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## *Workforce Development in the United States: Creating a More Effective Training Market*

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*DRU-1035-OECD*

*March 1995*

*Prepared for the Organisation for Economic Co-operation and Development*

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## Introduction

Across the OECD countries there has been increased attention in the last decade to the skills of the workforce (OECD, 1994c). The focus on skill issues has been driven by two main forces. Increased international competition has raised concerns that the advanced industrial countries will lose jobs to lower wage nations unless they can raise the skill levels of the workforce and encourage businesses to move into higher value-added, higher-skill markets. And rapid technological change, particularly the exponential growth in the power of information technology, has eliminated many well-paying, previously secure middle management and semi-skilled jobs, and increased the returns to investments in education.

The imperative for education and training reform has had a particular urgency in the U.S. because of the widespread perception that the U.S. is doing a poor job relative to its main competitors—Japan and Germany—in preparing its population to cope with the new economy (e.g. Dertouzos et al., 1989; Reich, 1991). Despite the resurgence in U.S. productivity growth in the first half of the 1990s, business leaders and government policymakers continue to press ahead with efforts to reform the process of workforce development.

Providing an objective analysis of the strengths and weaknesses of workforce development in the U.S. is difficult for three reasons. First, the data available on workforce development, particularly firm-based training, is incomplete and often contradictory (OECD, 1993). Second, it is hard to take a clear picture when the subject is moving rapidly; at present, many U.S. companies and the federal and state governments are radically rethinking the delivery of education and training in response to changes in markets, technologies and cost constraints. Finally, even when the situation was more stable, there was never a *system* of adult education and training in the United States. In contrast to the clearly structured and regulated forms of provision found in many of the other advanced industrial countries, U.S. adult education and training is highly decentralized and market-based.

There are three major characteristics of workforce development in the U.S. that run counter to the creation of any national system:

- Most workforce development decisions are left to individuals and firms;

- Where government does become involved in education and training, most of the activity occurs at the state and local level, creating hundreds of separate education and training systems;
- The Federal Government has over 150 separate employment training initiatives that are scattered across more than a dozen departments.

A number of problems have been attributed to the lack of a system of workforce development in the U.S. (e.g. NCEE, 1990; GAO, 1995; Hansen, 1994). Perhaps the greatest concern is the growing inequality between educational *haves* and *have nots*. The earnings gap between those who have a college degree and the rest of the population has widened substantially over the last 15 years; this trend has been reinforced by leaving the majority of adult education and training decisions in the U.S. to the market, as the investment flows where there is the highest rate of return—to individuals who possess the most formal educational qualifications, managers, professionals and technical workers. Increased wage inequality linked to educational achievement is a trend common across the OECD, although the wage gap is more pronounced in the U.S. (OECD, 1994c). Another criticism of the U.S.'s disorganized approach to workforce development is the lack of good information on the many training options and poor articulation between different routes. A third factor behind the calls for a more systemic approach to adult education and training is the fact that many existing public policies are overlapping and do not appear to be working well. The numerous evaluations of federal training programs conducted over the last 30 years suggest that while many individual programs have produced small, but quantifiable benefits, that the majority of targeted individuals remain in poverty after the training (Heckman, 1994; U.S. Department of Labor, 1995).

Often lost amongst the critiques of U.S. education and training are the compensating strengths of the market-based approach. The relatively high degree of competition among public and private education and training providers compared with other OECD countries creates strong incentives for institutions to respond quickly to external changes and encourages innovation.<sup>1</sup> Another advantage of the U.S. approach to workforce development is that individuals and their families have always treated post-compulsory education as an investment, rather than a consumption good, thus providing resources for much broader participation in post-compulsory education than is found in exclusively state-run and funded systems. In addition, while the lack of national standards and certification requirements for most jobs has come under much



criticism, this lack of structure also means that there are far more second chances for U.S. adults to obtain career-track jobs even if they do not succeed in the compulsory schooling system or do not know at an early age which occupation they want to pursue.

A major implication of the U.S. market-based approach to workforce development is that it places a great onus on individuals to take responsibility for building and updating their own skills. Unlike other advanced economies where the state requires employers to spend a certain percentage of payroll on training (e.g. France, Singapore, Australia) or where firms have taken the responsibility for ensuring the majority of the workforce receives extensive initial training (e.g. Japan, Germany), the U.S. places virtually no requirements on employers to train. There are clear drawbacks to this approach—particularly when, as in the U.S., many young people leave the school system ill-prepared to take charge of their own career development. But it also has advantages, as individuals are typically the best informed about their own capabilities and training needs. The advantages of an individual-based approach to workforce development are likely to increase as a growing percentage of the labor force in the U.S. and Europe are not working in traditional, full-time jobs, and thus may be less likely to receive training from employers.<sup>2</sup>

This report will provide an overview and analysis of workforce development in the U.S. It will begin by exploring the difficulties of defining and measuring “workforce development.” Next, it will examine the sources of market and government failure that can produce a skills deficit. This will be followed by an overview of the supply and demand for skills in the U.S. and the factors that influence employers’ skill needs. Each of the main sources of workforce development will then be reviewed along with the evidence, where available, on effectiveness/returns to education and training investment and the strengths and weaknesses of existing arrangements, including state and federal policies for workforce development. The report will conclude by looking at current reform debates, and a set of policy options for improving the market for workforce development in the U.S.

## **Defining and Measuring Workforce Development**

One symptom of the lack of a systemic approach to workforce development system in the U.S. is the absence of a commonly accepted definition of what constitutes “training” or “workforce development.” This report will focus on *opportunities for enhancing work-related skills available to individuals who have left the full-time education*

*system and entered the labor force.* This definition is quite broad, including on-the-job training, as well as formal education and training programs. It excludes, however, a number of important elements of the U.S. education and training system:

- The elementary and secondary education system, which was the focus of a special study in last year's OECD Economic Survey of the U.S. (OECD, 1994a, Ch. 5); the problems caused by the failure of the U.S. K-12 system to prepare many people with the skills needed to cope with a modern economy will of course have a major impact on the demands for adult education and training.
- The many new programs—e.g. “tech prep,” youth apprenticeships, cooperative education—now underway to improve the school-to-work transition and skill levels of young people not planning to attend four-year colleges. While a critical reform area, these programs are better seen as attempts to improve the initial education of young people, rather than as part of the education and training “system” for those already in the adult labor force (for a review of U.S. school-to-work programs see Stern et al., 1994).<sup>3</sup>
- The university system, which enrolls 14.2 million people each year with bachelor's, master's and doctoral degrees; the full-time four-year college route, that caters for approximately 29 percent of the U.S. population, is arguably the greatest strength of the U.S. education system and also merits a separate study (e.g. Benjamin et al., 1993).
- The wide array of community-based, general interest adult education courses that individuals take for personal enrichment; this study will focus on broadly-defined vocational, rather than recreational courses.

The lack of a common definition of training and the fact that most firms do not measure training levels or expenditure makes it impossible to arrive at an accurate estimate of the level of training in the U.S., much less compare the levels of adult education and training across countries (see OECD, 1993, Ch. 5 for far more detailed discussion of methodological problems). The data problems in this area are clearly illustrated by two surveys of representative samples of the U.S. workforce conducted by the Bureau of the Census—the Current Population Survey (CPS) and Survey of Income Program Participation (SIPP) (Zemsky, 1994). The surveys asked virtually identical questions regarding whether an individual had received training to qualify for her most recent job and whether she had undergone training to improve her skills once on the job.

The responses, however, were diametrically opposed: the CPS found that approximately two-thirds of individuals had received some form of training, while SIPP found that 75 percent of workers had no training. And while the CPS, like most other training surveys in the U.S. and abroad found that individuals with the highest prior educational levels and income were most likely to receive training (OECD, 1993, Ch. 5), the SIPP revealed that more schooling did not lead to increased training; indeed, it found that individuals with a college degree were less likely to receive training.

Zemsky (1994) attributes this discrepancy to the context in which the questions were asked on the two surveys that reflects a wider division between private and public training in the U.S. While the CPS focuses on an employee's occupation and work history, the SIPP concentrates on federal programs for the disadvantaged, with training questions following after a series of questions about food stamps, social security and federal income maintenance programs. Thus, while the training questions themselves were virtually identical, the SIPP results reflected "the negative image most Americans attach to welfare programs, even though the respondents were being asked about job-related training that had little to do with welfare" (ibid, p. 4). The negative image of federally-supported training is shared by many employers, who decline to participate in government programs because they perceive them to be overly bureaucratic and not geared toward employers' skill demands (Finegold et al., 1994b).

### **Market and Government Failure in Workforce Development**

Human capital theory was developed in the U.S. and remains the dominant paradigm for analyzing the economics of education and training investments (Becker, 1975). The theory suggests that in a perfectly functioning labor market there will be an optimum amount of investment in human capital. Individuals will pay for general skills that can be transferred from one company to another, since they will be compensated through improved future earnings, while firms and their employees will share the costs of developing skills specific to that enterprise.<sup>4</sup> What conditions then might give rise to market failures in the provision of workforce development that could justify government intervention in adult education and training? This section will quickly review the literature on market failures in training (see Stern and Ritzen, 1991; Booth and Snower, forthcoming for more complete discussions), and explore the less developed theories of government failure in education and training (Wolf, 1988; Finegold, 1995).

## **Uncertainty, Risk Aversion and Capital Constraints**

Although individuals are in theory responsible for investing in their own general skills, they may be unable or unwilling to do so at a societally optimal level because they lack the resources necessary to pay for education and training, are more risk averse than the society as a whole, or are uncertain about the private rate of return on this investment — i.e. will they complete the course? will they find a job that utilizes and rewards these skills? This can be a problem for young people leaving the compulsory school system, particularly those from poorer families, who may have smaller savings and a shorter investment timeframe than adults (Streeck, 1989). Banks may be unwilling to lend individuals the money required to finance courses because of the costs and difficulties associated with assessing the risk of this transaction. Becker (1975) and other human capital theorists recognized this potential market failure and advocated government loan guarantees to help individuals finance education and training; the loans could then be repaid when the courses are completed. Eliasson (1994) suggests the creation of an individual skills investment account linked to the social insurance system that could overcome some of individual's aversion to risk and give individual's greater control over their own skill development.

## **Transferable Skills**

In the real world, little of the workforce development that takes place within firms can be categorized as either purely general or specific. Recent advances in human capital theory suggest that there is a category of skills which fall between these two extremes, known as "transferable skills," where a market failure in training investment may arise (Eliasson, 1994). Stevens (1995) defines "transferable skills" as those of use to a small number of employers in a given labor market, such as many of the skills possessed by a loan officer or a hazardous waste technician. She shows that so long as there is some uncertainty over the outcomes of training investment and that the competition in a local labor market for some categories of skill is limited to a certain number of employers, then the result will be that the private rate of return is lower than the social rate of return, leading to an underinvestment in training.

### **Imperfect Information**

Markets require reliable, up-to-date information in order to function effectively. While the U.S. system provides clear career tracks and plentiful information for individuals attending four-year colleges, the majority of people who do not obtain a degree often find it hard to identify clear education and training pathways that lead to secure employment and assess the quality of the different education and training options (Osterman, 1988; Grubb, 1992). Most providers of sub-baccalaureate education and training courses, for example, have little information available on the labor market outcomes of their graduates (McFarland, forthcoming). Employers also find it difficult to determine the quality of courses offered by the vast array of public and private education and training providers (Finegold et al., 1994a). These information problems have been compounded by the absence of nationally recognized skill standards or qualifications in most industries and occupations.

### **Inequality**

Even if the market were efficiently providing workforce development, there might still be a rationale for government involvement because of perceived inequalities in the distribution of education and training opportunities. Between 1976 and 1990 there was a widening earnings gap between college graduates—whose starting salaries rose 30-42 percent on average (varying by subject area)—and those with less than a college degree whose earnings fell in real terms (OECD, 1994a, 123). The earnings gap widens over the course of individuals careers in part because the best educated are also most likely to receive further training (Lillard and Tan, 1986). Some have interpreted this as requiring increased government investments in training for the non-college bound (e.g. Reich, 1991; NCEE, 1990), while others have argued that most economically efficient policy is to invest scarce training resources on the better educated who obtain the highest rate of return and then redistribute resources to the economically disadvantaged (Heckman, 1994).

### **Government Failure in Workforce Development**

While there are many market failures that may justify government intervention in education and training, policymakers must weigh the possible gains associated with ameliorating market failures with the costs of government programs and the likelihood

that these policies will achieve the intended results. Theories of government failure (Wolf, 1988) suggest that problems are likely to arise with public sector involvement in any service, like education and training, that has the following characteristics:

- There are multiple constituencies rather than a single customer;
- It is difficult to determine a fair price for the service provided;
- There is no clear definition of the desired outcomes or the best way to measure them.

