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CHAPTER 8

TRAINING AND WORK-ORGANIZATION PRACTICES OF CALIFORNIA'S PRIVATE EMPLOYERS

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This chapter rests on the premise that the skills of California's workforce are the key to the state's competitiveness in the global economy. A well-educated and well-trained workforce raises the state's productivity and wages, and creates new jobs by making California an attractive place for employers to invest.

Government has a role to play in educating and training, but it is necessary to find ways to leverage limited tax dollars in an era of fiscal stringency. Using public funds to encourage private-sector training is one way to achieve such leveraging. Employer-provided training is uniquely important; it is not a substitute for training investments by individuals or by public institutions. That's because employers are best at providing skills that are idiosyncratic to a given firm and are most likely to invest in training that will immediately be used. Studies have consistently found that employer-provided training offers a higher economic return than training purchased by workers on their own. As for basic skills training, while it is intrinsically important, its payoff is enhanced when combined with employer-provided training.

Unfortunately, the United States lags other nations in the hours and money per workers spent on employer-provided training (Lynch 1994; MacDuffie and Kochan 1995). In the last few years, several major EPT surveys have been conducted at the national level by federal agencies and private researchers (EQW 1995; Osterman 1995; Frazis et al. 1995). The surveys are a useful overview of what is happening nationwide. But they provide little information about California because they lack geographic controls and, as a result, it is not possible to analyze the extent to which California employers behave differently from those in the rest of the United States. If there were nothing unusual about California, this would not matter. But California is different. It is larger than any other state; its growth sectors have a distinctive profile; its public education system is the target of frequent criticism; and its workforce is especially diverse.

Despite the many benefits of employer-provided training to California, we do not know a great deal about its determinants. There are few California-specific data on who does and does not train, what types of training are occurring, and what determines training types and intensity. This study is a first attempt to develop such comparative California-U.S. data, and we use the data to address the following:

1. What is the extent of employer-provided training (EPT) in California?

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2. Are EPT levels in California of the same magnitude as those in other parts of the United States?
3. What drives EPT? How is it related to firm size and industry, human resource policies, high performance work practices, employer involvement with schools, perceived skill trends, and other factors?

To answer these questions, we surveyed a sample of the state's private-sector, non-agricultural establishments. We conducted our survey in cooperation with the state's Employment Development Department (EDD), which provided crucial assistance in distributing and tabulating our survey instrument.

For purposes of administering the nation's unemployment insurance system, EDD collects data on wages and employment from each of the state's business establishments. With the cooperation of EDD, we surveyed a representative sample of those establishments and merged our questionnaire data with existing EDD data on employment at responding establishments. For reasons of comparability and interpretability, our survey excluded establishments employing fewer than 20 individuals, as well as establishments in the government and agriculture sectors. We conducted two rounds of surveys, in December 1996 and April 1997; our response rate was 10 percent and the two rounds of surveys provided us with 977 usable responses, representing approximately 1 percent of California's nonagricultural, private establishments employing over 20 individuals. In our analyses of the data, we assign appropriate weights to ensure representativeness along the dimensions of size class and (1-digit SIC) industry.

In designing our survey, we replicated a number of questions that had been asked in previous (national) surveys, thus allowing us to "benchmark" California's employers and to identify areas where improvement might be possible. We added many additional questions, especially related to employer external involvement with schools and other groups.

Incidence of Employer Training and Advanced Work Practices

Our survey utilized recently developed training indices (from the U.S. Bureau of Labor Statistics), from which we determined the distribution, intensity, and correlates of the principal types of formal employer training: basic-skills training, workplace-skills training, and job-skills training. Although employers do rely on informal on-the-job training, which is often a key feature of new "learning organizations," this informal training is frequently insufficient to learn job skills, as studies of Japanese organizations have shown. That is, informal and formal learning can be complements as well as substitutes. In fact, we found that organizations that utilized on-the-job training as a substitute for formal training were smaller, older, establishments that were less likely to report rising skill requirements.

Two-thirds of California's "small" establishments (those employing 20 to 50 employees) offer some type of formal training to employees; this rises to almost 90 percent for "large" establishments (those employing over 250 employees), which is consistent with national studies showing that formal training is more prevalent in larger establishments. But, our data also show that California establishments are less likely to provide formal training than their national counterparts. This is one of our main findings.

Basic Skills Training

This includes training in such basic skills as reading, writing, arithmetic, and English language. Relatively few establishments in either California or the nation provide basic-skills training. For establishments with over 250 employees, the proportion offering this training was 19 percent nationally and 13 percent in California; for establishments with 50-249 employees, the proportion offering this training was 7 percent both nationally and in California (figure 1). Despite periodic employer complaints about workforce quality, 84 percent of the California employers not offering basic-skills training said that they thought their employees had adequate basic skills. On the other hand, California employers were more likely than national employers to cite the cost of providing basic skills as an inhibitory barrier.

We think there is a split within the employer community on this issue. Some employers are satisfied with basic skills either because schools are doing an adequate job and/or because job skill demands are rather minimal. (Keep in mind that many of the largest growth occupations in California do not require a high-school education.). Other employers, however, are those who *do* provide basic skills training or those who would provide it if the cost were not so high; this group represents 19 percent of California establishments (6 percent who do provide it and 13 percent who would provide it if the cost were lower). In short, many California employers see no need for basic skills training, but about a fifth feel differently.

Workplace-Related Skills (WRS) Training

This formal training includes skills to improve employees' awareness (e.g., of sexual harassment or workplace diversity); communications skills such as speaking and writing; how to work in teams or groups; and how to improve overall work performance (e.g., problem-solving). In California and the nation, WRS training, which is primarily behavioral and attitudinal, is more prevalent in larger than in smaller establishments (figure 2). The most common type of WRS training—to improve employees' awareness of such things as sexual harassment and workplace diversity—is provided by 37 percent of small establishments (20 to 50 employees) but 65 percent of large establishments (over 250 employees). WRS training is also associated with the existence of a high-performance approach to work organization.

