

Manufacturing Employers Report Widespread Problems With Labor Quality

Labor quality is a chief concern of manufacturing employers, both rural and urban. New skill demands due to advanced technology use explain part of the problem, but dissatisfaction with work attitude is common to high- and low-tech employers. Lack of a high school diploma is linked to problems with worker skills and attitude.

According to ERS's 1996 Rural Manufacturing Survey (see app. 1, "Data Sources"), both rural and urban manufacturing firms place concerns about the quality of local labor at the top of a list of problems associated with their business locations (see David McGranahan, *Local Problems Facing Manufacturers*, USDA/ERS, AIB-736-03, March 1998). Local labor quality was cited as a problem by three-fourths of nonmetro manufacturers, including one-third who said it was a major problem. Labor quality was the leading problem for both urban and rural employers. Anecdotal evidence suggests that the problem is not limited to manufacturing, either. For example, in a 1998 survey conducted by the Business Council of New York State, 44 percent of businesses rated skills of newly hired high-school graduates as "poor" or "very poor" (see "Untrained Malady: New Hires Often Lack Elementary Knowledge for the Job," *Wall Street Journal*, August 25, 1998, p. 1).

Many observers are concerned that labor quality problems indicate a mismatch between the types of skills that employers demand and the skills that workers are acquiring through schooling, work experience, and other training. Complex technology and new management practices increasingly require workers to be computer-literate, able to work in teams, and take on responsibility for decisionmaking and quality control. At the same time, concern continues about the adequacy of schools, colleges, vocational institutions, and on-the-job training for producing workers with the needed skills and productivity that will ultimately determine the economy's competitiveness. This is of particular concern for rural communities, which often have limited resources available for education, a job base heavily weighted toward low-to-moderate skill levels, and a brain drain of talented, educated youth to urban areas. In this article, we use data from ERS's 1996 Rural Manufacturing Survey (RMS) to look at demand and supply factors that contribute to the labor quality problem.

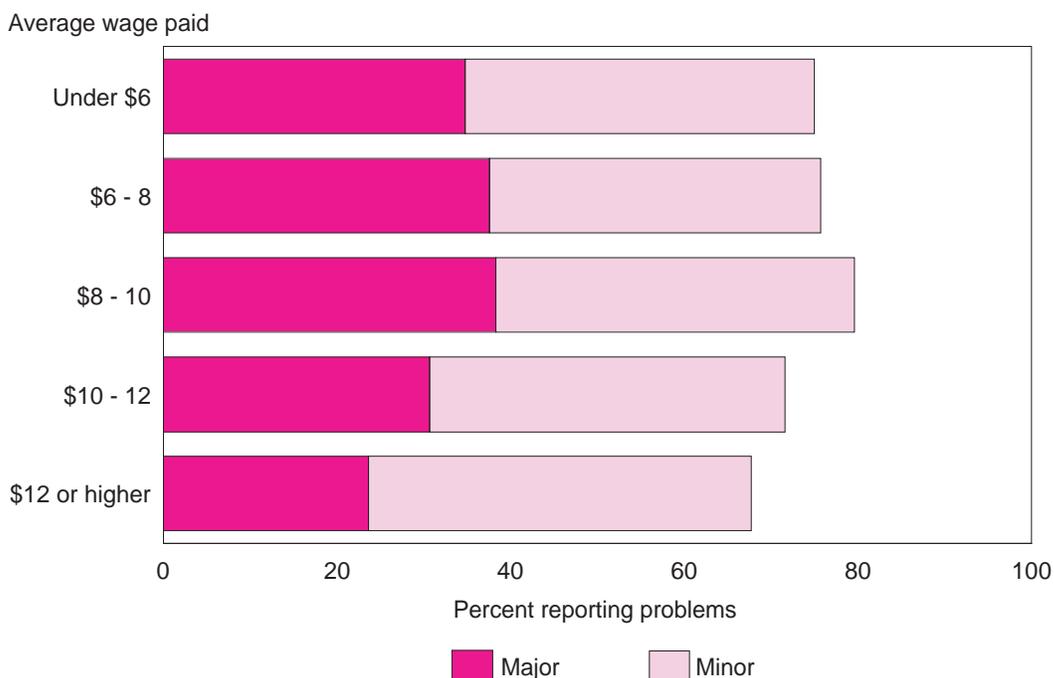
Fewer Problems Reported by High-Wage Employers