In some cases, public subsidies for education and training can actually hurt the overall supply of workforce skills by subsidizing inefficient or out-of-date public institutions that crowd out private providers (Harrison, 1993). Public institutions may also have difficulty in training for advanced technologies, where the pace of change and high cost of equipment makes it difficult to respond rapidly to shifting skill needs (Reynolds, 1994). Other potential sources of government failure include: the absence of termination mechanisms to eliminate ineffective programs, the short-term timeframe of political actors and the lack of effective coordination mechanisms among government agencies (Finegold, 1995). Many of these problems can be reduced, although not completely eliminated, if the government avoids direct provision of services and rather creates incentives or acts as a catalyst for individuals, firms and education and training providers to overcome market failure problems of skill investment in their communities.

### **Supply of Skills**

The lack of national skill standards in the U.S. means that there is no good data available on the actual skill levels or qualifications of the workforce. Rather, we must rely on proxies for the supply of skills, such as educational qualifications and the amount of training individuals receive after entering employment.<sup>5</sup> The educational qualifications of the adult labor force are shown in Table 1.

**Table 1**  
**Highest Educational Qualifications of U.S.**  
**Population, Aged 25-64 (1992)**

Qualification	Percent
Less than high school diploma	14.5
High school diploma or equivalent	37.7
Some college, no degree	17.3
Associate's degree - vocational	3.5
Associate's degree - academic	3.2
Bachelor's degree	15.6
Master's	6.1
Professional	1.3
Doctorate	0.8

Source: CPS, 1992

The U.S. has a relatively large supply of graduates compared to other OECD countries (Table 2). This gap has been narrowing recently, however, as many European and Asian countries have dramatically expanded their higher education systems, while maintaining lower dropout rates than in the U.S. Great Britain, for example, has more than doubled the percentage of young people obtaining a degree (from under 15 percent to over 30 percent) in less than a decade.

**Table 2**  
**University Graduation**  
**Ratio of First-Degree Graduates from Public and Private**  
**Universities to 100 Persons in the Population at the**  
**Theoretical Age of Graduation, Men and Women (1991)**

	Graduation Ratio
North America	
Canada	33.3
United States	29.6
Pacific Area	
Australia	24.4
Japan	23.7
New Zealand	16.1
European Community	
Belgium	13.3
Denmark	16.5
France	16.3
Germany	12.7
Germany (FTFR)	13.3
Greece	—
Ireland	16.0
Italy	9.2
Luxembourg	—
The Netherlands	8.3
Portugal	—
Spain	7.5
Spain	12.1
United Kingdom	18.4
Other Europe - OECD	
Austria	7.8
Finland	17.2
Iceland	—
Norway	30.8
Sweden	12.0
Switzerland	7.6
Turkey	6.5
<b>Country Mean</b>	<b>16.4</b>
Central and Eastern Europe	
CSFR	11.8
Hungary	6.4

SOURCE: OECD, 1993, p. 179.

It is at the lower and intermediate skill levels where the U.S. appears to have performed less well in preparing its workforce (Hansen, 1994). Americans not attending



four-year college have only an average rate of participation in education and training (see Table 3), and international comparisons of test scores in mathematics and science suggest that U.S. students, particularly those in the bottom half of the distribution, are performing poorly relative to their counterparts in other countries (OECD, 1994a; Stevenson, 1992).<sup>6</sup>

**Table 3**  
**Enrollment rates of young people at age 17 and 18, 1991**  
**Enrollments as a percentage of all persons in corresponding age group**

At Age 17		At Age 18	
<b>Greater than 80 per cent</b>		<b>Greater than 70 per cent</b>	
Japan	88.8	Germany	80.0
Belgium	88.1	Switzerland	75.9
Sweden	85.3	France	75.0
Finland	85.2	Norway	74.8
Norway	84.7	Finland	73.4
France	83.3	The Netherlands	72.7
Switzerland	82.0		
Germany	81.6		
<b>Between 70 and 80 per cent</b>		<b>Between 50 and 70 per cent</b>	
Canada	79.3	Denmark	67.6
United States	77.0	Canada	59.2
The Netherlands	73.6	Sweden	55.7
Denmark	73.4	United States	55.0
Ireland	70.6	Spain	52.0
		Ireland	50.1
<b>Less than 70 per cent</b>		<b>Less than 50 per cent</b>	
Spain	64.3	Portugal	42.0
New Zealand	58.9	New Zealand	32.7
Portugal	49.0	United Kingdom	25.7
United Kingdom	44.3	Turkey	24.6
Turkey	31.9		

NOTE: Based on full-time enrollments in public and private upper secondary, non-university, and university education.

SOURCE: OECD, 1993, pp. 206-208.

Additional evidence of a skills deficit for the non-college bound is the relatively high rates of literacy and numeracy problems. It is difficult to come up with a single,

agreed definition of what constitutes adequate basic skills given the many changes underway in employers' skills demands; estimates of literacy problems range from 19 million adults, of an adult population of 172 million in 1989, with 8 years or less of schooling, to 22-35 million adults who failed to pass two basic national proficiency tests (OTA, 1993, Box 1-A). A 1992 study, concentrating on the registered unemployed and/or those seeking help from a government employment program, found that roughly half these individuals tested at or below the minimum competency level (Kirsch et al., 1992).

Once individuals have entered employment, 57% of all Americans stated that they required some special skills or training to qualify for their most recent job in 1991 (see Table 4).<sup>7</sup> The main sources of qualifying training were some school or post-secondary education programs (33%), followed by informal on-the-job training (27%) and formal company training (12%).<sup>8</sup> Those receiving school or college-based training were primarily in the managerial (49%), professional (83%) and technical (63%) occupations, with few individuals in hourly jobs (e.g. machine operators (8%) and service workers (14%)) needing to take any formal courses in preparation for their jobs.

**Table 4**  
**Workers Who Needed Training to Qualify for Their**  
**Current Jobs, by Selected Characteristics, 1983 and 1991;**  
**Percent of Total Employment in Group**

Selected Characteristic	1983	1991
Age 16 and over	55	57
Race and ethnicity		
White	57	58
Black	44	47
All other races	54	58
Hispanic	43	41
Highest grade completed		
High school or less	42	41
Some college	62	63
College graduate	84	84
Occupational Group		
Executive, administrative, and managerial	71	72
Professional specialty	93	92
Technicians and related support	85	86
Sales occupations	43	43
Administrative support	57	55
Private household occupations	8	10
Service, except private household	36	37
Farming, forestry, and fishing	28	28
Precision production, craft, and repair	65	62
Machine operators, assemblers, and inspectors	37	38
Transportation and material moving occupations	36	42
Handlers, equipment cleaners and laborers	16	20
Class of worker		
Private industry	52	53
Federal government	64	67
State government	71	75
Local government	70	73
Self-employed	59	58

SOURCE: BLS, 1992.

Less than half (41%) of all individuals had received any training to improve their skills since starting their current jobs (see Table 5), according to the 1991 CPS. The main sources of skill improvement training were within companies, 16% of individuals entered formal training programs and 15% participated in informal OJT. Thirteen percent of individuals received skill improvement training outside of companies, with virtually all of the courses provided by community colleges or technical institutes or

four-year colleges. Two-thirds of these courses were shorter than 25 weeks (BLS, 1992, 37).

**Table 5**  
**Skill Improvement Training: Type of Training by Occupational Group, 1991**  
**(Percent)**

Occupational Group	Workers Who Took Training	Type of Training				
		Managerial or Supervisory	Reading, Writing, or Math	Computer-related	Occupation-specific Technical	Other
Total, All Occup.	41	11	6	13	26	7
Executive	53	29	8	22	30	7
Professional	67	16	13	21	45	14
Technicians	59	8	8	24	43	6
Sales	35	12	4	10	21	7
Admin. Support	40	8	6	23	19	5
Private Household Service	6	1	0	1	2	3
Farming, etc.	29	5	3	3	21	7
Precision Production	21	5	1	2	14	4
Machine Operators	38	8	4	7	30	4
Transportation	25	1	3	5	19	3
Handlers	25	3	1	3	17	6
	15	2	1	3	10	3

SOURCE: BLS, 1992.

Despite all of the rhetoric about new technological demands and increased skill requirements, however, the overall pattern of initial and further training was quite similar between 1983 and 1991. The percent requiring some qualifying training for their jobs increased marginally from 55 to 57%, while there was a larger rise in workers who received some training in their current jobs (35 to 41%), accounted for mostly by an increase in formal company training programs. Employers also significantly increased the number of individuals they sponsored for externally-based qualifying training by 150%. The most notable increases in the sources of qualifying training were in the community and technical colleges, which provided for 8.9 million workers or 8 percent of the workforce, an increase of 50 percent in 8 years (BLS, 1992, 15). There were also, however, some significant declines in training. In metalworking, for example, as computer numerical controls (CNC) supplanted the old manual or numerical controls

employers appear to have reduced their training requirements; the percentage of machine operators who received some qualifying training dropped from 46 to 33% (BLS, 1985, Table 23; BLS, 1992, Table A-1).

### **Employers' Demand for Skills**

The demand for skills in the U.S. in the mid-1990s cannot be understood in isolation from the broader changes taking place in corporate strategy and structure and the institutional context in which firms operate. Although the U.S. economic recovery has officially been underway since 1991, many leading corporations continue to make major reductions in their workforce. In 1993, U.S. companies announced a record 615,000 layoffs and this pace continued through the first part of 1994 (Byrne, 1994). These layoffs are occurring not only at companies in financial difficulty, but also at highly profitable firms (i.e. General Electric, Ford, AT&T) that historically have been leading providers of workforce development in the U.S. IBM, which once offered employees a Japanese-style promise of lifetime employment in return for loyalty to "Big Blue," has cut the size of its workforce by half since 1986 (The Economist, 1995, p. 55).

This wave of downsizing needs to be distinguished from more typical layoffs that occur in response to reductions in demand; rather, these are, in many cases, part of an ongoing effort by U.S. managers to restructure—or "reengineer" as it is now popularly known (Hammer and Champy, 1993)—their operations in order to create what some researchers have described as high-performance workplaces (Osterman, 1994; Applebaum and Batt, 1994). Among the most common features of these reengineering efforts are streamlined work processes, fewer layers of management, reduced cycle times, outsourcing of non-core functions and the introduction of self-managed, multi-functional teams for product development and production (Levine and Luck, 1994).

The reengineering movement has mixed implications for firms' investment in employee development. On the one hand, the shift toward a more decentralized, team-based structure creates a series of significant new training demands for the workforce. Frontline employees need multiskilling to perform different tasks within the team, as well as requiring many skills traditionally associated with management (e.g. enhanced communication, problem-solving, and project management skills), while managers must adjust to a new role which entails less direct control and greater emphasis on facilitating effective team performance (Finegold et al., 1994a).

On the other hand, the effects of reengineering can also create major barriers to workforce development, particularly during the transitional phase. At the most basic level, the greater work demands placed on remaining employees may mean that it is difficult to find the time to release them for training. In addition, the cuts in the workforce, particularly in unionized settings, are often accompanied by hiring freezes that limit the flow of new recruits and hence the amount invested in initial training. Furthermore, repeated layoff announcements appear to be undermining employees' trust in their employers (Taylor, 1995), a factor that research suggests is crucial if employee involvement efforts are to succeed (Brown et al., 1991). In this insecure environment, there is a still greater onus on individuals to take charge of their own skill and career development, rather than relying on employers.

What is still unclear in this period of major change is how many of these restructuring efforts have enabled firms to make a successful transition to high-skill, high-performance workplaces. The U.S. is home to many of the world leaders in workforce development. Firms such as Motorola, Texaco, Hewlett Packard and 3M have clearly identified the skills of their workforce as the critical factor in their success. These corporations not only invest heavily in the education and training of all their employees, but also structure the work process in a way that fosters continuous innovation and organizational learning.

These firms, however, remain the exception. Alongside them, the majority of U.S. employers appear to have relatively low expectations for their workers' skills (NCEE, 1990; Dertouzos et al., 1989; Carnevale, 1991). An influential study, *America's Choice: High Skills or Low Wages* (NCEE, 1990) concluded that 95 percent of U.S. firms still operated with traditional forms of work organization, symbolized by the mass production model developed by Henry Ford, which minimized the skills required by employees.<sup>9</sup> While many employers complain about the low quality of applicants coming from U.S. high schools, their complaints are most frequently about the lack of basic literacy and numeracy and personal attributes, such as reliability and a poor work ethic, rather than a shortage of higher-level technical skills. When asked to rank the most important factors in hiring decisions, employers place most emphasis on individuals' attitudes and communication skills and place relatively little weight on the quality of their schools or applicants' academic records (see Table 6).