Job Skills Training

This training upgrades or extends employee skills or qualifies workers for a job in areas such as management and supervisory skills; professional and technical skills; computer skills; food, cleaning, and personal service skills; and production skills. Of the various types of formal training, JS training is most directly linked to occupationally specific skills and is more easily transformable into improved productivity and earnings.

As would be expected, large California establishments offer more JS training than smaller establishments. Also, the bulk of training is directed towards white-collar employees, especially managers and supervisors, rather than to blue-collar, manual workers.

The good news is that for mid-sized establishments (those employing between 50 and 249 persons), California consistently leads the nation in computer skills training (figure 3). The bad but important news is this: Larger establishments (those employing over 250 persons) lag the national average in all five categories of JS training. The gap is widest for training in production skills, a category that includes operation and repair of machinery or equipment, manufacturing, assembly, distribution, installation, and inspection (figure 4). Large California establishments also are less likely to provide training to upper-tier managerial, supervisory, professional, and technical employees. Even in computer training, where the state's mid-sized establishments lead the nation, large California establishments trail, albeit by a small amount.

Within California, employers are twice as likely to conduct training programs themselves than hire outsiders to do it. When outsiders are hired, the preferred training provider is a private consultant. Equipment suppliers or vendors are another popular source of trainers. On the other hand, California employers do not rely on the public sector for trainers. Less than 10 percent of establishments in any size class use government-funded training programs; even community and junior colleges are utilized by only 12 percent of all establishments.

High Performance Work Practices

In addition to training, we paid close attention to the incidence and determinants of "high performance work practices" (HPWP). HPWP constitutes a new approach to work organization, one that is focused on quality, flexibility, and employee involvement. It emerged in the 1970s and has steadily diffused throughout the U.S. economy. HPWP is an umbrella that encompasses total quality management, self-managed teams, job rotation, cross-training, and various other activities. Previous research has shown that such practices are associated with high levels of productivity (MacDuffie 1995). Another reason for our

interest in HPWP is that organizations that are leaders in HPWP have been found to spend more on EPT. Hence for policy purposes, encouraging HPWP could be an indirect way of encouraging EPT.

We know from previous research that some California employers are among the nation's leading HPWP companies. What we did not know prior to our survey was whether these companies were the tip of an iceberg or simply islands of innovation in a sea of traditional work organization practices.

Our first finding is that, as with formal training, HPWP is somewhat more prevalent in large as opposed to small establishments in California, which is also true nationally. Second (and this is good news), California establishments tend to be leaders in the usage of HPWP, especially in areas such as holding regular meetings with employees to discuss work-related problems and relying on self-directed work teams. However, we also found that new forms of work organization are NOT sweeping the private sector in California. Both our study and national surveys found that fewer than a quarter of establishments utilized quality circles, statistical process control, pay-for-knowledge, job rotation, or peer review. And the percentage of the workforce affected by these practices is smaller than the percentage of establishments utilizing them, in part because companies restrict these practices to frontline employees or to employees in critical work units. Thus, only 13 percent of employees in mid- to large-sized establishments are involved in self-directed teams.

Workforce Quality, Schools, and Skills

Our survey examined how California employers perceive skill trends and issues of workforce and school quality. These perceptions influence EPT decisions, since employers are more likely to invest in a workforce that is, or is thought to be, able and educated. We also looked at employer involvement with educational institutions. To the extent employer involvement raises the return on private training, it should lead to higher levels of EPT.

Skill Trends

We asked employers the following question: "During the past three years, have the skills required to perform front-line production and service jobs at an acceptable level in your establishment increased, decreased, or remained about the same?" The results are interesting. First, California employers of all size categories are less likely than their national counterparts to report that skill requirements are rising (figure 5); correspondingly, they are more likely to say that skill requirements are remaining the same or even falling. In fact, while a majority of national employers in every size class felt that skill requirements were rising, in California the majority of small- to-medium-sized establishments (49-249) felt that skill requirements are stable or declining.

We are not sure why California employers are less likely than national employers to perceive rising skill requirements in the workplace. It may be related to the relative strength in California of factors that inhibit investment in new technology, such as: high rates of in-migration, lingering effects of the last recession, or an employer perception that workforce quality is mediocre. More research is needed on this important issue.

Interaction with Schools

In every size group, California employers are less involved with schools than their national counterparts. The discrepancy is smallest for passive types of involvement, such as providing funds or equipment to educational institutions. But when it comes to involvement requiring more active contact such as participating on educational advisory boards, internship programs, adopt-a-school arrangements, California employers are less involved than their national counterparts. One of many possible explanations for this lack of involvement is that California employers lack confidence in the state's schools.

To analyze this issue, we asked employers to rank from 1 to 5 (with 5 being most important) the factors they consider when hiring a new nonsupervisory or production worker (table 1). The California rankings are similar to the national rankings: Employers place a great deal of importance on an applicant's

attitude, on previous work experience, and on communications skills. At the bottom of the rankings, both in California and nationally, are factors related to schools: teacher recommendations, the reputation of the applicant's school, and the applicant's academic performance. Interestingly, California employers assigned a lower value to these school-related factors than national employers. For example, 12 percent of national establishments employing over 250 workers said that school reputation was very important; in California the corresponding figure was only 4 percent.

We also have data on how satisfied employers were with the knowledge and skill possessed by recent graduates of California's school and colleges. When asked to rate different types of schools on a scale of 1 to 5, where 1 is very satisfied, employers were least satisfied with high school graduates (2.96), followed by vocational and technical institutions (2.62), junior or community colleges (2.38), and four-year college or university graduates (2.15). In other words, satisfaction increases with a graduate's education level; these findings were consistent across establishment sizes. Unfortunately, we do not have comparable national data. But we do know that those employers who were more involved with schools were also more satisfied with high school graduates, and that employers who were more involved with schools also were more inclined to rely on school-related criteria when making hiring decisions.

