a brief exposure to workplaces or some learning by doing, but a more far-reaching, extended, and well-structured work experience that is closely tied to the content of the school curriculum. This is a central feature of the German dual system, and recent initiatives by other countries to create or renew employment-based apprenticeship were noted earlier in this chapter.

Policymakers in many countries have also taken steps to increase opportunities for work-based learning within school-based systems. Part of the rationale is that individuals should be better prepared for a lifetime of online learning at work if they begin at an early age to use work for the deliberate purpose of developing their knowledge and skill. Some evidence that work-based learning does have this effect is presented in the chapter by Romani and Werquin. They find that young people in France who have participated in work-based learning (alternance) during their initial education are more likely to engage in continuing training as part of their subsequent employment. Romani and Werquin hypothesize that early participation in work-based learning may start a lifelong habit.

In addition to this possible future benefit, work-based learning has immediate advantages as an efficient method for acquiring knowledge and skill. Growing evidence points to the cost-effectiveness of work-based compared to school-based training (Elias, Hernaes, & Baker, 1994; Middleton, Ziderman, & Van Adams, 1993). The educational benefit of work experience may also extend beyond knowledge and skill that are strictly related to work (Berryman, 1995). As vocational and academic education converge, work-based learning may help students better understand abstract, theoretical ideas by applying them in concrete, practical situations. This is an additional reason to include work experience in the school curriculum.

The advantages of learning by doing have long been recognized, but lately the opportunity for young people to learn through regular employment has diminished in most OECD countries (OECD, 1996). Payne's chapter describes the sudden, dramatic shift from work-based to school-based vocational training in the United Kingdom. Sweet's chapter presents evidence of the recent decline in teenage employment in Australia. The recession of the 1990s pushed young people out of the labor market in Sweden and France, as documented in this volume. In Denmark, the recession brought a shortage of places for apprentices in business enterprises.

The contraction of youth employment appears especially unfortunate in light of the growing realization of the importance of productive experience for young people. Policymakers have responded by creating new mechanisms and incentives to promote work-based learning within school-based systems. In Australia, where the proportion of students completing the last two years of secondary education has jumped from one-third to two-thirds in a decade, governments and private entities are working fast to augment the traditional academic curriculum with more practical applications. Sweet reports that the number of students enrolled in courses with a centrally recognized work-based component tripled from 1993 to 1994. In Sweden, where upper-secondary vocational education was extended from two to three years beginning in 1992, students in these school-based programs are now required to spend 15% of their time during those three years in work settings. Although Sweet notes that work-based learning in Australia is sometimes used to enhance academic studies, Gustafsson and Madsén bemoan the fact that the 15% required work experience in Sweden is so far being attached only to vocational classes. The chapters on France and the Netherlands describe in some detail the measures that have been taken in recent years to expand work-based learning in those two countries where secondary vocational education remains separate from university-oriented general education. In Spain, which is overhauling its whole educational system after increasing the minimum school-leaving age from 14 to 16, the chapter by Planas also mentions the creation of new school-based work experience.

In North America, de Broucker's chapter on Canada conveys the interest among policymakers in creating more cooperative work experience placements for high school students. Cooperative education has been a common feature of high school vocational programs in the United States (see Stern, Finkelstein, Stone, Latting, & Dornsife, 1995), but as part of recent initiatives to integrate vocational and academic education, work-based learning is now intended to serve a broader purpose there. Under the 1994 School-to-Work Opportunities Act, which provid-

ed federal money for states and localities to design and implement new school-to-work systems, work-based learning must be coordinated with school-based learning through "career majors" that integrate academic and vocational instruction and link secondary with postsecondary education. Section 103 of the Act also requires work-based learning to provide "instruction in general workplace competencies, including . . . employability and participative skills, and broad instruction, to the extent practicable, in all aspects of the industry." These requirements may be met by "such activities as paid work experience, job shadowing, school-sponsored enterprises, or on-the-job training."

Even in school-based systems (as well as in Germany and other apprentice systems), most work-based learning takes place in business enterprises outside the school. Because the young people who participate are not primarily identified as company employees but as students under the jurisdiction and supervision of the schools, the provision of work-based learning requires the formation of school-business partnerships, or at least informal collaborative arrangements. Through these partnerships, school authorities and their business counterparts must decide on the general purposes and content of work-based learning, create or select training materials, establish routines for placing and supervising students, evaluate students' performance, agree on disciplinary procedures if necessary, and settle economic issues such as legal liability, transportation, and students' wages. None of this is easy, and it is especially difficult when educators and employers are unaccustomed to working with each other. Even if companies are accustomed to employing students part time, as in the United States—and increasingly in Australia, Spain, and the United Kingdom, as noted in those chapters—this is quite different from organizing a work placement that serves a primarily educational purpose. The chapters on Australia and France refer to some of the difficulties in those countries, and Bailey (1995) contains a discussion of these issues in the United States. Even in Germany, Rauner decries the lack of direct, local coordination between the schools and firms that compose the dual system; this threatens the system's viability, he warns.