**Table 6**  
**Recruitment**  
**Relative Ranking of Factors in Making Hiring Decisions**  
**(1 = Not Important or Considered; 5 = Very Important)**

Applicant Characteristics	Rank
Applicant's attitude	4.6
Applicant's communication skills	4.2
Previous work experience	4.0
Recommendations from current employees	3.4
Previous employer recommendation	3.4
Industry-based credentials (certifying applicant's skills)	3.2
Years of completed schooling	2.9
Score on tests administered as part of the interview	2.5
Academic performance (grades)	2.5
Experience or reputation of applicant's school	2.4
Teacher recommendations	2.1

SOURCE: The National Center on the Educational Quality of the Workforce (EQW), 1995.

Despite the strong growth in higher-skilled managerial, technical and professional occupations, projections of future workforce demand suggest that by the year 2000, 70 percent of jobs will still not require a college degree (Bailey, 1991) (see Table 7).<sup>10</sup> The largest absolute growth in employment is occurring in relatively low-skilled occupations (e.g. retail sales, janitor, waiter/waitress). From this relatively modest base, there are clear signs that employers' skill demands are increasing—in a new survey of a nationally representative sample of firms with more than 20 employees, the Census Bureau found that 57% had increased skill requirements in the last three years, while only 5% had experienced a decrease and 39% reported no change (EQW, 1995).

**Table 7**  
**Projected Changes in Occupational Structure, 1988–2000**

Occupation	Number of Jobs 1988 <sup>a</sup>	% Distribution	% Growth 1972–1988	% Growth 1988–2000	Educational Level <sup>b</sup> (%)
Professional specialty	14,628	12	24	19	91
Technicians and related support	3,876	3	32	7	68
Executive, administrative, and managerial	12,104	10	22	15	66
Marketing & Sales	13,316	11	20	14	47
Subtotal	43,915	37	23	55	69
Administrative support	21,066	18	12	14	42
Service	18,479	16	23	23	24
Precision production, craft, and repair	14,159	12	10	8	23
Farming, forestry, and fishing	3,503	3	-5	-1	19
Operators, fabricators, and laborers	16,983	14	1	1	16
Subtotal	74,190	63	11	45	27
Total	118,105	100	15	100	42

<sup>a</sup>Number of jobs in thousands.

<sup>b</sup>Denotes percent of all individuals employed in this occupation who have completed at least one year of postsecondary education.

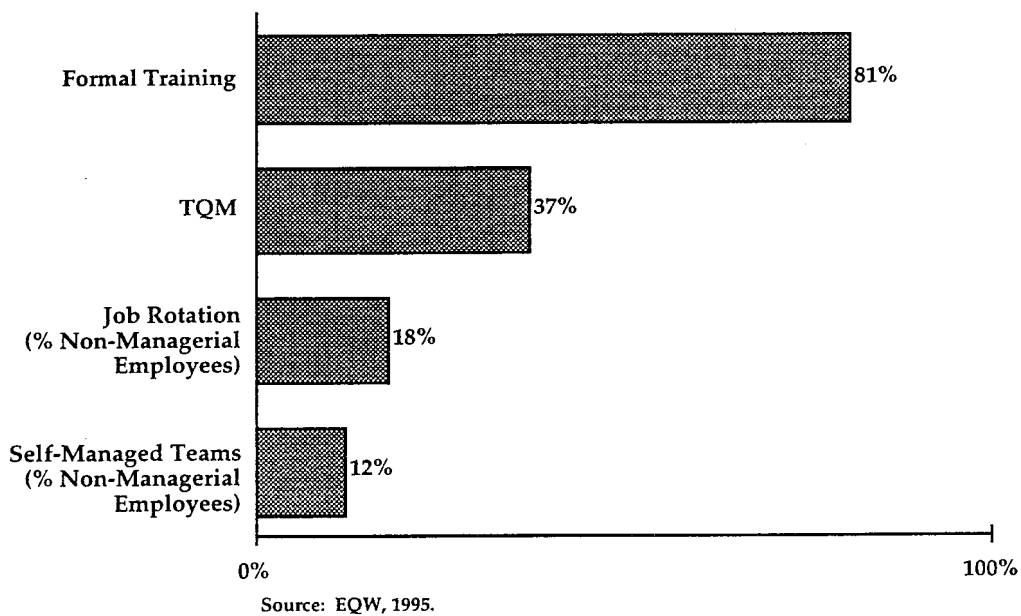
SOURCE: Silvestri and Lukasiewics, 1989, Tables 1 and 8.

### High Performance Workplaces?

The still uncertain and incomplete nature of corporate restructuring is revealed in the Census study and two other recent national surveys. One looked at a nationally representative sample of 694 manufacturing plants with 50 or more employees to see the



extent to which they had adopted four key aspects of high-performance workplaces: 1) self-directed work teams, 2) job rotation, 3) quality circles/problem-solving groups, and 4) total quality management (Osterman, 1994). This study found that approximately 35 percent of plants had implemented at least two of these practices for the majority of their “core” workers.<sup>11</sup> Firms which adopted these workplace practices were more likely to be in internationally competitive product markets, to compete on the basis of quality and customer service rather than cost, to use technologies that required high skills, to invest in high levels of training, and to adopt innovative pay systems. The Census Bureau’s more comprehensive survey, which included smaller firms (>20 versus >50 employees) and private service sector enterprises, found somewhat more modest levels of high-performance work practices (see Figure 1). The important exception to this was the use of formal training; more than 80% of firms provided formal training in the last year, either in-house or through an external provider.



**Figure 1—Use of New Work Practices**

A third survey focused on the largest 1,000 manufacturing and service sector corporations in the U.S., the firms that would be expected to be leaders in the adoption of new work practices (Lawler et al., 1992). The survey, administered in 1987, 1990, and 1993,<sup>12</sup> found a growing number of large firms has attempted to increase employee

involvement and that this was related to an increase in skill development at the lower levels of the organization. The survey also revealed a significant increase in training of all types between 1990 and 1993 along with a greater use of knowledge- or skill-related pay, although the latter was still generally confined to a small subset of employees (see Table 8).

**Table 8**  
**Percentage of Fortune 1000 Firms Indicating That More than 20 Percent**  
**or 60 Percent of Employees Had Training in Past Three Years**

Types of Training	1987 (N = 323)		1990 (N = 313)		1993 (N = 279)	
	More than 20%	More than 60%	More than 20%	More than 60%	More than 20%	More than 60%
Group Decision-Making/Problem-Solving Skills	57	5	55	6	72	16
Leadership Skills	63	4	54	3	67	8
Skills in Understanding the Business (e.g. Accounting, Finance, etc.)	50	4	39	2	42	5
Quality/Statistical Analysis Skills	42	6	43	9	63	22
Team Building Skills	52	5	56	8	75	17
Job Skills Training	N/A	N/A	84	35	88	48
Cross Training	N/A	N/A	N/A	N/A	69	13

SOURCE: Lawler et al., forthcoming

Even if the transformation of workplaces is still incomplete, the results of these restructuring efforts are beginning to pay off for U.S. firms as evidenced by the strong growth in productivity in the early 1990s, particularly in the service sector where growth had been stagnant in the previous decade (Roach, 1994).

What factors account for the relatively limited number of U.S. employers that have adopted high-skill, high-performance work organizations? The answer may lie in a set of institutional factors in the U.S. economy that create incentives for managers in many sectors to pursue lower skill strategies than their counterparts in countries like Japan and Germany. Among these factors are relatively limited exposure to international competition, high rates of employee turnover, financial markets that focus on short-term

performance, the industrial relations structure and, until recently, relatively weak linkages between employers.

### **Limited Exposure to the International Economy**

There is a great deal of popular concern in the U.S. about the effects of growing international competition on the ability of the U.S. to sustain employment and the national standard of living. This concern was reflected in the narrow passage of the North American Free Trade Agreement (NAFTA) and long delays in the ratification of the General Agreement on Trade and Tariffs (GATT) Uruguay round, although most economists predicted substantial net benefits to the U.S. economy from the expansion of free trade. Hidden in the debates about national competitiveness is the fact that the U.S. economy is significantly less affected by international trade than other OECD economies. In 1992, exports accounted for just 10.6% of U.S. GDP and imports were 11.1%, less than half the trade dependence of most European economies (Krugman, 1994). In addition, the vast majority of this trade was with other advanced industrial countries, not lower-wage, developing nations. Surprisingly, given the growing focus on the global economy, there has been little increase in the scale of imports and exports in the 1980s.<sup>13</sup>

The large domestic market, substantial distance from its main trading partners, and the more rapid move into the less traded service sector has reduced the exposure of many U.S. firms to international competition, and with it the pressure to move into higher-skill markets. There are signs, however, that this focus on the domestic market is changing quite rapidly as more companies focus on growth opportunities in the global marketplace. A recent study of U.S. management development needs, for example, ranked "globalization" as the most important driver of new managerial skill requirements (Finegold et al., 1994a).

### **Employee Turnover**

The U.S. has relatively few constraints on employers' ability to dismiss workers and has the highest rates of labor mobility among the large industrial countries (OECD, 1994; Buechtemann, 1993). Half of all manufacturing workers leave their companies each year (37 percent if temporary layoffs are excluded), compared with 15-20% in Japan, Italy, France and Sweden (Blinder and Krueger, 1991). As the OECD *Jobs Study* (1994c) concluded, high turnover rates can deter employers from making investments in

transferable skills because of the risk that they will lose their newly trained workers to competitors.<sup>14</sup> For example, several of the U.S.'s largest machine-tool firms abandoned their well-respected apprenticeships in the 1970s because nearby aerospace firms were "poaching" their young machinists as soon as they completed the training (Finegold et al, 1994b). Likewise, in a recent comparison of service strategies, work organization and human resource policies in the U.S and German banking sectors, Keltner (1994) found a strong relationship between the much lower labor turnover rates in German banks and their willingness to make significantly larger training investments in each new employee. U.S. banks, faced with demands to tailor products more closely to customer needs and turnover rates of up to 30 percent per year for key categories of workers, have coped by adopting a modular training strategy—providing short training courses to new employees and then offering opportunities for greater job responsibilities and additional training to individuals who stay with the firm and show a desire for advancement.<sup>15</sup> In other, lower skilled service sectors, such as fast food and hotels, turnover rates can exceed 100 percent annually, with a strong negative impact on service quality and the skills of the workforce (Schlesinger and Heskett, 1991).

What is not clear from the aggregate data on turnover rates is to what extent high turnover rates represents a conscious choice by employers to treat labor as a variable cost that can be cut when demand slackens, and to what extent it is an external constraint on managers, imposed by the behavior of other firms and Americans' preference for greater mobility. A variety of evidence suggests that U.S. managers could reduce turnover if they desired, but prefer to minimize the size of their core, long-term workforce. There has, for example, been a dramatic growth in the size of the temporary workforce in the U.S., with Manpower Inc.—a temporary employment agency—now the largest single U.S. employer (Seavey and Kazis, 1994). In his study of the banking sector, Keltner (1994) found one U.S. bank was able to attain dramatically lower turnover rates (averaging 8%/year) by offering employees, including part-timers, greater employment security, pay tied to firm performance, more input into corporate decision-making and opportunities for ongoing learning. Most banks elected not to pursue this strategy, however, because it was perceived to limit their employment flexibility.

There are many other examples of firms that have been able to reduce turnover, and make substantial investments in transferable skills, by constructing strong internal labor markets and adopting other strategies (e.g. Schlesinger and Heskett, 1991; Applebaum and Batt, 1994). Some companies choose to locate in areas where there are no direct competitors for their set of skills; Daimler Benz surprised many commentators

by choosing to build its first U.S. automobile plant in rural Alabama, one of the poorest, and least educated parts of the U.S. In addition to the generous investment incentives, relatively low wages and non-union environment, one of the key factors in the firm's decision was the strong sense of community in this rural area and the absence of comparable firms for several hundred miles (Andressen, 1994).<sup>16</sup> Small, high-tech firms, which are often clustered together in regions such as California's Silicon Valley, the Research Triangle in North Carolina, Massachusetts's Route 128, seek to retain their highly skilled employees by offering stock options that can soar in value as the firms grow.

### **Financial Markets**

Although the U.S. has arguably the world's most efficient capital markets, the way in which these markets operate appears to deter many companies from making long-term investments in the skills of their workforce (Dertouzos et al., 1989; Porter, 1992; Soskice, 1991). The problem arises because the costs of investing in training appear immediately on the balance sheet, while the benefits to education and training take time to accrue, are difficult to quantify, and often require other concurrent changes in organization in order to be fully successful (Finegold, 1991). Survey evidence suggests that the heads of U.S. corporations have a significantly shorter investment timeframe than their counterparts in Japan and Germany (Poterba and Summers, 1991; Abegglen and Stalk, 1985). There are several features of U.S. capital markets and corporations that appear to encourage this short-term investment timeframe and discourage sustained workforce development:

- Corporate governance regulations which require U.S. chief executives to focus solely on the interest of shareholders, while Japanese and German firms take into account the interests of all stakeholders, including the firm's employees;
- The impact of hostile takeovers and leveraged buyouts, prohibited by law in Japan and Germany, that compel managers to maximize short-term returns in order to sustain cash flow;
- The relationship between companies and stockholders that tends to limit the flow of information to easily quantifiable indicators, such as quarterly profits, and discounts factors such as training (Soskice, 1991);

- And the educational background of the MBAs leading many U.S. firms that emphasizes financial management over human resource issues (Finegold et al., 1994a).