Of course, all of these findings concern relationship, not causality. We do not know if employers in California are less involved with schools because they have less confidence in them (as reflected in hiring criteria, which in turn are related to school satisfaction) or have less confidence in schools because they are not involved with them. Probably both are true, but we cannot establish this definitively. What is apparent is that low involvement with and confidence in, the state's schools and their graduates, especially at the K-12 levels, is related to lower workplace requirements, lower levels of job-skills training, and higher perceived cost of providing training in California.

Multivariate Analysis

In order to get a sense of which types of employers are likely to adopt different types of training and employment practices, and also to see which practices tend to "go together" or tend to be used in bundles by employers, we performed multivariate analyses on our survey responses. Previous researchers have found that "bundles" of certain human resource practices (such as the use of internal labor markets, employment security, recruitment and training policies) tend to be used in conjunction with "bundles" of certain high-performance work practices (such as the use of teams, quality circles, incentive pay, and flexible job assignments), and that these HR and work practices tend to have a combined "synergistic" effect on productivity (MacDuffie 1995; Lynch and Black 1995; Ichniowski et al. 1997; Frazis et al. 2000). Our findings point to similar "bundling" of practices, and we assume that this bundling results from employers' desire to achieve such productivity gains.

We also attempt to extend these existing studies by including measures of "external orientation" of employers. Previous studies of training have focused on internal variables - characteristics of the enterprise and its management policies. Bundling, for example, looks at the interaction between personnel policies and work organization policies. A key question is why, all other things being equal, some employers engage in such practices as bundling or advanced human resource management policies? We think that part of the answer lies in conceiving of the enterprise as being embedded in a social network that provides employers with information about "best practice," about ways to raise productivity and perhaps provides some normative guidance about what "good" employers ought to do.

Also, by sharing their energy and ideas with other employers and with public institutions like the schools, employers create "social capital," a pool of information and institutions that can benefit everyone in the city, region, or industry (depending on the specific structure of the networks). This social capital is a public good and one that requires some commitment (and possibly social pressure) to prevent the free rider problem. Finally, while consultants have often been the butt of bad jokes or castigated for their faddishness,

in a decentralized work organization system like ours (in which government and industry associations are relatively weak), consultants can play a key information-diffusion role about best practices (see Jacoby and Erickson 2000 for further elaboration of these arguments). Therefore, as we describe in more detail below, we include measures of external orientation involvement with management networks, use of consultants, and interaction with schools in our analyses.

We report here summary results from statistical analyses of the probability of observing the use of basic skills training and the different types of workplace-skills and job-skills training (table 2) and on the probability of observing different types of high-performance work practices (table 3), as well as analyses of training intensity (table 4). These results, while they do not allow us to definitively establish causality, nevertheless give us a better sense of the circumstances under and the extent to which employers choose to adopt the various training and high-performance practices.

Table 2 presents the variables of interest which significantly influence the choice of different types of training. The table lists along the left-hand side various types of formal training about which we queried employers.

The first type of training we analyze is basic skills training. This includes training in such basic skills as reading, writing, arithmetic, and the English language. With respect to control variables (relative to the excluded category of professional and related services), basic skills training is significantly less likely to be provided in agriculture, mining, and construction; nondurable manufacturing; transportation and communications; finance, insurance, and real estate; and business and personal services. The larger the share of clerical workers, the less likely basic skills training was provided, and the larger the shares of customer service/sales workers and production, construction, and maintenance workers, the more likely that basic skills training was provided. Contrary to the impression created by previous studies that establishment size is critical, there was no significant effect of establishment size; however, those establishments that were part of a multi-establishment unit were more likely to provide such training.

Under "workplace skills," we separately analyze the following types of training: "Awareness" refers to training on skills to improve employees' awareness on such issues as sexual harassment and workplace diversity. "Teams or Groups" refers to training on how to work in teams or groups, such as group problem solving and learning multiple jobs. "Overall Performance" refers to training on how to improve overall work performance, such as problem-solving, leadership, and quality improvement. "Communication Skills" refers to training in such skills as public speaking and professional writing.

Under "job skills training," we separately analyze the following types of training: "Management/Supervisory" refers to training on management and supervisory skills, such as knowledge of employment practices. "Professional/Technical" refers to training on professional skills such as business and engineering and technical skills such as drafting, electronics, and medical technology. "Computer" refers to training on computer skills such as word processing, computer-aided design, spreadsheets, desktop publishing, accounting packages, and customized software. "Office, Clerical, Sales, Cust. Svc" refers to training on office, clerical, sales, and customer service skills, such as sales techniques, information about product lines, record keeping, scheduling, budgets, typing, business writing, and filing. "Food, Cleaning, Personal Svc" refers to training on food, cleaning, protective or personal service skills, such as food preparation, security, childcare, and tailoring. "Production" refers to training on production skills, such as operation and repair of machinery or equipment, manufacturing, assembly, distribution, installation, and inspection.

With respect to control variables, we found that job skills training was less likely the larger the share of customer service/sales workers (although this group is more likely to receive basic skills training). Interestingly, there was no statistically significant pattern for industries or establishment sizes, although, as with basic skills training, job skills training was more prevalent in establishments that were part of a multi-unit enterprise.

Other than the control variables (i.e., size, industry, etc.), the first explanatory variable of interest is the number of high-performance work practices used by an employer. These practices will be described in more detail in our discussion of table 3, below; the variable used here is a simple count of the number of these practices in use. The table indicates that the more high-performance work system practices used by an employer, the more likely they will also provide basic skills training, some type of workplace skills training, training on employee awareness, teamwork, overall performance, communication skills, and management/supervisory skills.