The laws of supply and demand suggest that a shortage of worker skill can be alleviated by raising the wage offered to employees. One would expect that employers who pay relatively high wages would have less trouble satisfying their demand for skills. The RMS shows that employers paying the highest wages are less likely to report major problems with local labor quality, but the labor quality problem is still widespread among employers paying high wages (fig. 1). Twenty-three percent of nonmetro manufacturing employers paying the highest wages (in excess of \$12.00 per hour for production workers) reported labor quality as a major problem, clearly less than the 40 percent of those paying in the \$6.00-\$10.00 range and 36 percent of those paying less than \$6.00. While high-wage employers are slightly less likely to report labor quality as a major problem, they are slightly more likely to report labor quality as a minor problem. Labor quality (along with State and local tax rates and environmental regulations) is the most cited locational problem even for high-wage employers. Similarly, the percentage of employers who say they have had problems finding qualified applicants for production jobs is the same for high- and low-wage employers (60 percent). Adjusting for employer characteristics, such as industry and location, yields the same conclusion: the wage paid by the employer explains only part of the labor quality problem. Part of the high incidence of labor quality problems may be due to tight labor markets during the mid-1990's, when the survey was conducted (see "Other Factors May Contribute to Labor Quality Problems"), but further analysis indicates that changing demand for worker skills plays an important role.

Growing Demand for Skills

Most manufacturing establishments included in the RMS indicated that their skill requirements had increased over the previous 3 years (see Ruy Teixeira, *Rural and Urban Manufacturing Workers: Similar Problems, Similar Challenges*, USDA/ERS, AIB-736-02,

Figure 1
Nonmetro manufacturers reporting problems with quality of local labor, by average wage, 1996
Employers paying high wages are less likely to report problems with labor quality



Source: Calculated by ERS using data from the Rural Manufacturing Survey.

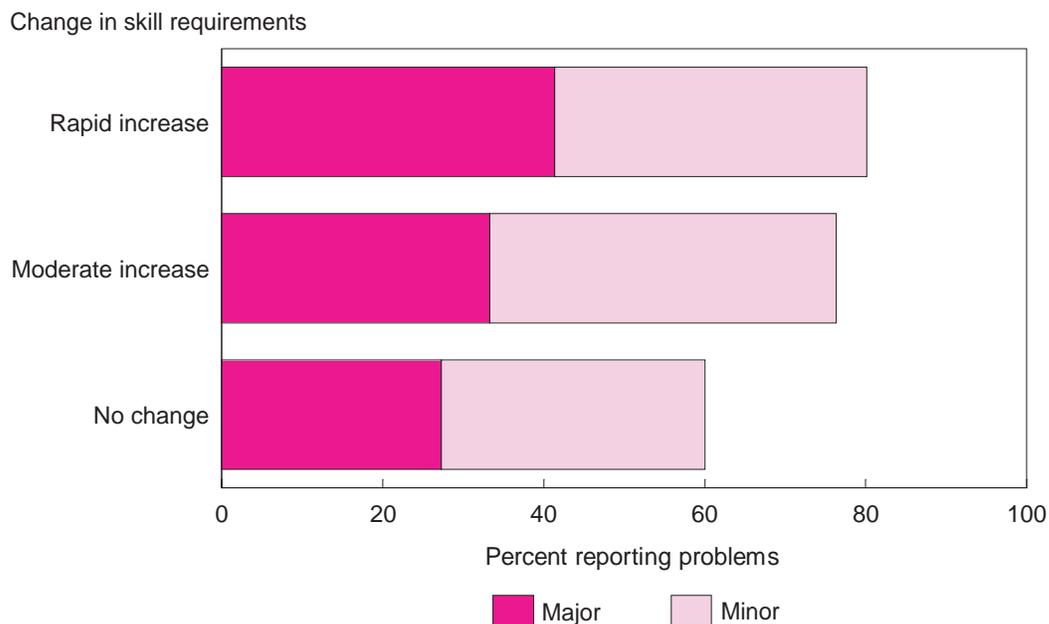
January 1998). Eighty-six percent of employers said that requirements for at least one of six types of skill (computer, interpersonal/teamwork, problem-solving, other technical, basic math, basic reading skills) had “increased a little” or “increased a lot.” Twenty-five percent said each of the six skill requirements increased, while only 14 percent reported no change in any of the six skill requirements. Growth in skill demand was not significantly different between metro and nonmetro respondents.

As might be expected, employers with the fastest growth in skill requirements are the most likely to report labor quality problems. More than 80 percent of nonmetro employers with the fastest growth in skill requirements (those who reported that each of six skill requirements increased) said that labor quality was either a major or minor problem (fig. 2). Employers who reported no change in skill requirements were less likely to report labor quality problems. Still, labor quality was reported as a major or minor problem by more than half (56 percent) of employers who reported no changes in skill requirements.

Part of the labor quality problem may be explained by adoption of new technologies and management practices that require greater technical, interpersonal, and problem-solving skills. The study by Teixeira found that rural firms classified as “high adopters” of new technology reported faster increases in skill requirements and were more likely to report problems finding adequately skilled workers. McGranahan’s study found that high adopters report more problems with local labor quality than low adopters, but the difference is small.