Reviewing these and other factors, a major recent study of the system of corporate finance in the U.S. concluded:

American firms invest too little in those assets and capabilities most required for competitiveness (*such as employee training*), while wasting capital on investments with limited financial or social rewards (such as unrelated acquisitions) (Porter, 1992). (Author's italics)

The effects of the U.S. financial system on industry's decisions regarding training, however, vary significantly by sector and firm type. U.S. venture capital firms provide far more long-term finance for high-tech start-ups than is available in other nations, while many family-owned businesses rely primarily on retained earnings for funding investments, and can take a longer term view toward training if they desire. Even in firms where there is clear pressure to demonstrate the short-term payoffs to any investment, this can have a beneficial effect on workforce development as the human resource department seeks new ways to demonstrate the effectiveness of education and training programs and tie them more closely to the organization's needs (Leyda et al., 1995; see also Customized Training section).

### **Industrial Relations**

The limited extent and structure of organized labor in the U.S. has also failed to generate incentives for managers to adopt high-skill work organizations. Unlike Germany and the Scandinavian countries, where strong trade unions and other forms of industrial democracy (e.g. works councils) have placed pressure on firms to invest in the latest technologies and implement them in ways which enhance skill requirements (Soskice, 1991), the U.S. has a relatively weak and declining trade union movement. In areas where organized labor continues to have a strong influence—e.g. food processing, transportation, the public sector—many unions have opposed workplace reforms—such as the broadening of job classifications and replacing seniority with skill-related pay—that they perceive as threatening to their power, despite the potential for these changes to increase the capabilities of their members (Mercer Management Consulting, 1994).

There are some major exceptions to the traditional pattern of labor-management relations, most notably in the automobile industry. Since 1982 the United Auto Workers and the Big 3 U.S. auto manufacturers have operated a joint Education Development and Training Program (EDTP). The program was initially set-up to provide retraining for the large number of auto workers who were laid off during the 1980s, but now also provides millions of dollars each year for all of the Big 3's unionized workforce to upgrade their skills. EDTP does not provide training related to immediate job needs, but rather brings in outside experts to offer a wide variety of services designed to make education easily accessible to workers. These include on-site classes (both short, one-off courses and courses leading to two- and four-year degrees), pre-paid tuition up to \$3,100/year for any employee seeking outside accredited courses (\$7,000 for any worker who has been laid off), basic literacy and numeracy training, career guidance and retirement planning. Although EDTP has not been subject to formal evaluation, because of the union's concern that the program not be linked to job performance, the companies appear convinced that EDTP has led to enhanced productivity, improved morale and significantly reduced absenteeism (Mercer Management Consulting, 1994, A3-17).<sup>17</sup> While labor-management relations within many of the Big 3 plants remain confrontational, the UAW and GM have also experimented with many elements of the high-performance workplace in GM's Saturn plant in Tennessee and at NUMMI, a GM-Toyota joint venture in California (Adler, 1992). Several other unions have also shown a willingness to cooperate with managers in the redesign of work and joint training programs (Applebaum and Batt, 1994; Kochan et al., 1986).

### **Employer Relationships**

One means of avoiding the free-rider problem that can arise with the creation of transferable skills is for local employers to cooperate in the provision of training relevant to their sector. This cooperation can take a variety of forms, from the German chambers of commerce and industry, to regional service centers in industrial districts of Northern Italy and Denmark, to the close linkages between buyers and suppliers in Japanese *keiretsu* (Hirst and Zeitlin, 1989; Porter, 1991). What they have in common is that independent firms are willing to share the costs of investing in training and other services that are to their mutual benefit. Historically, U.S. firms have been reluctant to cooperate in this fashion because of anti-trust concerns, cultural opposition to behavior

that is viewed as contrary to the free market and a relatively weak and fragmented employer organization structure (Finegold et al., 1994b).<sup>18</sup>

In the last decade, however, there has been a dramatic transformation in inter-firm relations in the U.S. Large corporations have sought to emulate the Japanese model of “lean production” described in the influential automobile study, *The Machine That Changed the World* (Womack et al., 1990), by building long-term, cooperative relationships with a significantly reduced number of suppliers. Motorola, for example, has formed a consortium with many leading U.S. corporations to dramatically upgrade the quality of its supplier base by providing training and other forms of assistance. In addition, the government has reduced anti-trust limitations on cooperative activities such as pre-competitive research and education and training, and also provided start-up funding for employer consortia. Large corporations and researchers are cooperating in the development of new technologies and standards, such as Sematech in electronics, the Clean Car Initiative, and the Machine Tool Agile Manufacturing Research Institute. In addition, a new network of federally-funded Manufacturing Technology Centers (MTCs), building on successful examples already established in several states, helps small firms improve their product and process technology (for more detail see Finegold et. al., 1994b). Much of the service these Centers provide is training for small firms to redesign their organizations and upskill their workforce. Thus, while many U.S. firms remain reluctant to cooperate in the training field, many barriers to cooperation have been removed.

In summary, what distinguishes the U.S. from many of its European and Asian rivals is the relative freedom that managers have to pursue either low or high-skill strategies. The U.S. institutional environment appears conducive to certain high-skill industries, such as small, high technology firms who have access to long-term finance and hire mostly well-educated college graduates or large corporations that are the dominant presence in the local labor market. At the same time, however, the structure of U.S. labor markets appears to deter many employers, particularly more traditional small and medium-sized firms, from adopting strategies that require a substantial investment in transferable skills.

### **Main Sources of Workforce Development**

There is a wide variety of routes through which Americans acquire their skills. Handy (1987, p. 25) described the U.S. as a “vast marketplace in which individuals as



well as goods and services can compete. In this marketplace the manager (or worker) is expected to be responsible for his or her own development, but with a lot of support from the larger corporations.”

### **Employer-Based Training**

Most of the data on training provided by firms in the U.S. comes either from surveys of individuals (e.g. BLS, 1992; Lillard and Tan, 1986) or case studies of individual companies or industries. (Applebaum and Batt, 1994 provide a review of this literature.) A recent survey of a nationally representative sample of nearly 12,000 U.S. employers, however, gives a good snapshot of the level of formal training activity (BLS, 1994).<sup>19</sup> Seventy-one percent of all establishments offered some type of formal training to their employees in 1993.<sup>20</sup> Small firms (< 50 employees) were significantly less likely to offer formal training (69%) than medium or large establishments, virtually all of which had formal training programs (see Table 9).

**Table 9**  
**Number and Percent of Private Nonagricultural Establishments with Formal Training Programs by Size of Establishments, 1993**

Characteristic	Total	Less than 50 Employees	50-249 Employees	250 or More Employees
All establishments (thousands) <sup>a</sup>	4,501	4,198	257	46
Total establishments that provided any formal training (thousands)	3,192	2,895	251	46
Percent of all establishments that provided any formal training	70.9	68.9	97.9	99.3
Percent <sup>b</sup> of all establishments with formal				
Orientation training	31.8	28.5	74.9	92.5
Safety and health training	32.4	29.5	70.2	88.3
Apprenticeship training	18.9	17.5	35.6	51.1
Basic skills training	2.2	1.7	7.2	19.3
Workplace-related training	36.1	88.0	77.3	89.6
Job skills training	48.6	45.8	85.8	95.9
Other	4.1	3.6	10.5	17.1

<sup>a</sup>The sampling frame does not include establishments coming into existence after selection of the sample, therefore the survey estimates of the total number of establishments may differ from the population values.

<sup>b</sup>Respondents could choose more than one category.

SOURCE: BLS, 1994.

Over half of all establishments that provide training state that it is open to all employees. The main drawback to this survey, however, is that it provides no measure of the intensity of formal training activity; a large plant that offered one class in 1993 would still count as providing formal training.

There was some variation by sector, with finance and other services the most likely to have formal training programs (roughly 75%) and construction offering the least formal training (59%).<sup>21</sup> Of the various types of formal training, the most prevalent was jobs-skills training, provided by just under half of all establishments. The most common forms of job-skill training were sales/customer relations, management training and computer skills. Despite the large national problem of adult basic skills, under three percent of establishments provided formal training in basic literacy, numeracy or English as a second language. Employers, however, consider 20 percent of their workforce not to be fully proficient at their current jobs, according to the recent Census Bureau survey (EQW, 1995).

The main reason employers cite for offering formal training is “to provide skills specific to their organization,” while two-thirds of those establishments that did not provide formal training indicated that informal on-the-job training satisfied their needs; only 3% indicated that the risk of losing trained individuals to other firms was a deterrent to training.

While these recent surveys have greatly enhanced our knowledge of the types and incidence of training in U.S. firms, they tell us nothing about the effectiveness of this training or how the level U.S. companies’ training investment compares with rivals in other nations. For this information we need to turn to more detailed analyses of smaller samples of firms in different sectors and the workers within them. Research of this kind, however, is hampered by the wide variety and wide variations in quality of in-firm training, the fact that only a minority of companies have formal training budgets, even fewer firms make rigorous assessments of the effects of training, and almost no firms would agree to conduct controlled experiments that would eliminate problems of selectivity bias (Department of Labor, 1995).

A growing number of researchers are attempting to overcome these obstacles to make the link between workforce development and the performance of individuals and firms. A study of 155 manufacturing firms found that those which introduced formal training programs in 1983 achieved productivity growth rates 19% higher over the next three years than comparable firms which did not increase training (Bartel, 1995). The firms which introduced training programs began, on average, with lower levels of productivity than their industry average and were able to reach the industry norm as a result of introducing training. Likewise, there are now several studies showing employer-provided training for individuals leads to improved job performance (as assessed by supervisors) and higher future earnings (e.g. Bishop, 1994; Lillard and Tan, 1986; Lynch, 1992).

Despite the seemingly high returns to many forms of firm training, American companies appear to be offering fewer opportunities for systematic workforce development than their leading competitors. Comparisons of U.S. and Japanese auto plants suggest that the Japanese-owned plants, both in the U.S. and Japan, offer significantly greater amounts of training to frontline workers and that this is directly related to higher levels of productivity and product quality (MacDuffie and Krafcik, 1992; Hashimoto, 1994). A detailed matched-plant comparison of precision metalworking and food processing plants in the U.S. and Europe suggests that American plants have been able to achieve higher levels of productivity, despite lower levels of

initial training, due to a combination of factors, including economies of scale and greater use of college graduates (Mason and Finegold, forthcoming). This comparison also revealed significant hidden sources of U.S. skill development, such as the tuition reimbursement programs that most companies offer, to pay for course costs while individuals study in their own time.

### **Company Education Units**

A small but growing number of firms have made major financial commitments to establish firm-focused company schools or universities (Finegold et al., 1994a). Firms such as Motorola, General Electric, and Xerox have developed autonomous business units whose primary function is to meet the ambitious continuous education requirements of all the firm's employees and its suppliers. Because of the level of resources required to sustain these activities, such units are limited to very large companies.

Motorola University (MU), arguably the most well-known example of this model, is more of a planner and contractor than a training provider. The mission of MU is simple: to provide Motorola's 120,000 employees, worldwide, with opportunities to continuously upgrade their skills. To deliver this mission, MU has units at various corporate locations, sometimes forming partnerships with local colleges or private providers to deliver courses. For example, classes at MU's western division are administered by Mesa Community College, which screens and hires course instructors, provides classrooms and support services, and administers course registration. By charter, MU only develops its own courses if the subject is not obtainable through an outside provider or it requires discussion of proprietary information. Likewise, Boeing has established a training division which develops its own coursework in key topics, such as statistical process control, then trains and contracts with various colleges around the country to deliver these courses to its employees and the employees of its suppliers.

Motorola's in-house research suggests that the benefits provided by MU far outweigh its costs, despite having spent over \$100 million on training in 1992. One advantage of the MU courses is that they strongly reinforce the firm's key strategic objectives such as quality improvement, cycle time reduction, and technology leadership, aimed at achieving total customer satisfaction. MU can also respond to changing objectives much more quickly and cohesively than through other educational

means. Arnie Sabel, manager of MU West, estimates that about 70 percent of the courses have been changed since the program started eight years ago.