As an alternative to work-based learning in enterprises outside the school, educational institutions also engage students in productive work under their own auspices. In the United States, for example, school-based enterprises traditionally attached to vocational education in high schools have performed such tasks as building houses or operating retail businesses, and the 1994 School-to-Work Opportunities Act recognized school-sponsored enterprise as a legitimate form of work-based learning. Students in school-based enterprises have reported that these promote learning better than the jobs the students find on their own (Stern, Stone, Hopkins, McMillion, & Crain, 1994). Denmark began using school-based

enterprises initially as a training and employment mechanism for young people who were not in school. Subsequently, when apprenticeship placements became scarce in the 1980s, Danish commercial and technical colleges were authorized to use school-sponsored enterprises to provide the work experience that would ordinarily be offered by nonschool enterprises. Østerlund describes this practice in his chapter. Streumer also mentions school-based enterprises in the Netherlands, and the use of productive activity as an integral part of Russian education is discussed at length in the chapter by Poliakov and Nikandrov.

The German dual system itself contains elements of school-based enterprises, although these have been seldom recognized as such. Large German companies provide instruction for apprentices in classrooms or training workshops housed in separate spaces or buildings, where apprentices spend much of their time away from the firm's regular productive operations. These training facilities and centers may not be called schools but in fact they are because their main function is educational, not productive. Because they are owned and controlled by employers or employer organizations, they might be called enterprise-based schools. However, the trainees in a big company's school also sometimes engage in productive activities that benefit the firm, for example, producing parts for use in the main factory. The most appropriate term to describe such productive activity in these settings would be school-based enterprise within enterprise-based schools.

### CONCLUSION

In the emerging economy where production intertwines with continuous learning, the dichotomy that has divided education and schooling from work and productive enterprise has begun to break down. Integration of academic and vocational curriculum, active pedagogy that treats students as "knowledge workers," work-based learning in enterprises inside or outside the school, all blur the conventional boundary between education and work. These initiatives in policy and practice are logical responses to the recognition that productive knowledge is increasingly evanescent. Although education will always include some rote memorization, and work will always include some obedient following of orders from supervisors or clients, these capacities no longer suffice. More than in the past, preparing for work means learning to ask good questions in order to resolve the uncertainties that accompany change.

REFERENCES

- Bailey, T.R. (1995). *Learning to work: Employer involvement in school-to-work transition programs*. Washington, DC: The Brookings Institution.
- Berryman, S.E. (1995). Apprenticeship as a paradigm of learning. In W. N. Grubb, (Ed.), *Education through occupations in American high schools. Vol. 1, Approaches to integrating academic and vocational education* (pp. 25-39). New York: Teachers College Press.
- Committee for Economic Development. (1985). *Investing in our children*. New York: Committee for Economic Development.
- Crain, R.L., Heebner, A.L., & Si, Y.-P. (1992). *The effectiveness of New York City's career magnet schools: An evaluation of ninth grade performance using an experimental design* (Report for the National Center for Research in Vocational Education). New York: Teachers College, Columbia University.
- Dore, R.P., & Sako, M. (1989). *How the Japanese learn to work*. London: Routledge.
- Elias, P., Hernaes, E., & Baker, M. (1994). Vocational education and training in Britain and Norway. In L. M. Lynch (Ed.), *Training and the private sector: International comparisons* (pp. 283-297). Chicago: University of Chicago Press.
- Grubb, W.N. (1995a). *The meager effects of job training: The case for re-integrating training and education*. Berkeley: School of Education, University of California. (To be published in 1996 by Russell Sage Foundation, New York).
- Grubb, W.N. (1995b). *Education through occupations in American high schools. Vol. 1, Approaches to integrating academic and vocational education. Vol. 2, The challenges of implementing curriculum integration*. New York: Teachers College Press.
- Japanese Ministry of Education, Science, and Culture. (1995). *Japanese government policies in education, science, and culture 1994. New directions in school education: Fostering education for life*. Tokyo: Ministry of Education, Science, and Culture.
- Kearns, D. T., & Doyle, D. P. (1988). *Winning the brain race: A bold plan to make our schools competitive*. San Francisco: Institute for Contemporary Studies, ICS Press.
- Koike K., & Inoki, I. (Eds.). (1990). *Skill formation in Japan and Southeast Asia*. Tokyo: University of Tokyo Press.
- Marsden, D., & Ryan, P. (1991). Initial training, labour market structure, and public policy: Intermediate skills in British and German industry. In P. Ryan (Ed.), *International comparisons of vocational education and training for intermediate skills* (251-285). London and New York: Taylor and Francis/Falmer Press.