The second explanatory variable of interest is the percentage of non-supervisory employees involved in self-directed teams. We view this as a measure of the intensity of use of this particularly important high-performance work practice. The larger the share of workers involved in workplace teams, the more likely that the employer also provides training on teamwork; overall performance; office, clerical, sales, or customer service; and production skills.

The next explanatory variable of interest is the number of benefits programs used by the employer. These programs include pension plans, employee assistance programs, family/parental leave plans, internal promotion plans, paid vacation plans, profit sharing plans, employee wellness programs, and severance pay plans; together, they indicate the extent to which an employer is "progressive" in using internal labor markets. The more benefits programs provided by the employer, the more likely that some training is provided on employee awareness; overall performance; some type of job skills training; management/supervisory skills; professional/technical skills; computer skills; office, clerical, sales, or customer service; and production skills.

The next explanatory variable of interest is whether or not a given employer perceived that skill requirements have increased. Those employers who perceived that skill requirements have increased were more likely to provide training on basic skills, some type of workplace skills, overall performance, some type of job skills training, and production skills.

Up to this point, our findings are broadly consistent with what other researchers have found. But, as noted above, we have also developed some variables related to an employer's external activities, based on our hypothesis that employers who participate in these activities are more likely to know about "best practice" with respect to training and work organization.

Our first "social" variable of interest is whether a given employer participates in employer or trade associations for the employer's industry, cross-industry associations, and/or private industry councils. We include this variable based on the hypothesis that networked employers are more likely to have information on "best practices" and human resource management innovations. The more involvement by management in networks, the more likely that employers provided training in basic skills, employee awareness, overall performance, some type of job skills training, and management/supervisory skills.

The next explanatory variable of interest is whether the employer uses private training and development consultants and/or quality management or reengineering consultants. Again, we hypothesize that these employers will have better access to information on innovative workplace practices. Employers who hired such consultants were more likely to provide training in basic skills and every single type of workplace and job skills training we measured.

A final explanatory variable of interest is the extent to which an employer is involved with local schools. This variable is measured as the sum of the following activities: participation on educational advisory boards, participation on private industry councils, provision of funds or equipment to educational institutions, internship programs with local schools, and adopt-a-school arrangements with local schools. The more an employer interacts with schools, the more likely that the employer also provides training on some type of workplace skills; employee awareness; teamwork; overall performance; some type of job skills

training; management/supervisory skills; professional/technical skills; computer skills; office, clerical, sales, or customer service; food, cleaning, or personal services; and production skills.

We want to stress again that these results are not necessarily causal from a policy-making point of view. Encouraging employers to use more consultants would not necessarily result in the adoption of training programs on overall performance; for example, there could be some other underlying causal factor driving employers both to voluntarily hire consultants and to provide overall performance training. However, this analysis does give us a sense as to which types of policies tend to go together, and perhaps gives us a sense of the overall type of workplace that policy-makers interested in seeing more training may wish to encourage. And, the table indicates strong results for most of these explanatory variables in explaining the likelihood of observing the different types of training. Particularly influential in increasing the likelihood of observing the largest number of different types of training programs are our measures of strength of internal labor markets (or number of benefits programs used by the employer), the use of private training and development consultants and/or quality management or re-engineering consultants, and our measure of interaction with schools. The use of high-performance work practices is associated with the provision of basic skills training and the various types of workplace skills training, but not with the provision of job-skills training except for management/supervisory training.

In other words, consistent with the findings of previous researchers, training tends to be associated with progressive human resource and work organization practices within the firm. But, we have also found that training is strongly associated with activities that take place outside of the firm, such as the use of management networks and consultants, as well as involvement with schools. We also want to stress that the table suggests that the various explanatory variables do tend to "go together" in explaining the use of the different types of training, and we would be cautious about recommending that policy-makers encourage only one, two, or some other subset of these determinants of training practices.

Table 3 presents similar analyses for the use of various types of high- performance work practices. The work practices we analyze are self-directed work teams, total quality management, quality circles, cross-training (in skills for more than one job), compensation increase based on "pay for knowledge" system, regular meetings of non-supervisory employees to discuss work-related problems, job rotation, flextime, statistical process control, and peer review of employee performance. Because these high-performance work practices have previously been found to increase productivity, and are clearly related to training, we endeavor here to discover which types of employers are using these different types of practices, without attempting to establish causality between the use of training and the use of high-performance work practices. The analyses included, but we do not report the coefficients on, the same additional control variables used in the regressions in table 1: industry, size of the establishment, the age of the establishment, whether the establishment is part of a multi-establishment unit, union status, whether employment had increased or decreased in the past year, share of part-time workers, occupational shares, and share of production costs accounted for by labor costs.

The analysis yields several key findings. The more different types of workplace skills training (as defined above) provided by employers, the more likely that they also use self-directed work teams, TQM, quality circles, meetings of non-supervisory employees, job rotation, flextime, and peer review. The more benefits programs provided by the employer, the more likely that they also use quality circles, cross-training, and flextime programs. Recall from table 1 that this variable was also associated with the provision of the various types of job skills training in particular and deserves greater study. This suggests that, contrary to the new "employability" model, it may be the case that some amount of employment stability facilitates formal training and informal learning.

The analysis also shows that the employers who perceived that skill requirements have increased were more likely to use self-directed work teams, TQM, cross-training, meetings of non-supervisory employees, job

rotation, flextime, and peer review. The more involvement in management networks, the more likely that employers also used TQM and cross training, and the less likely that they used job rotation. Finally, employers who had a lot of interaction with schools also tended to use quality circles, cross-training, and peer review programs.

Seemingly counter-intuitively, the use of job skills training programs (as defined above) was negatively correlated with the use of peer review, and the use of consultants was not correlated with the use of any of these high-performance work systems. Another surprising result is that, contrary to the findings by Lynch and Black (1995) on national-level data, our analyses of both training use and intensity, as well as high-performance work practice use, did not find strong establishment-size effects.