### **Vendor Training**

The most common source of formal training to help workers cope with the demands of new technologies is equipment suppliers, who provide training courses along with the machinery they sell (see Table 10). Capital equipment vendors, ranging from machine-tool makers to manufacturers of buses and trains, are facing growing demands from customers to supply training for groups of workers as part of the sales package (EQW, 1995; Finegold et al., 1994b). In some cases this training is provided by the equipment manufacturer themselves, while in others it is their distributors who provide the training. Unfortunately, despite the prevalence of vendor training, very little is known about the forms of delivery or its effectiveness.

**Table 10**  
**Use of Schools as Training Sources**  
**Percentage of Establishments Using Various Training Sources**

Sources of Training	%
Equipment suppliers or buyers	50%
Private consultants	36%
Private industry councils or other industry associations	34%
Technical and vocational institutions	33%
Community and junior colleges	30%
Four-year colleges or universities	20%
Government-funded training programs	12%
Unions	5%

SOURCE: EQW, 1995.

### **Customized Training**

A major new trend in U.S. workforce development is the growth in customized training (Creticos and Sheets, 1990; Lynch, R. et al., 1991). Custom training uses the specific business problems faced by the company as course material and incorporates the firm's business requirements and strategy, rather than focusing on the general development of the individual. This trend toward customization has been demand-driven. Corporate directors are questioning the economic returns to the company from costly executive education or other general-audience short courses, and turning toward

programs that explicitly link human resource development and corporate strategic objectives (see Finegold et al., 1994a, Morgenson, 1992).

In custom courses, the education provider—which may be business school executive education departments, community college professional development centers, or private providers—tailors coursework to the business needs of individual companies, and teaches only selected managers and professionals from that company, often on-site. The courses may be only a few days or part of an ongoing partnership between the provider and the firm. Custom courses represent the most rapidly growing form of workforce development for business schools and private providers (Finegold et al., 1994a). In many cases, this growth has been fueled by state funding; all but 3 of the 50 states provide some support for customized training, although in most cases the funds are quite limited (only 8 states provide more than \$10 million/year) (McDonnell and Zellman, 1993). Some economists (e.g. Grubb and Stern, 1989) have questioned the rationale for providing public subsidies for custom training, but these programs have proved popular with both employers and employees because they are more closely related to actual skill needs than most government-funded training. A study of a Michigan program that subsidizes training in small firms found that it led firms to triple the amount of training they provided to employees in the year of the grant and that this was related to a reduction in scrap rates (Holzer et al., 1993).

One example of a successful custom training provider that has relied substantially on public funds is California's Glendale Community College. Through its Professional Development Center, the college has trained individuals in hundreds of small firms. Most of the training is customized total quality management (TQM) and statistical process control (SPC) training, which Glendale provides on the firm's premises after performing a consultant-style analysis of the company's specific business needs. Companies use Glendale's training to initiate an effort to transform the business processes and culture of the organization. Participants in the initial training cohort are purposely selected to represent a cross-section of all the major business functions and levels within the organization. For example, trainees may include the head of accounting, a mid-level operations professional, a marketing manager, and a frontline worker. When the class is over, the skills acquired can be utilized on the job and shared with other co-workers, who may be part of a later training cohort themselves.

This has proven to be very cost effective and remarkably successful, as exemplified by the case of Allfast Corporation. Allfast manufactures airline fasteners and was in danger of closing when its main customer, Boeing Corporation, announced it

was going to dramatically decrease its number of suppliers. Allfast had to restructure its operations and significantly improve quality if it was to retain Boeing's business. In order to make this possible, an initial group of about 25 Allfast managers and employees underwent Boeing-specific TQM training through Glendale Community College. Two additional groups of Allfast workers have since undergone the twenty-week TQM program. The results: \$1.5 million savings in scrap metal costs, increased profits, raises and bonuses for all the workers, a lucrative "preferred provider" contract with Boeing, and enthusiastic support from employees who now look forward to weekly team trouble-shooting meetings.

### **Apprenticeships**

In most European countries apprenticeships are considered part of the initial education and training system that prepares young people to enter skilled occupations, and thus would not be included in a description of adult education and training.<sup>22</sup> In the U.S., by contrast, the average age of apprentices is 29, as most individuals who enter this form of skilled training have already been working in related occupations for many years.

Historically, apprenticeships have been a relatively minor source of skill development for the entire U.S. economy, with 300-350,000 apprentices registered at any one time, including approximately 100,000 new apprentices starting each year.<sup>23</sup> Apprenticeships have declined in relative importance over the last two decades in the U.S. from roughly 0.3 percent of the labor force in 1970 to less than 0.2 percent in 1987, as the number of apprentices has remained relatively stable while the workforce has grown (U.S. Department of Labor, 1989, Fig. 2). A recent survey of employers indicated that 19 percent of all U.S. establishments, and over half of those employing more than 250 people, offered some form of broadly-defined apprentice training (BLS, 1994, Table 1).<sup>24</sup> Despite the small percentage of apprentices in the total labor force, this route has been important in certain sectors of the economy, most notably construction, transportation and some sectors of manufacturing.

In addition to the older age of trainees, there are a number of features that distinguish U.S. apprenticeships from those found in Germanic countries: the pay is a much higher percentage of the skilled adult wage, thereby discouraging employers from offering places; trade unions often control the administration of the training; there is a fairly high rate of non-completion; the apprenticeships tend to be confined to a relatively

narrow range of typically male occupations; the trainee must serve a longer period (4 years in the case of machinists and toolmakers) before getting their papers (Gitter, 1994, p. 38). The structure of U.S. apprenticeships is more similar to traditional British apprentices, but unlike the U.K. there is typically no examination at the conclusion of the apprenticeship to demonstrate an individual's competence. Blanchflower and Lynch (1994) found that 90 percent of British young people who completed an apprenticeship in the 1970s also received a formal, national qualification, an option rarely available to U.S. apprentices. A comparison of apprentices' subsequent labor market outcomes shows that these formal qualifications yielded substantial wage benefits to individuals.

### **Community/Technical Colleges**

One of the primary sources of adult education and training outside of firms in the U.S. is the approximately 1,000 public, two-year community or technical colleges. They have grown dramatically from 297 in 1949, with fall enrollment increasing from 740,000 in 1963 to 4.9 million in 1990 (Hansen, 1994).<sup>25</sup> These colleges typically offer two-year associate degrees and vocational courses tailored to the needs of the local labor market.<sup>26</sup> In addition to degree courses and vocational certificates, community colleges have a wide array of additional offerings: delivery of federal and state training programs for displaced workers and the long-term unemployed, English as a second language, participation in economic development efforts, recreational and community education courses and, as noted above, customized training.

Most colleges have an open access admissions policy, accepting anyone who wishes to attend and charging low fees, subsidized by state and local government, so that most people can afford to take some courses.<sup>27</sup> Approximately 65 percent of students are part-time (NCES, 1992). The average age of students is typically in the late-20s to early-30s, with a varied distribution: a group of young, often full-time students straight from high school seeking an associate's degree and a large group of adults from across the age range taking both full- and part-time courses.<sup>28</sup>

Recent research suggests that the individual rates of return to community college education are large (5-15% increase in annual earning for each year of college) and relatively equal to the rates of return from attending four-year universities (U.S. Department of Labor, 1995, p.44). The wage gains appear significant even for the two-thirds of individuals who do not complete their courses (Kane and Rouse, 1995; Grubb, 1995), and persist when controlling for differences in innate ability (Ashenfelter and



Krueger, 1994) and family background (Card, 1993).<sup>29</sup> Adults returning to community colleges to update their skills or retrain significantly improve their future earnings, along with individuals seeking an initial post-secondary qualification (Angrist and Newey, 1991).

Additional evidence of the responsiveness of community colleges to surrounding labor market conditions is demonstrated by the strong counter-cyclical pattern in enrollments: a one percent increase in regional unemployment increases community college enrollments by four percent (Betts and McFarland, forthcoming). Colleges have difficulty coping with this surge in demand, however, because their funding—two-thirds of which comes from state and local government (Honeyman et al., 1991, 7-8)—tends to be cut during recessions as tax revenue decreases (Betts and McFarland, forthcoming). In the most recent recession, 36 states cut public higher education funding in real terms (Jaschik, 1992, A21).

### **Private Training Providers**

One feature of the education and training market in the U.S. that distinguishes it from many OECD nations is the vast array of private training providers (both for-profit and non-profit). These range from individual consultants to a large number of professional organizations. The private providers often specialize in short courses designed to accommodate the busy schedules of individuals in employment. A leading example of such private providers is the American Management Association (AMA). The AMA is one of the largest private providers of management seminars in the world. Founded in 1923, the AMA has over 70,000 members, all of whom are business managers. The AMA offers two types of short seminars, 3-5 day courses targeted at mid-level managers and 1-2 day courses targeted at office administrators and supervisors. The AMA contracts with independent consultants to teach the courses, which cover every area of management, both general and industry-specific. Among the more popular current offerings are courses on ISO 9000 quality standards, workforce diversity, power speaking, inventory management, and increasing customer satisfaction. One frequently cited problem with this multiplicity of private providers is the difficulty that individuals and firms have in determining which courses are of high quality (Finegold et al., 1994b).

The most controversial of the private providers are the for-profit training institutes that provide vocational and technical post-secondary courses for individuals. Although

these institutions are private, many of their students' tuition fees are paid by federal student loans (see Federal Training policy below). There is a very wide variation in educational standards among these for-profit institutes. Some, such as the DeVry Technical Institutes, offer high quality training in specialized occupations that are often poorly served by the state sector (Karim and Patton, 1995). Many have been criticized however, for over-reliance on federal support, the poor quality of services provided and lack of fit with changing labor market requirements.<sup>30</sup> For example, training institutions receiving federal funds produced 82,000 graduates with cosmetology degrees in 1990, although there were only 17,000 projected annual job openings (Department of Labor, 1994, p. 13).

Recent econometric analysis of the National Longitudinal Survey of Youth suggests that despite the well-publicized problems of some for-profit schools, the average individual who takes courses in proprietary institutions records significant wage gains (Lynch, 1992). These wage gains are apparent for individuals who undertook training prior to obtaining their current job, while there is no significant effect of enrollment in these courses on current wages. Unfortunately, it is not clear from the data whether this represents young people acquiring new skills in preparation for a shift toward a better career, or a reduction in current wages in exchange for the employer financing the training.<sup>31</sup>

### **Military Training**

The U.S. military is another major source of technical training for the U.S. economy. Following the Vietnam War, there was a great deal of concern at the low levels of skills and motivation in the American armed forces. With the move toward an all volunteer force and a heavy emphasis on more sophisticated weapons systems, however, the military has been able to make major improvements in the capacities of its workforce. A high school diploma is now generally the minimum entrance requirement to enlist in the services, and of the 1.85 million enlisted men and women in 1988, 550,000 were repair technicians compared to 283,000 combat troops (Thompson and Jones, 1994, p.119). The military has been a leader in the use of advanced technologies, such as computer simulations and interactive video, to enhance the delivery of training. With the end of the Cold War and accompanying downsizing of the armed forces, there is a risk that this effective route for young people—particularly minorities—to acquire technical skills may be available to fewer individuals.

## **Business Schools**

The Master's of Business Administration (MBA) is the predominant model for executive development in the U.S. While only 10-12% of all managers in business have MBAs, 35 percent of chief executives of America's largest 500 companies possess them (Finegold et al., 1994a). The MBA originated in the United States in the late nineteenth century. Until the Wharton School of Business was founded at the University of Pennsylvania in 1881, business education in the U.S. had been the province of technical schools and commercial colleges. The MBA gained in prestige in the early twentieth century as world-renowned institutions such as Harvard and Stanford added graduate business schools. U.S. business schools have maintained a world leadership position in both research and teaching, as evidenced by the large number of foreign professors and students that are attracted to U.S. business schools (Finegold et al., 1994a).

By the mid twentieth century, the "classic" MBA, with its full-time, two year curriculum of management, accounting, finance, and operations, and emphasis on quantitative analysis, was well established. The average student worked 2-3 years before seeking an MBA, and the goal of the MBA was to produce a new breed of general manager, educated to a graduate level in all aspects of running a business. Still MBAs were relatively rare, with only 4500 awarded in 1956; just nine schools accounted for more than half of all the degrees awarded. (Harvard and New York University alone accounted for 25 percent). The growth in the popularity of MBAs since then has been explosive, particularly throughout the 1970s and 1980s. In 1991, over 78,000 MBAs were awarded by over 700 American business schools.

In the past few years, however, the American market for MBAs shows signs of finally become saturated. After rising steadily for many years, the number of persons taking the Graduate Management Admissions Test (GMAT), the standard entrance exam for MBA applicants, began to decline in 1992 (see Figure 2).