## 22 Stern and Wagner

- Middleton, J., Ziderman, A., & Van Adams, A. (1993). *Skills for productivity: Vocational education and training in developing countries*. New York: Oxford University Press.
- National Academy of Sciences, Panel on Secondary School Education and the Changing Workplace. (1984). *High schools and the changing workplace, the employers' view*. Washington, DC: National Academy Press.
- National Center on Adult Literacy (NCAL). (1995). *Adult literacy: The next generation* (NCAL White Paper Rep.). Philadelphia: National Center on Adult Literacy, University of Pennsylvania.
- OECD (Organization for Economic Cooperation and Development). (1994). *Vocational training in Germany: Modernisation and responsiveness*. Paris: OECD.
- OECD (Organization for Economic Cooperation and Development). (1995). *Employment outlook*. Paris: OECD.
- OECD (Organization for Economic Cooperation and Development). (1996). *Growing into work: Youth and the labour market over the 1980s and 1990s* (Draft paper presented April 10-11). Paris: OECD, Directorate for Education, Employment, Labour and Social Affairs, Working Party on Employment.
- Ryan, P., & Buechtemann, C. (1995). *The school to work transition* (prepared for the International Handbook of Labour Market Policy and Policy Evaluation). Cambridge, UK: Faculty of Economics and Politics, University of Cambridge.
- Schmidt, H. (1994). *Qualifying the workforce: Education and training for an age of uncertainty*. Berlin: Federal Institute for Vocational Training.
- Soskice, D. (1994). Reconciling markets and institutions: The German apprenticeship system. In L. M. Lynch (Ed.), *Training and the private sector: International comparisons* (pp. 25-60). Chicago: University of Chicago Press.
- Stern, D. (1996). Human resource development in the knowledge-based economy: Roles of firms, schools, and governments. In *Employment and growth in the knowledge-based economy* (pp. 189-206). Paris: Organization for Economic Cooperation and Development.
- Stern, D., Finkelstein, N., Stone, J.R., III, Latting, J., & Dornisfe, C., (1995). *School to work: Research on programs in the United States*. Washington, DC and London: Taylor and Francis, Falmer Press.
- Stern, D., Raby, M., & Dayton, C. (1992). *Career academies: Partnerships for reconstructing American high schools*. San Francisco: Jossey-Bass.
- Stern, D., Stone, J., III, Hopkins, C., McMillion, M., & Crain, R. (1994). *School-based enterprise: Productive learning in American high schools*. San Francisco: Jossey-Bass.
- Stites, R., Foley, E., & Wagner, D.A. (1995). *Standards for adult literacy: Focal points for debate* (Tech. Rep. TR95-04). Philadelphia: National Center on Adult Literacy, University of Pennsylvania.



# ***International Perspectives on the School-to-Work Transition***

*Edited by*

**David Stern**

*Graduate School of Education  
University of California, Berkeley*

**Daniel A. Wagner**

*University of Pennsylvania*



HAMPTON PRESS, INC.  
CRESSKILL, NEW JERSEY

Copyright © 1999 by Hampton Press, Inc.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording, or otherwise, without permission of the publisher.

Printed in the United States of America

**Library of Congress Cataloging-in-Publication Data**

International perspectives on the school-to-work transition / edited  
by David Stern, Daniel A. Wagner.

p. cm. -- (Series on literacy)

Includes bibliographical references and index.

ISBN 1-57273-165-6 (cl.). -- ISBN 1-57273-166-4 (pbk.)

1. School-to-work transition--Cross-cultural studies.
2. Education, Cooperative--Cross-cultural studies. 3. Vocational education--Cross-cultural studies. I. Stern, David, 1945-
- II. Wagner, Daniel A., 1946- III. Series.

LC1049.I58 1998

370.11'3--dc21

98-42256

CIP

LC  
1049  
I58  
1999

Hampton Press, Inc.  
23 Broadway  
Cresskill, NJ 07626