Again, while not establishing causality, this analysis gives us a sense of the basic nature of high-performance workplaces in California, and hints (if not definitive answers) as to the types of practices policy-makers may wish to encourage. Our strongest findings here are that workplace skills training in particular tend to be provided by employers who also use a variety of different types of high-performance work practices, and that employer perceptions of increased skill requirements also tend to be associated with the use of many of the high-performance work practices.

Finally, we performed statistical analyses on various measures of job training intensity; we report three such analyses in table 4. The three measures of job training intensity we analyze in table 4 are (1) the share of all workers who received training in production skills, (2) the average number of hours of formal job skills training per worker in the establishment, and (3) computer training intensity, defined as the average number of hours of computer training per worker. We note, however, that other measures of intensity, such as the share of all workers receiving computer training, yielded qualitatively similar results.

The table indicates that the share of workers receiving production training is strongly influenced by the number of high-performance work practices in use and the extent to which the employer is networked and interacts with schools.

Job training intensity is strongly influenced by the number of high-performance work practices in use; the extent to which teams are used in the workplace; the number of benefits programs in use; the extent to which the employer is networked, uses consultants, and interacts with schools; whether employment has increased or decreased in the past year; and whether the establishment is part of a multi-establishment unit.

Computer training intensity is strongly influenced by the extent to which teams are used in the workplace; the number of benefits programs in use; the extent to which the employer is networked, uses consultants, and interacts with schools; and whether employment has increased or decreased in the past year.

This table indicates once again that the use of high-performance work practices, teams, internal labor markets, management networks, and consultants, as well as interaction with local schools tend to be positively associated with the use and intensity of training.

The basic lesson we draw from these multivariate analyses is that California policy-makers should develop policies which encourage the various activities we have included in our analyses in order to help create high-productivity, training-intensive, and outward-looking (toward local schools, management networks, and consultants) workplaces. This might be accomplished by directly spreading information on the use and effectiveness of innovative human resource and work organization practices, and by encouraging employers to get more involved with schools and each other.

Conclusions: Policy Initiatives and Recommendations

Probably the strongest policy-relevant finding of this study is the discrepancy between California and the nation in the provision of formal skills training to employees. Recall that this type of training is most directly relevant to the formation of human capital that can immediately and productively be applied on the

job. Our research provides some ideas about what might be done to encourage California employers to offer more training and at higher levels of intensity.

Our research suggests that information plays an important role in stimulating training, all other things being equal. Employers who are "outward oriented" (being involved with schools, other employers, and external consultants), train more and at higher levels of intensity. Presumably, being part of these various networks provides employers with information on the advantages of training and the nature of "best practice" in their industry. This suggests an obvious role for public policy: to disseminate information to employers about the advantages of training. This could take the form of publicizing what the state's top training companies are doing, either through newsletters, films, or conferences; establishing a Baldrige-type competition for training awards, to be jointly administered by public-private bodies; and convening conferences that would offer employers a chance to share ideas. These conferences could be industry-specific, as that is the nature of existing employer networks.

The state could also initiate a program of systematic research on employer-provided training, showing what "works," that is, what types of training are proving most successful for the state's employers. This is analogous to the research done by various agricultural extension and other bodies.

There are also some more specific levers to encourage higher levels of training. For example, because high-performance work practices are associated with training and training intensity, provision of information to employers about the advantages of teams and other new work organization practices could be an indirect way to encourage greater training investments by employers. The state's Employment Training Panel funds eligible employers in a variety of job training and retraining skills selected by the employer, including high-performance work practices. The Panel focuses on employers who are competing with businesses out of state. Programs of this type could be disseminated throughout industry, especially to employers who are not in crisis, that is, not in imminent danger of layoffs or relocation.

Recently the U.S. Department of Labor released a report showing that much of what workers learn occurs informally, through learning by doing. On-line job performance is, quantitatively, a very important source of human capital formation. However, such learning is probably not a substitute for formal training but a complement to it. We know from the literature on learning organizations in Japan and the U.S. that these organizations tend to have innovative work practices such as self-directed teams, cross-training, and job rotation. But our report shows that these work practices are associated with greater variety and intensity of formal training in workplace skills and job skills. In addition, we find that those employers who rely *exclusively* on informal, on-the-job training tend to be smaller, older establishments in which skill requirements are not rising. Hence it may well be the case that "learning" organizations are also those that commit to spending more on formal training programs; that is, in learning organizations, informal and formal training are complements.

Another important point is this: We consistently found a statistically significant association between formal training and high-performance practices on the one hand, and use of employment-stabilizing personnel policies like employee benefits (especially pension plans) on the other. What this suggests is that, contrary to the "employability" model touted in the management press, *some* degree of employment stability is necessary for training and learning to occur. What is the optimal mix of stability and flexibility is not clear, but attempts to move too far in the direction of employment flexibility may well hinder formal training and informal learning.

The assumption is commonly made that small employers are less likely to engage in formal training than larger establishments. Yet our research did not find size effects when other variables were controlled for. Moreover, it is the state's larger establishments that more significantly lag behind national training levels. Thus, it would be a mistake for any kind of educational or informational programs to direct their resources only towards smaller employers. However, do keep in mind that our research did not examine "micro" establishments, those with fewer than 20 employees. Also, we did find that being part of a multi-

unit enterprise was associated with a statistically significant higher level of training. Hence the paradox: large companies are doing more training, although this is not necessarily true of large single-firm establishments.

We think that employers' confidence in schools and their involvement with them are related to decisions on training investments, although more extensive research is needed before we can clearly establish causality (i.e., whether employers train first and then become involved with the schools or the reverse). Nevertheless, getting employers more involved with schools has intrinsic merits and might also bolster confidence in employee ability and thus lead to higher levels of training. It might at least bring California up to national levels. Nationally, employers are apprehensive about being actively (as opposed to passively) involved because of concerns over cost, time commitment, and liability. Whatever could be done to allay these concerns, such as educating the state's employers about the *benefits* of being actively involved, is to be recommended. Again, the state can play a role by providing information to employers on the benefits of involvement and by convening "summit meetings" between educators and employers.