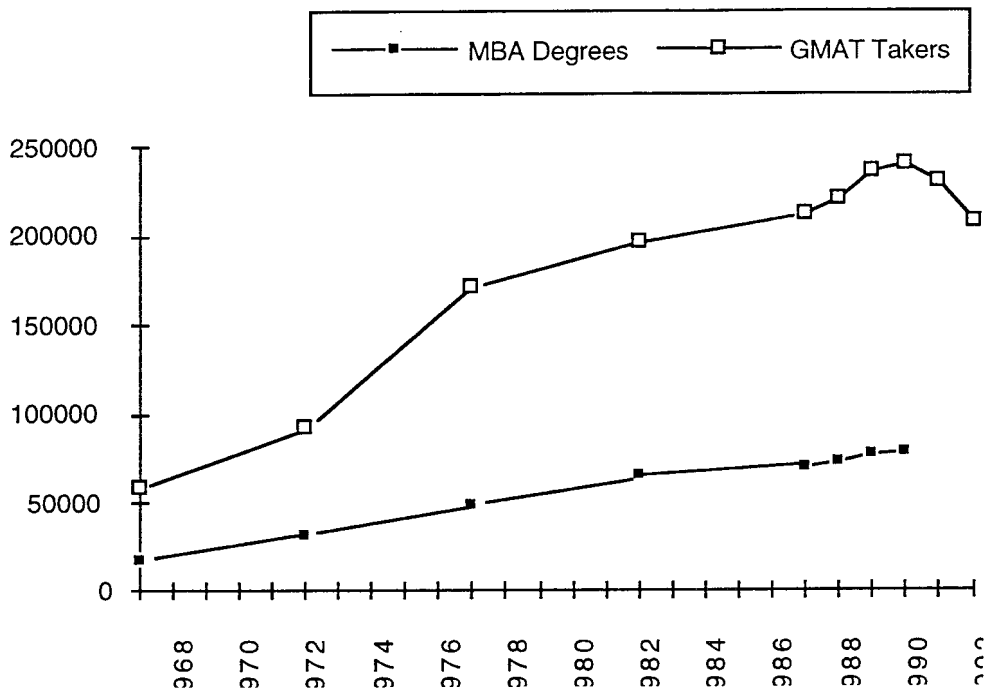


Figure 2—Recent Drop in Demand for MBAs

Along with declining demand from individuals, there have been increasing complaints from companies about the usefulness of MBAs. Until fairly recently, “classic” American business education emphasized analytics and finance and was U.S.-centric in its focus. This traditional education system has been criticized as being short-sighted and inadequate to meet the increased pressures on businesses today. A new set of business competencies is augmenting (but not replacing) the old: foreign language skills, familiarity with other cultures, computer literacy, and firm-based team projects, for example, are important additions to business school curricula. Critics charge that business schools have not adapted quickly enough to these changes in the duties and career structures of managers (The Economist, 1991).

In response to these criticisms, many of the top-tier MBA programs are not just teaching their students about reengineering, they are reengineering themselves. The traditional MBA model and the new techniques which the top-tier business schools are beginning to adopt are summarized in Table 11. Most of these reforms are still in their early phases. The more prominent changes include a greater emphasis on teamwork

and firm-based learning, greater international experience, and use of new technologies(see Finegold et al., 1994a for more details).

**Table 11**  
**Changes Underway in U.S. MBA Programs**

Traditional Model	New Model
Few courses	Diversify provision
Classroom-based	"Apprenticeship"
Theoretical	Real-world cases
Finance, quantitative focus	Analytic and soft/people skills
Functional separation	Cross-functional
Faculty Focus on research	Balance research & teaching emphasis
U.S.-centric	International
Individualistic/competitive	Group/cooperative
Male-dominated student body	Diverse (women, minorities) student body
Early in career	Lifelong learning
Traditional lectures	Use of new technologies

NOTE: New model somewhat analogous to medical schools.

Since U.S. business schools are heavily dependent on individual and corporate funding, they have had to be responsive to customer demands. In contrast, Japanese and German universities have been slow to reform, at least in part because of the tight state controls on the types of courses they can offer (Finegold et al., 1994a).<sup>32</sup> The flexibility created by a market-based approach to education and training is particularly important when the skill demands on managers and workers are changing rapidly, due to shifts in technology and the moves toward a more global marketplace.

#### **Government Training Programs - States**

The states have played a leading role in workforce development (McDonnell and Zellman, 1993; Creticos and Sheets, 1990)). Disillusioned by the long-term results of traditional approaches to economic development, where firms would often leave as soon as the tax incentive ran out, many states have turned to human resource investments as a means of fostering sustained growth in their region. The level and type of government support varies widely across the fifty states (Creticos and Sheets, 1990). Some concentrate on providing skills to help individuals start new businesses (e.g. small-firm incubators), or improve the efficiency of existing operations, while others focus on using custom training packages to attract investment from outside the state.

North and South Carolina, for example, have used subsidized training in technical/community colleges to become magnets for foreign direct investment (Batt and Osterman, 1993).

One of the larger, more innovative mechanisms by which a state government is raising the level of retraining is California's Employment Training Panel (ETP). ETP began in 1982 and has since been copied by 16 other American states. ETP uses an Employment Training Tax, a 0.1 percent surcharge on firms' unemployment insurance, "to better the economic climate by training new workers for employers and by retraining workers displaced as a result of the recession, technological advancements in the workplace, or aggressive foreign and domestic competition" (ETP Annual Plan, 1992-93, p.i). Trainees must fall into one of the following three categories:

- 1) Unemployed, either receiving unemployment benefits or having exhausted these benefits within the previous two years.
- 2) Employed, but in danger of being laid off within two years unless retrained.
- 3) Employed, but in need of training in skills for which there is a demonstrated shortage of qualified workers.

The most recent recession has resulted in large layoffs of managers, and thus ETP has expanded its focus from just production workers to help managers also find new jobs. Employers are keen to bid for funds, which are awarded on a competitive basis. They want to recover at least what they paid in tax, and ETP enables them to tailor programs to their particular needs.

The main factor setting ETP apart from typical public training programs is performance-based contracts. Contractors (such as community colleges and private providers) do not earn full reimbursement of costs until a trainee has completed training and is employed, in the job for which they were trained, for 90 days. Since 1983, ETP has provided funds for retraining about 1 percent of California's workforce (147,626 workers), with a job retention rate of 76.4 percent at the end of 90 days (Applied Management and Planning Group, July, 1992). These ETP "graduates" increase earnings by an average of \$4,000 annually.<sup>33</sup>

Several other American states have mechanisms to fund general training (rather than just retraining) to promote economic development. Iowa and Oklahoma provide eligible firms with funds to cover their training expenses by issuing bonds that are underwritten by the state. The funds can be used to train new workers or retrain

existing workers, with community colleges and private consultants usually providing the training. If, after the training, the firm shows an increase in profits, some or all of the interest and principal payments are forgiven by the state. The reasoning is that effective training should have a positive effect on the bottom-line financial results of the company, and if this happens, the firm is contributing more in state taxes, which thus allows the training effectively to pay for itself.

Likewise, Arizona recently enacted state support for professional development as an incentive for companies to create new jobs. A \$3 million fund is set aside each year which corporations can apply for if they are expanding their Arizona operation or relocating to the state. In either case, they must be adding new jobs. Twenty percent of the pool has been set aside each year to assist small companies (< 100 total employees). A common aspect to all the programs described is that, although the government provides funding and clear guidelines for eligibility and repayment, it does not directly provide the retraining. Firms are free to contract with education providers, both public and private, to design and build the courses they deem the most worthwhile.

### **Federal Training Initiatives**

The Federal Government will spend approximately \$20 billion in 1995 on work-related education and training (GAO, 1995, see Table 12 for list of main programs).<sup>34</sup> The impact of this large investment on the skills of the workforce is muted, however, by two main factors. First, as noted at the outset, the government has not designed a workforce development system, but rather has accumulated over 160 separate programs over the last 50 years, administered by 15 separate agencies (GAO, 1995). While most of these initiatives are concentrated in the Departments of Education (61 programs) and Labor (37 programs), the scattering of resources across so many separate initiatives and across 435 Congressional districts has carved up programs into many small chunks of money with limited effectiveness at the local level. This fragmented approach also raises overall administrative costs, contributes to a mismatch between the skills provided and the demands in the local labor market,<sup>35</sup> and creates confusing, often contradictory requirements for individual clients, employers and the local actors charged with delivering the training (Department of Labor, 1994; GAO, 1995).

Second, as noted earlier, federal training programs have historically been perceived as part of social policy, designed to help particular disadvantaged groups find employment, rather than as part of a broader workforce development strategy

Table 12

Funding For Voc Ed, Adult Ed And Job Training Programs					
	1994 Appropriations	1995 Clinton's Proposal	1995 House Proposal	Senate Committee Proposal	1995 Conference Agreement
	(dollars in millions)				
<b>Vocational Education</b>					
Basic grants (Title II)	\$972.8	\$972.8	\$972.8	\$972.8	\$972.8
Consumer and homemaking education (Title III-B)	34.7	—	34.4	34.4	34.4
State advisory councils	8.9	9.0	8.8	8.8	8.8
Community-based organizations (Title III-A)	11.8	—	—	9.4	9.4
Bilingual vocational training (Title IV-E)	2.9	—	—	—	—
Technical preparation education (Title III-E)	104.1	114.1	108.0	108.0	108.0
National programs					
Research	9.7	7.8	7.8	7.8	7.8
Demonstrations	23.5	13.0	13.0	23.0	20.6
Data systems	5.0	5.0	4.91	6.0	6.0
Tribally controlled postsecondary vocational institutions (Title III-H)	2.9	3.0	2.91	2.91	2.91
Permanent appropriation (Smith-Hughes Act)	7.1	7.1	7.1	7.1	7.1
<b>Subtotal, Vocational Education</b>	<b>\$1,183.3</b>	<b>\$1,124.0</b>	<b>\$1,152.0</b>	<b>\$1,173.5</b>	<b>\$1,170</b>
<b>Adult Education Act</b>					
Grants to states (Title III-B)	\$254.6	\$267.0	\$252.3	\$252.3	\$252.3
National programs (Title III-D)	8.8	9.0	10.2	8.7	8.7
Literacy training for homeless adults (P.L. 100-77)	9.6	9.6	9.5	9.5	9.5
Workplace literacy partnerships (Title III-C)	18.9	24.0	18.7	18.7	18.7
State resource centers	7.9	7.9	7.8	7.8	7.8
Prison literacy programs	5.1	5.1	5.0	5.1	5.1
<b>Subtotal, Adult Education</b>	<b>\$304.9</b>	<b>\$322.5</b>	<b>\$303.7</b>	<b>\$302.2</b>	<b>\$302.2</b>
<b>School-To-Work Transition</b>					
State/local models (Education Department)	50.0	150.0	140.0	100.0	125.0
State/local models (Labor Department)	50.0	150.0	140.0	100.0	125.0
<b>Skill Standards</b>					
National Advisory Board (Labor Dept.)	—	12.4	6.0	6.0	6.0
<b>Job Training Partnership Act (JTPA)</b>					
Adult training*	988.0	1,130.0	1,064.8	1,064.8	1,054.8
Youth training*	658.7	598.7	598.7	598.7	598.7
Block grants	—	—	—	—	—
Summer youth	888.3	1,056.3	1,056.3	1,056.3	1,056.3
Fiscal 1995 Supplement	—	184.8	184.8	184.8	184.8
Fiscal 1995 Advance	—	871.5	871.5	871.5	871.5
Dislocated workers	1,118.0	1,465.0	1,296.0	1,296.0	1,296.0
Job Corps	1,040.5	1,156.7	1,107.4	1,080.2	1,080.2
Native Americans	64.2	61.9	63.6	64.2	64.2
Migrant farmworkers	85.6	78.3	84.8	86.0	86.0
Veterans' employment	9.0	9.0	8.9	8.9	8.9
Youth Fair Chance	25.0	25.0	24.8	24.8	24.8
National programs					
Pilots and demonstrations	35.8	34.9	35.5	35.5	35.5
Research and evaluation	12.3	12.2	12.1	12.1	12.1
Other**	23.0	35.6	30.8	27.1	27.1
<b>Subtotal, JTPA</b>	<b>\$4,998.4</b>	<b>\$5,813.5</b>	<b>\$5,503.9</b>	<b>\$5,418.2</b>	<b>\$5,455.0</b>
<b>Job Opportunities &amp; Basic Skills</b>	<b>\$1,100.0</b>	<b>\$1,300.0</b>	<b>\$1,300.0</b>	<b>\$1,300.0</b>	<b>\$1,300.0</b>
One-Stop Career Centers	50.0	250.0	120.0	120.0	120.0
Employment Service	832.9	847.2	841.9	847.2	845.9
Homeless Job Training	7.5	—	7.41	—	—
Homeless Veterans Training	5.1	5.1	5.0	5.0	5.0
National Center for the Workplace	1.1	1.12	1.11	1.11	1.11
Women In Apprenticeships	0.8	0.8	0.7	0.7	0.7
Older Americans Community Service	320.2	308.9	320.2	410.5	
Food Stamp Training (USDA)	162.7	165.0	165.0	165.0	165.0

\*Created in P.L. 102-367, 1992 JTPA amendments.

\*\*Includes National Occupational Information Coordinating Committee, American Samoans and capacity-building programs.

Source: Labor, Education departments.



(Osterman, 1988). While the long-term unemployed, welfare recipients and other individuals who dropped out of the mainstream education system clearly deserve government attention, the near-exclusive concentration of federal programs on these groups hinders the programs from the outset, as individuals are stigmatized by being eligible to participate and employers are reluctant to consider participants for higher skill jobs.

The evidence suggests that, despite the problems listed above, some individual federal training programs have relatively small, but measurable, sustained benefits for the target groups. The U.S. is one of the few countries to conduct controlled experiments of training programs, although most of the smaller initiatives have not been subject to formal evaluations.<sup>36</sup> Descriptions of the largest workforce development programs and evaluations of their effectiveness are summarized below:

### **Job Training Partnership Act**

The Job Training Partnership Act (JTPA) is the largest federal training program, with projected expenditure of close to \$5 billion on more than 300,000 individuals in 1995 (GAO, 1995). It replaced the Comprehensive Employment and Training Act (CETA) in 1983 and was intended to make government training more responsive to local labor market conditions, while cutting the program's budget by more than 75 percent from the peak CETA outlays in 1978.<sup>37</sup> JTPA sought to achieve these objectives by delegating power to states and to employer-led Private Industry Councils (PICs), which were charged with overseeing the delivery of training in each area, and setting performance targets so that payments to program providers were based on how individuals fared in the labor market after training. The performance standards, while welcomed by employers, have been criticized for generating additional regulations and paperwork, rather than reducing bureaucratic requirements as originally intended. The use of outcome-related funding has also encouraged "creaming" by creating incentives for providers to recruit the most able eligible participants rather than those most in need of services, in order to improve the likelihood of successful job placements (Bailey, 1993, 162).

A major recent experimental evaluation of JTPA found that short-term training (4 months on average) produced real earnings gains for both male and female adults, but that most participants were still eligible for welfare at the conclusion of their training (Bloom et al., 1994). Job-search assistance and on-the-job training were the most



successful services, while adult basic education and programs to prepare people for the high-school diploma equivalency exam (the GED) were ineffective. The results are far less encouraging for young people, particularly young male JTPA participants who experienced a real decline in their earnings relative to the control group. One of the most successful elements of JTPA is also the most expensive—the Jobs Corps—which costs roughly \$20,000 per participant, but has a proven track record of raising the earning of disadvantaged youth by 8–9 percent (Heckman, 1994, 112).

The federal government has also provided support for some local programs that have demonstrated clear success in helping disadvantaged groups move into mainstream employment (see box).

## Successful Training Programs for the Disadvantaged

### Focus:Hope

Focus:Hope<sup>38</sup> is a community organization in the heart of Detroit that was founded by Father William Cunningham after the 1967 riots. This organization is now concentrating its efforts on a three-tiered metalworking training education program.

**Fast Track.** Focus:Hope takes students from all Detroit-area high schools. To get into the entry-level program, fast track, students must have at least 8th-grade level math and reading; this eliminates roughly 50 percent of applicants. Fast Track uses state funding to give them an intensive seven-week, computer-based course that is said to raise math levels by an average of 2.5 grades and reading by 0.7 grade. There is as much emphasis in the program on building the right attitudes and motivation as on basic reading and math. Those who complete the program are placed in either jobs or a further education program—or they can enter MTI (roughly 90 percent successful outcomes for completers).

**Machinist Training Institute (MTI).** The MTI consists of two 1,000-hour modules that provide students with basic machining skills on the different types of machines, along with continuing education—accumulating one year's credits toward an associate degree—in math, communication, theoretical material underlying metalworking, and rudimentary CNC skills. Focus:Hope is attempting to fill a need for skilled metal workers by placing minorities and women in jobs that have historically been closed to them. MTI has had more than 900 successful trainees since 1981, with placements in 125 different firms, more than half of which had never before hired a woman or minority skilled worker. One criticism of MTI is that it allows firms to “cherry pick” workers before they complete the full training course.

**The CAT.** The most ambitious part of Focus:Hope is the new Center for Advanced Technologies (CAT), which opened in 1993. CAT raised more than \$62 million from the Departments of Defense and Commerce to set up a state-of-the-art manufacturing facility, complete with a clean room for precision cutting and tooling, its own power-generation system, and a multimedia learning center that will provide self-paced instruction and a resource for the wider manufacturing community. The total cost of outfitting CAT is estimated at \$100 million.

The graduate requirements for MTI are the entrance requirements for CAT, along with a minimum six months of work experience, which could be acquired within Focus:Hope. CAT has set up a consortium with six leading college engineering departments to develop its totally modular course and grant degrees. The course is designed to last up to six years, with multiple exit points leading to associate, bachelors, or masters degrees. Each student has a 60-hour-a-week commitment, with 48 hours on the shop floor and 12 hours of off-job instruction, including the latest CAD technology and German and Japanese language skills. Toward the end of the course, students may assume management positions within the CAT and learn all of the financial, inventory, and other sides of the business.

The CAT will be a fully operating factory. Focus:Hope already has multimillion dollar production subcontracts from Detroit Diesel and Ford. It views the products it produces as the "report card" for its students. Focus:Hope claims not to be competing directly with local auto suppliers, since it has built-in inefficiencies—as soon as a worker becomes proficient on one tool, he or she is moved to a new job. These jobs are performed by a mix of trainees and permanent staff, who all wear two hats: trainer and worker. All profits are plowed back into the CAT, which hopes to eventually be self-financing (not counting start-up costs). The Detroit Diesel contract provides a good test of CAT's flexibility, since TEC must juggle 160 different parts, with lot sizes that vary from month to month, while maintaining a just-in-time production system.

The CAT's goal is to accommodate 450 trainees at one time, with the hope that universities and local employers will also place people in the facility, both as faculty and trainees. Focus:Hope has also provided retraining for some union members. CAT is relying heavily on the latest instructional technologies, designing a multi-media package for simple lathe instruction that it will market nationally. All the machines on the shop floor will be linked in a fiber-optic network along with PCs and CAD equipment. The goal is to remain technologically ahead of the best firms in the area, as a way of elevating the skills and sophistication of U.S. manufacturing, "creating a curve of obsolescence" among current machine-tool users. CAT tries to keep a real-world focus, however, by pairing students with outside mentors who will take them on site visits and provide advice. CAT is not trying to do basic research but rather to be on the cutting edge of implementation for the latest technologies.

Several elements may limit the transferability of the Focus:Hope model. Foremost is per-trainee cost, which, particularly for the CAT, is very high. To make wider use of this unique facility, CAT has signed agreements with Wayne County Community College and its consortia of area universities to open the CAT program to their students and to disseminate its electronic library and other multimedia instructional materials to a wider industrial and academic audience.

### **San Jose Center for Employment and Training<sup>39</sup>**

Founded in 1968, CET provides 4 to 6 months of intensive vocational training to disadvantaged clients. CET is marked by a tight integration between education and job skills training, with an emphasis on the latter. New trainees immediately begin vocational training which teaches them general skills in a job context. CET is also marked by its strong connections to the local business community. In each new community CET enters, an industrial advisory board is set up to assist in skill selection and curricular review. Executives from local firms serve on CET's board of directors.

CET has succeeded in providing education and job training services for two groups that are particularly difficult to serve—minority female single parents and young high school dropouts. Two randomized experimental evaluations (Mathematica, 1993; MDRC, 1993) found that CET training created earnings gains averaging thousands of dollars per year for students from these groups. Both evaluations found that CET was extremely cost-effective, bringing benefits to society about twice its costs.

### **Other Programs for Displaced Workers**

There are a large number of federal and state programs designed to aid workers who have lost their jobs. One of the largest of these is the Trade Adjustment Assistance

(TAA), a federal program to provide a year or more of classroom-based instruction and income support to workers who have been displaced as a result of international trade. Two recent evaluations failed to find any clear benefits to participants in the TAA program, although the researchers were hampered by the lack of a control group (Corson et al, 1993; U.S. Department of Labor, 1993). One of the problems with the TAA was that more than half of participants did not enter the program until they had already been unemployed for six months or more, with the result that their benefit would run out before they completed their courses (Corson et al., 1993).

Other strategies for aiding the unemployed appear to have been more successful. With support from the federal government, five states have recently run a controlled experiment testing the benefits of combining profiling - detailed descriptions of individuals' work histories and other characteristics to identify those most likely to have trouble finding work—with intensive job search assistance (Meyer, 1992). They found that this strategy consistently reduced the duration of unemployment versus the control group and saved the government \$2 for every dollar spent on targeted job search assistance. Likewise, experimental programs to help individuals set up their own businesses, and initiatives that provide monetary bonuses for unemployed workers who find a job quickly have also been shown to be cost effective for the state, although they do little to improve the supply of skills in the economy (Department of Labor, 1994).<sup>40</sup>

### **Student Loans**

The largest federal expenditure that is directly related to workforce development is also the least discussed in debates about federal training policy: the student loan program (Hansen, 1994). The various student loan programs are part of the more than \$22 billion the federal government spends annually providing subsidized loans to enable students from lower and middle-income families to attend post-secondary institutions. Of this total, over \$6 billion goes to individuals to take vocational courses at two-year public colleges or for-profit postsecondary institutions (Hansen, 1994). (The individual loans average \$2,300-\$3,500/year.) The proprietary schools receive a larger portion of the federal funding (\$3.9 billion in 1992) since the fees at the public institutions are generally low because of the heavy subsidies from state and local government.

The student loan program, particularly loans to for-profit institutions, has come under intense criticism because of the high and rising default rates and questionable quality of many of the courses. In 1992, loan defaults alone cost the government \$2.7

billion, with the proprietary sector accounting for 42 percent of all defaulters in the largest loan program, although these students represented only 23 percent of all students receiving loans (GAO, 1988, 7). A major cause of this high default rate was the failure of the government to enforce any delivery quality standards or performance measures on the institutions that would enable consumers to make informed choices about which courses to attend. The Omnibus Budget Reconciliation Act of 1990 and the reauthorization of the Higher Education Act in 1992 addressed some of these concerns by specifying a set of delivery and outcome standards to be used in assessing the eligibility of institutions that receive federal assistance and requiring states that take federal aid to set up an agency to oversee these institutions, with special scrutiny of those institutions that receive more than two-thirds of their funding from federal student aid (Hansen, 1994, pp. 150-54). These reforms appear to have had some success in reducing the loan default rate by excluding the lowest quality proprietary institutions.

### **Recent Reform Efforts**

There is widespread consensus on the need for major reforms of the Federal Government's training programs (U.S. Senate Labor and Human Resources Committee Hearings, 1995). Among the points of agreement between the Clinton Administration and the Republican-controlled Congress are the need to:

- Consolidate the many separate Federal training programs;
- Shift resources from those programs that have been shown to have little or no positive effect (e.g. JTPA for male youth) to those interventions (e.g. job-search assistance) that have demonstrated positive outcomes;
- Improve the information available to consumers and employers by continuing to develop industry skill standards and "one-stop shops," where individuals can go to receive advice on all of their labor market options;
- Reform the welfare system to create strong incentives for recipients to find employment;
- Encourage states and local areas to build their own, more coherent workforce development systems.

Despite the seemingly high degree of consensus, the relatively low priority historically attached to workforce training was apparent during the first two years of the

Clinton Administration. Of the three major pieces of education and training legislation introduced in 1993-94, Congress passed two: "Goals 2000" to create targets for reforming the education system, and the School-to-Work Opportunities Act to improve links between schools/colleges and employers. But the Reemployment Act and other versions of worker training reform were never put to a vote. Part of the reason for this failure was the disagreement among the parties on how best to achieve the shared reform objectives outlined above.

The Republicans, now in control of the Congress, favor radical consolidation of vocational education and training programs (Kassebaum, 1995). One proposed bill, the proposed "CAREERS" Act,<sup>41</sup> would freeze funding at current levels for most major programs and cut others (a projected reduction of \$7 billion in federal spending over five years) and in return give states far greater autonomy over how federal funds are spent. The CAREERS Act would consolidate 86 existing programs, including existing Federal support for school-based vocational education, into 7 large block grants (in areas such as Adult Education and Literacy, and Youth Employment and Training) with relatively few restrictions on how states allocate this money to the target populations.