With regard to basic skills training, we find it interesting that relatively few employers, either nationally or in California, are pursuing this activity. The preponderance of California employers are satisfied with the basic skill levels of the workforce, which is not the perception created by the media or by certain employers' associations. Thus, if employers *are* concerned about workforce preparedness, the concern is directed toward higher-order skills. Only a minority of establishments (about 20 percent) are either pursuing basic-skills training or would pursue it if the cost were not so high. However, if large numbers of individuals are to be moved off welfare and into the workplace, there might be a need for greater basic skills training, either provided by government or by employers.

There have been many proposals over the years to have government subsidize the cost of private training. The usual reason for having government pursue this activity is that the social rate of return to general skills training exceeds the private rate; that is, the "market" (reflecting the decisions of private individuals and employers) produces less than the socially optimal amount of training investments. Society benefits from having a more skilled and educated populace through higher taxes, less hospitalization, and artistic and scientific achievements. But employers and individuals only examine the private benefits of training and education. Moreover, although training by one employer may provide benefits to other employers, the first employer is reluctant to shoulder these costs because employees are mobile. Although in theory employers should not be providing training that is useful to other employers, in point of fact such training does occur because in the real world it is nearly impossible for employers to separate firm-specific and general skills. Hence, if employers are sharing the cost of general skills training but are concerned about turnover, underprovision of such training is likely to occur. All of these notions lead in one direction: to the subsidization of training by government, just as government subsidizes general skills training by individuals via public schools and colleges.

Among those kinds of training subsidies that are considered most economically rational and politically feasible are: partially guaranteed loans to firms for training; state run partial subsidies of customized training (e.g., the ETP or community college approach); and subsidizing a firm's training expenditures above a threshold percentage of payroll that rises with firm size and turnover (an option that could be targeted to particular groups such as the disadvantaged or former welfare recipients). We think there is a strong case to be made for these types of subsidies. But these subsidies, or training tax credit, will require an expansion of present efforts. The growing recognition of the importance of employer-provided training, combined with the present fiscal health of California, makes this an auspicious time to consider an expansion of ETP-type programs that subsidize employer-directed training efforts.

Finally, we think the state should continue to survey employers to determine their training and work organization practices. Accurate information would help in the design of the proposals listed above as well as with the implementation of existing initiatives such as the School-to-Career programs, One-Stop Career

centers, and the like. Each of these initiatives calls for continuous assessment measures of how government is performing. Developing such measures requires accurate information on employer needs and practices. Hopefully our survey will serve as a baseline for future efforts.

Our study is only a first step, intended to stimulate additional studies on employer behavior and attitudes in California and other advanced regions in other countries. In the United States, at least, responsibility for workforce preparation increasingly is moving down from the federal level. Hence, California will need to learn more about the idiosyncrasies of its economy, including its private-sector workplaces. Public policy then can be tailored to fit our state, rather than some "plain vanilla" national approach. Moreover, understanding what is distinctive about California will permit the state's employers to benchmark themselves against national averages, thus helping them and California to perform better in today's intensely competitive global economy.

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TABLE 1: Hiring Criteria: California and National Results

<u>Criteria</u>	<u>California</u>		<u>U.S.</u>	
	<u>Rank</u>	<u>Score</u>	<u>Rank</u>	<u>Score</u>
Applicant's Attitude	1	4.4	1	4.6
Previous Work Experience	2	4.0	3	4.0
Communication Skills	3	4.0	2	4.2
Previous Employer's Recommendation	4	3.4	5	3.4
Current Employer's Recommendation	5	3.4	4	3.4
Industry-Based Credentials Certifying Skill	6	3.1	6	3.2
Score Received on Tests Administered during Interview	7	2.9	8	2.5
Years of Schooling Completed	8	2.7	7	2.9
Academic Performance (Grades)	9	2.2	9	2.5
Reputation of Applicant's School	10	2.1	10	2.4
Teacher Recommendations	11	1.9	11	2.1

Note: National data from EQW survey

TABLE 2: Determinants of Probability of Offering Different Types of Training

	NO. OF HIGH PERFORMANCE WORK PRACTICES	USE OF TEAMS	NUMBER OF BENEFITS PROGRAMS	INCREASED SKILLS REQUIRED	MANAGEMENT NETWORKS	USE OF CONSULTANTS	INTERACTION W/ SCHOOLS
TYPES OF TRAINING							
BASIC SKILLS	X			X	X	X	
WORKPLACE SKILLS							
Any	X			X		X	X
Awareness	X		X		X	X	X
Teams or Groups	X	X				X	X
Overall Performance	X	X	X	X	X	X	X
Communication Skills	X					X	
JOB SKILLS TRAINING							
Any			X	X	X	X	X
Management/Supervisory	X		X		X	X	X
Professional / Technical			X			X	X
Computer			X		X	X	X
Office, Clerical, Sales, Cust. Service		X	X			X	X
Food, Cleaning, Personal Services						X	X
Production		X	X	X		X	X

Note: This table summarizes results from separate logistic regressions on whether or not each type of training was provided by the employers in the sample. An X indicates that the coefficient on the variable listed across the top of the table was positive and significant at the 5% level or better in the regression explaining the choice of the given type of training listed along the left-hand side of the table. Other variables included in the regressions, but not reported in the table, are controls for industry, size of the establishment, the age of the establishment, whether the establishment is part of a multi-establishment unit, union status, whether employment had increased or decreased in the past year, share of part-time workers, occupational shares, and share of production costs accounted for by labor costs. The first regression has 878 observations; all other regressions have 908 observations.