The Democrats' reform alternative is more conservative in some respects, i.e. more modest consolidation of overlapping worker training programs (ranging from 13 to over 50 programs) along with reductions in the bureaucratic requirements of the programs. They treat the reauthorization of the Vocational Education Act ("Perkins Act") as a separate reform issue, more closely related to restructuring the school-to-work system. In other respects, however, the Administration's proposals represent a more radical move toward an individually-driven market-based system. The President's "Middle Class Bill of Rights" includes initiatives to give a tax deduction of up to \$10,000 for tuition expenses at post-secondary institutions (vocational schools, community colleges, universities); relax restrictions on tax-free Individual Retirement Accounts so that people can withdraw this money to invest in education; provide skill grants for laid-off or low income workers to pay for training;<sup>42</sup> and reform the student loan system to reduce defaults by tailoring repayment terms to students' financial means. The common thread among these initiatives, like the training vouchers first proposed by Milton Friedman, is to provide funding directly to individuals to make greater investments in their own skills, rather than funding providers.<sup>43</sup>



## **Skills Standards**

As part of the Goals 2000 legislation, the federal government has launched the first stage of an effort to create a voluntary system of national industry skill standards. The Departments of Education and Labor awarded grants to 22 committees composed of representatives from business, labor and education to develop skill standards in a variety of industries and occupations by 1996. In contrast with the plethora of existing skill standards in both professional and manual occupations, the new initiative is an attempt to build a coherent system, that is national in scope, and has clear linkages with the secondary and postsecondary education system (Rahn, 1994). While most commentators agree with the objective of improving information on the competencies required for different occupations, there are a number of concerns about the way in which the reform has proceeded to date (Bailey and Merritt, 1994). The bodies responsible for developing standards have not been given a clear, common language or framework to use in conducting their work, thus undermining the goal of creating a coherent system and making it difficult to assure comparability across the groups.<sup>44</sup> The committees have also been established with very different and in some cases overlapping areas to cover (e.g. separate standards for Advanced Manufacturing, Computer-Aided Drafting and Design, Metalworking and Hazardous Materials Management Technician). In addition, it is not clear what new incentives employers will have to use this voluntary system, given their lack of interest in standards to date.<sup>45</sup> One potentially large deterrent to the use of standards is the U.S. legal system, since if employers use a skill standard, or any other criteria, for hiring or rewards, then they must be able to demonstrate a direct link between that standard and job performance or risk being sued for discrimination.

## **Policy Options**

As the debates over reform of workforce development in the U.S. continue, policymakers could start by seeking to preserve those features of the current system that appear to be working well, most notably: providing open access to education and training opportunities for most adults, and competition among providers that encourages responsiveness to changes in skill demands. The government could then focus its efforts on addressing market failures in workforce development by altering

incentives and encouraging cooperation among key local actors. Among the specific policy options that could improve the functioning of the workforce development market are:

#### **Improve Information for Consumers**

- Enhance careers education/guidance in schools and colleges to empower individuals to take charge of their own learning and career development. Reforms need to address the current imbalance in guidance services, where those individuals that need the least assistance (in well-financed suburban schools) have access to the highest quality and quantity of information and linkages with employers.
- Improve the quality of information available on how education and training opportunities are related to local labor market outcomes; i.e. require all institutions accepting federal funds to gather a few simple indicators of graduates' activities after programs.
- Make the information widely available to individuals through Internet/National Information Infrastructure links to schools and colleges and the expansion of one-stop shops for adults seeking training assistance.
- Continue to develop national industry skill standards that can provide a clearer definition of occupational requirements for firms, providers and individual consumers. The standards-setting bodies, however, require a clearer overall structure and articulation among the new and pre-existing standards.<sup>46</sup> By tying federal and state training funds to the attainment of standards, the government can create incentives for employers to use them.

#### **Improve Information for Policymakers**

The government has undertaken a number of recent initiatives to improve the quality of data on workforce development including: revising the occupational classifications, sponsoring new surveys of firm-based training, including comparable comparative surveys (EQW, 1995; BLS, 1994), along with a special supplement to the CPS analyzing "The Contingent Workforce." It should continue this effort by:

- Encouraging analyses that link individual and firm-level data on skills and performance;

- Focusing new data-gathering efforts on the supply and demand for growing occupational categories, such as the technician workforce;
- Gathering new, more detailed information on the relationship between training and other new work practices;
- Like private industry the government could adopt process quality standards (e.g. ISO 9000) as a means of certifying suppliers eligible to receive federal education and training funds.

#### **Empower Individuals to Invest in Skills**

- Revise the tax code to give equal treatment to investments in physical and human capital (Reynolds, 1994);
- Consider the creation of lifelong individual training accounts like those proposed by the Clinton Administration and outlined in detail in a recent OECD report (Eliasson, 1994).
- Channel training funds for disadvantaged individuals directly to the consumer to make institutions more responsive to their demands; require a minimal individual financial contribution in all appropriate cases, a la Focus:Hope, to give trainees ownership over the training.

#### **Respond More Quickly to the Needs of Displaced Workers**

- Use the 90-day notice of layoffs to provide assistance and profile potential clients before redundancies occur;
- Create automatic countercyclical funding mechanisms for community colleges so that they have the resources necessary to cope with new demands during recessions.

#### **Expand the Supply of Transferable/Intermediate Skills**

- Act as a catalyst for employer consortia that can address free-rider problems and share the costs of skills investment for their local labor markets;
- Carefully evaluate school-to-work experiments and encourage the expansion of models that fill the growing demand for technical skills;
- Increase links between education and training initiatives and technology and economic development policies that assist firms in restructuring the work

process and adopting high-performance work practices.

## Notes

<sup>1</sup>In contrast, the U.S. compulsory school system has been criticized for failing to offer consumers choice, as most students are still assigned to the closest public institution (Chubb and Moe, 1990).

<sup>2</sup>More than 35% of Americans and close to 50% of Europeans are either unemployed or working in part-time, temporary or contract labor (Rapoport, 1994).

<sup>3</sup>One problem with defining adults in the labor force in the U.S. is that unlike many other industrialized countries close to three-quarters of young people have part-time, paid jobs while attending high school (Stern et al., 1994). This study, however, will not focus on this group of young people, who are still considered full-time students.

<sup>4</sup>Individuals, according to the theory, need not pay directly for all skills training, but may accept a lower wage during the training period, as in an apprenticeship, in return for the skills acquired.

<sup>5</sup>In fact, the quality of this data has improved recently as the Current Population Survey changed in 1992 from asking individuals how many years of education they had taken (a pure input measure) to asking for their highest educational qualification. Prior to this change most researchers had assumed that 12 years of education was equivalent to a high school diploma and 16 years equivalent to a college degree, a dangerous assumption given the large number of part-time students in the U.S.

<sup>6</sup>The U.S. ranked second, however, in the most recent international comparison of reading attainment.

<sup>7</sup>This data is drawn from the CPS, which allow a comparison between 1983 and 1991 and encompass both public and private training programs, while focusing on training related to job requirements. The problems with survey questions about "training" are again illustrated by the response to the CPS, as even some professionals indicated that they did not require training to qualify for their job, although this is generally considered an essential part of the definition of a profession.

<sup>8</sup>Percentages do not add to the total receiving qualifying training because individuals could name more than one source.

<sup>9</sup>This study was never explicit about the methodology it used to calculate this number.

<sup>10</sup>As Bailey (1991) notes, the reliability of these occupational forecasts is limited, particularly in understanding the changes in skill requirements that can take place within the same occupational title.

<sup>11</sup>"Core workers" were defined as "the largest group of non-supervisory, non-managerial workers at this location who are directly involved in making the product or in providing the service..." (Osterman, 1994, 175).

<sup>12</sup>The results of the third wave of the survey, conducted in 1993, are not yet publicly available, but preliminary analysis indicates a continuing increase in training efforts.

<sup>13</sup>There was a large increase in trade volume in the 1970s.

<sup>14</sup>Greater labor mobility, however, may increase individuals' incentive to invest in training, if the job switch represents an opportunity to gain greater reward for a certain set of skills.

<sup>15</sup>Blinder and Krueger (1991) find similar differences in turnover between U.S. and Japanese banks.

<sup>16</sup>Although the average education levels are lower in Alabama than many other states, Daimler Benz will be able to be very selective in its hiring; it has already had more than 30,000 applications, despite the fact the plant will not open until 1997.

<sup>17</sup>At Ford, absenteeism dropped from close to 8 percent in 1982 when the program was introduced to less than one percent in 1994, although the improvement cannot be directly linked to EDTP.

<sup>18</sup>U.S. employer and trade organizations have tended to serve social or lobbying functions rather than providing services such as training to their members.

<sup>19</sup>The BLS survey defined "formal training" as "training that has a structured format and a defined curriculum, and may be conducted by supervisors, company training centers, businesses, schools, associations, or others".

<sup>20</sup>Note the Census Bureau survey cited earlier found 81% of establishments offered some formal training and 97% provided informal on-the-job training (EQW, 1995).

<sup>21</sup>Part of this sectoral variation may be explained by establishment size, since construction employers are generally smaller on average than in other sectors.

<sup>22</sup>The way the OECD classifies educational participation reflects this distinction, as German apprentices are counted as participating in full-time education.

<sup>23</sup>Based on Bureau of Labor Statistics count of 255,000 registered apprentices in 1991 that they estimate represents 70 percent of total numbers; California, for example, is not part of the BLS register.

<sup>24</sup>The BLS survey defined "apprenticeship training" as "a structure process by which employees becomes skilled workers through a combination of classroom instruction and on-the-job training". It did not stipulate the length of training, how many individuals were being trained, any form of qualification, etc.

<sup>25</sup>Because many students do not enroll for the full year, the number of individuals who attend two-year colleges annually (estimated at 7 million) is substantially greater than fall enrollments (NCES, 1992, xxiii).

<sup>26</sup>Two-thirds of community college students take a vocational track, compared to just five percent in four-year institutions (NAVE, 1994).

<sup>27</sup>Average annual community college tuition fees for local residents were \$962 in 1991-92, with the fee per course substantially lower.

<sup>28</sup>In 1993, 44 percent of community college students were over the age of 25 (U.S. Department of Labor, 1995, p.44).

<sup>29</sup>Unfortunately existing data does not allow us to disentangle the reasons for the high percentage of individuals who enroll in some courses, but do not obtain a qualification -- i.e. those who leave because they got the skills needed to obtain a new job, those who dropout because they are unable to satisfy the requirements and those who never intended to complete a full course (Grubb, 1995).

<sup>30</sup>DeVry, like most community colleges, seeks accreditation from independent bodies for its associate degree programs. Both DeVry and public colleges also offer non-accredited certificate and other shorter vocational courses.

<sup>31</sup>Lynch (1991) found that women who have taken off-the-job courses are far more likely to leave their employer than those who have not.

<sup>32</sup>In Germany, universities are still not legally permitted to offer an MBA, despite growing student demand, while many Japanese students go to the U.S. for their MBA, often jokingly referred to as "Master of Being in America" (Finegold et al., 1994a).

<sup>33</sup>Estimate not based on a controlled experiment.

<sup>34</sup>This GAO estimate includes "employment training programs or funding streams that (1) help the unemployed find jobs, (2) create job opportunities, and (3) enhance the skills of participants to increase their employability" (GAO, 1995). The Clinton Administration argues that it is misleading to include some of these programs under the "employment training" heading, but does not dispute the basic argument that there are too many small, overlapping programs.

<sup>35</sup>For example, training institutions receiving federal funds produced 82,000 graduates with cosmetology degrees in 1990, although there were only 17,000 projected annual job openings (Department of Labor, April 1994, 13).

<sup>36</sup>The GAO (1995, 8) examined 62 employment training programs from 1983-1993 and found that only 7 had conducted controlled evaluations; fewer than 50 percent of current programs collect data on whether participants find employment and only 26 percent collect data on subsequent wages.

<sup>37</sup>CETA outlays were \$9.5 billion in 1978, much of it spent on public job creation; JTPA outlays were \$3.6 billion in 1984 or \$2.1 billion in 1978 dollars (Bailey, 1993, 168).

<sup>38</sup>Account of Focus:Hope comes from Finegold et al., 1994b.

<sup>39</sup>Description taken from (U.S. Department of Labor, 1994, 7).

<sup>40</sup>The self-employment programs include some entrepreneurial training and business counseling.

<sup>41</sup>CAREERS stands for Consolidated and Reformed Education, Employment, and Retraining Systems Act.

<sup>42</sup>The Skill Grants provision is modeled on the highly successful GI Bill that gave veterans returning from World War II grants to attend higher education, which greatly expanded the supply of graduates entering the booming postwar economy (source).

<sup>43</sup>Britain introduced a similar training voucher scheme in 1992.

<sup>44</sup>Part of the problem has been the long delay in appointing the members of the National Industry Skills Standard Board.

<sup>45</sup>The metalworking standards group is trying to create these incentives by getting a group of midwestern states to limit funds in this area to those providers who offer training that leads to certification in the recognized standard (Trott and Sheets, 1994).

<sup>46</sup>The government can learn important lessons for the process of developing standards by studying Great Britain and Australia, which have recently introduced industry skills standards systems.

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