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TABLE 3: Determinants of Probability of Offering Different Types of High Performance Work Practices

	NO. OF HIGH PERFORMANCE WORK PRACTICES	WORKPLACE SKILLS TRAINING	NUMBER OF BENEFITS PROGRAMS	INCREASED SKILLS REQUIRED	MANAGEMENT NETWORKS	USE OF CONSULTANTS	INTERACTION W/ SCHOOLS
TYPES OF HIGH PERFORMANCE WORK PRACTICES							
Self Directed Work Teams		X		X			
Total Quality Management		X		X	X		
Quality Circles		X	X				X
Cross-Training			X	X	X		X
Pay-For -Knowledge							
Meetings of Non-Supervisory EE's		X		X			
Job Rotation		X		X	X (-)		
Flextime		X	X	X			
Statistical Process Control							
Peer Review	X (-)	X		X			X

Note: This table summarizes results from separate logistic regressions on whether or not each high-performance work practice was used by the employers in the sample. An X indicates that the coefficient on the variable listed across the top of the table was positive (unless denoted by a (-)) and significant at the 5% level or better in the regression explaining the use of the given type of work practice listed along the left-hand side of the table. Other variables included in the regressions, but not reported in the table, are controls for industry, size of the establishment, the age of the establishment, whether the establishment is part of a multi-establishment unit, union status, whether employment had increased or decreased in the past year, share of part-time workers, occupational shares, and share of production costs accounted for by labor costs. All regressions have 908 observations.

TABLE 4: Determinants of Training Intensity

	(1) SHARE OF WORKERS RECEIVING PRODUCTION TRAINING	(2) JOB TRAINING INTENSITY	(3) COMPUTER TRAINING INTENSITY
No. of High Performance Work Practices	X	X	
Use of Teams		X	X
Number of Benefits Programs		X	X
Increased Skills Requirement			
Management Networks	X	X	X
Use of Consultants		X	X
Interaction with Schools	X	X	X
Age of Establishment			
Employment Increased?		X	X
Employment Decreased?		X	X
Labor Costs as Percentage of Total Production Costs			
Union			
Share of Part Time			
Multi Establishment Unit		X	
Occupational Controls	Yes	Yes	Yes
Size of Establishment Controls	Yes	Yes	Yes
Industry Controls	Yes	Yes	Yes
Number of Observations	904	904	904
Pseudo R-Squared	0.235	0.027	0.096

Note: This table presents results from tobit maximum likelihood regressions on three different measures of training intensity: (1) the share of all workers who received training in production skills, (2) job training intensity, defined as the average number of hours of formal job skills training per worker in the establishment, and (3) computer training intensity, defined as the average number of hours of computer training per worker. An X indicates that the coefficient on the variable listed across the side of the table was positive and significant at the 5% level or better. Equations also include a constant.

Figure 1. Percentage of Establishments Providing Basic Skills Training

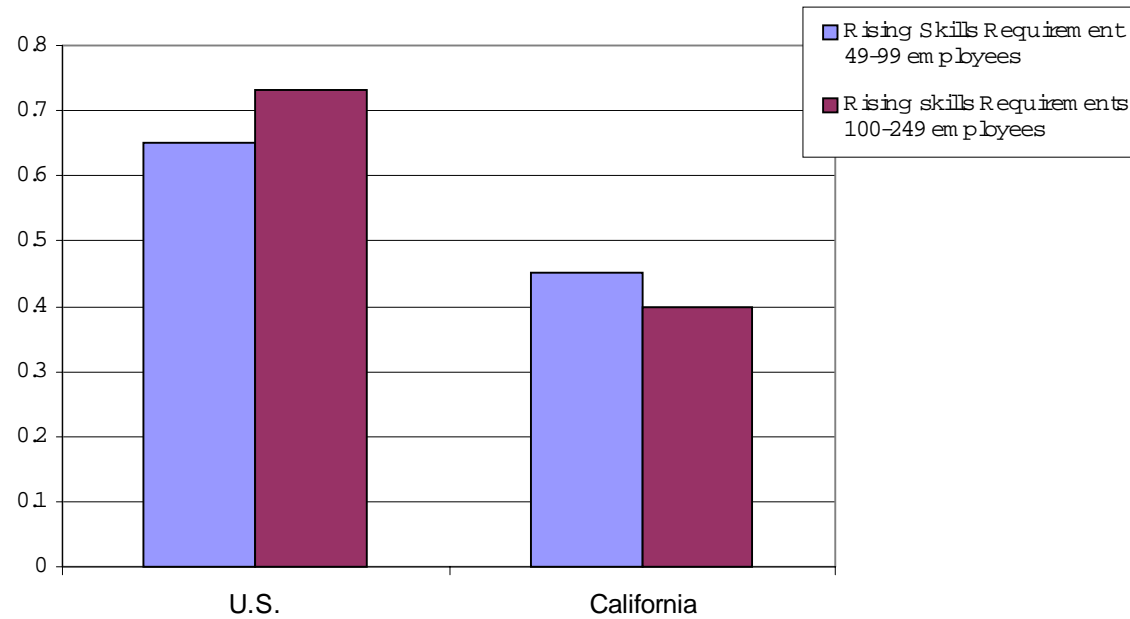


Figure 2: Percentage of Establishments Providing Workplace-Related Skills Training

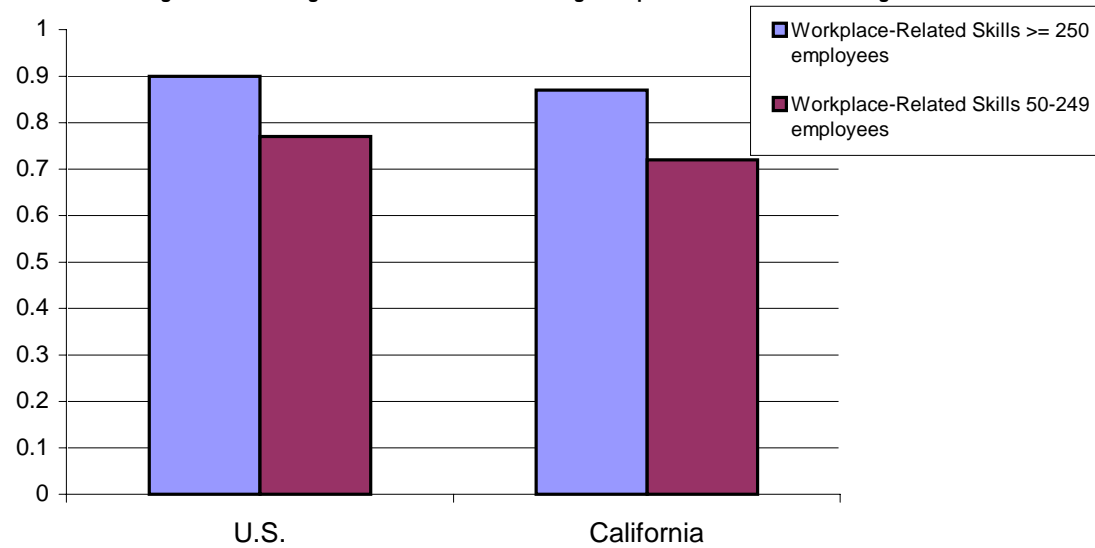


Figure 3: Percentage of Establishments Providing Computer Skills Training

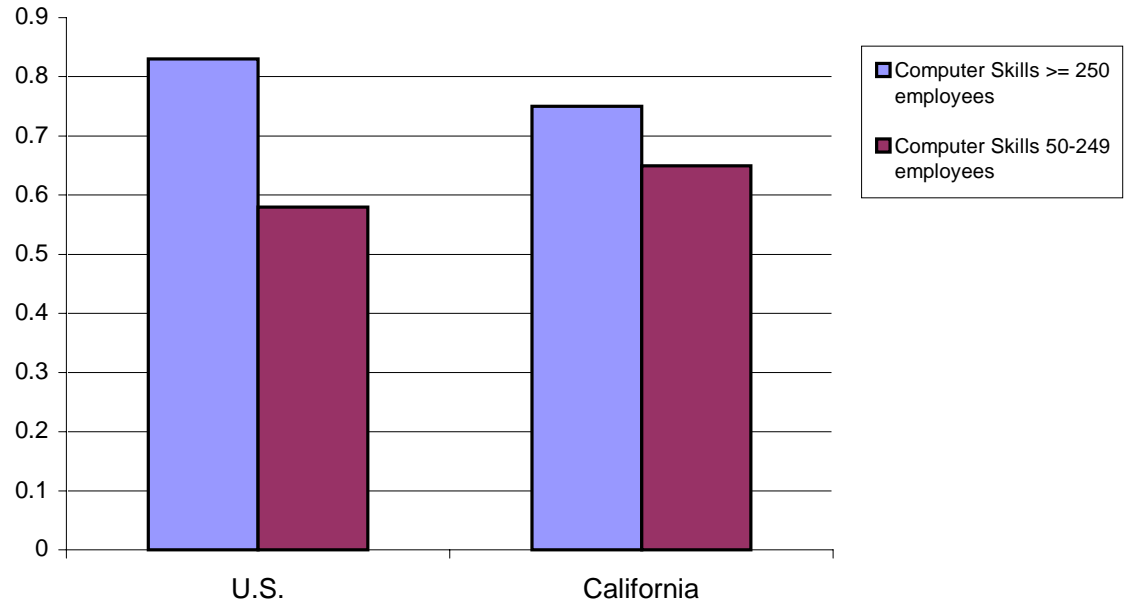


Figure 4: Percentage of Establishments Providing Production Skills Training

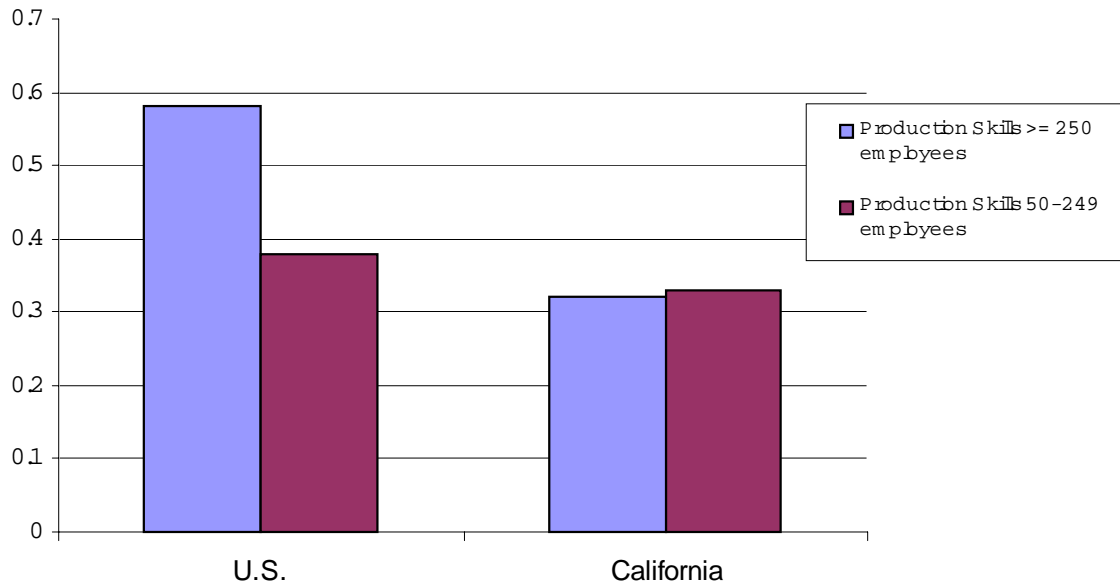


Figure 5: Percentages of Establishments Reporting Rising Skills Requirements