However, when we look at the types of skills that employers have difficulty finding, we learn that technology and increasing complexity of job tasks are only part of the explanation for labor quality problems. Even more difficult than finding workers with necessary computer and technical skills is finding workers with a very basic “skill”—work attitude. Problems with work attitude were reported more frequently than any of six other skill

Figure 2
Nonmetro manufacturers reporting labor quality problems, by degree of skill requirement increase, 1996
More rapid increase in skill requirements was associated with greater incidence of labor quality problems



Note: Rapid increase = 6 skill requirements increased; moderate = 1-5 skill requirements increased; no change = no skill requirements increased.

Source: Calculated by ERS using data from the Rural Manufacturing Survey.

problems. Teixeira found that 31 percent of manufacturing employers said finding job applicants with “a reliable and acceptable work attitude” was a major problem, and 25 percent said it was a minor problem. Major problems with computer skills were reported by nonmetro employers about half as often as major problems finding job applicants with a good work attitude. Problem-solving skills were reported as the second most difficult skill to find, which may reflect the use of new types of work organization that give employees increased responsibility. Interpersonal/teamwork skills were ranked slightly behind computer skills. Basic math and reading skills were reported as problems by the fewest employers. There was little difference between metro and nonmetro employers in the incidence of these problems.

The work attitude problems are echoed in the Business Council of New York survey reported by the *Wall Street Journal*. One employer was quoted as saying she “...has trouble finding people with ‘basic skills’ like being on time.” Another employer in the restaurant industry quoted in the *Journal* said that “restaurants hire for ‘attitude, not skills.’” Further analysis of the RMS shows that the work attitude problem appears to be common to both high- and low-technology employers. While high adopters of technologies report problems with other skills much more commonly than low adopters, the two groups report work attitude problems with equal frequency. Attitude is clearly the leading skill problem for low adopters of technology, and, while it is not the leading problem for high adopters, it is important for that group as well.

High School Completion an Important Factor

There seems to be a widespread perception in the business community that the skills and work attitude of workers are declining in quality. At the same time, there is widespread

concern about the quality of schools and their ability to prepare students for the workforce. The RMS does not permit us to look at trends in worker skills or to look directly at the performance of educational institutions. But the data indicate that high school completion is an important factor in determining labor quality. Comparing plants where all employees finished high school with plants where fewer than 75 percent of workers finished high school shows that labor quality problems are more severe in plants where education levels are lower (table 1). Plants where all workers are high school graduates are much less likely to report a major problem with local labor quality (25 percent) than are plants where fewer than 75 percent of employees finished high school (46 percent). Plants employing only high school graduates are less likely to report problems finding adequately skilled job applicants (53 versus 71 percent), and less likely to report major problems finding workers with six of seven types of skills than those with fewer high school graduates. "Other technical skill" is the only skill type for which the difference between the two groups is not significant.

Work attitude is clearly the leading problem for plants employing fewer than 75 percent high school graduates. Forty-three percent of these plants said finding workers with a good work attitude was a major problem. Among these plants, work attitude is reported much more frequently than any other skill problem. These plants report work attitude problems twice as frequently as those where all workers completed high school. Similarly, plants with fewer graduates are more likely to report problems with problem-solving skills and interpersonal/teamwork skills. These skills are not a major part of formal high school curricula, so, at first glance, the connection with high school completion seems odd. The connection may suggest an unconventional view of how a high school education prepares people for the job market, at least in terms of preparation for jobs with moderate skill requirements (such as manufacturing jobs). While high school education appears to build basic academic skills, these seem to be of relatively low priority to manu-

Table 1

Labor quality problems reported by nonmetro manufacturers, by high school completion rate of the workforce, 1996

Plants where all employees graduated from high school are less likely to report labor quality problems

| Problems | Proportion of workers in the plant who graduated from high school | |
|---|---|-----------------------------------|
| | Less than 75 percent | All workers completed high school |
| | Percent | |
| Major problem with local labor force quality | 46 | 25 |
| Problems finding qualified applicants for production jobs | 71 | 53 |
| Major problems finding job applicants with: | | |
| Basic reading skills | 11 | 2 |
| Basic math skills | 18 | 9 |
| Interpersonal/teamwork skills | 21 | 10 |
| Problem-solving skills | 27 | 18 |
| Computer skills | 18 | 14 |
| Other technical skills | 21 | 20 |
| Good work attitude | 43 | 21 |
| | Number | |
| Sample observations | 640 | 645 |

Source: Calculated by ERS using data from the Rural Manufacturing Survey.

facturing employers. Basic characteristics and attitudes that help individuals finish high school (such as the ability to follow directions, self-discipline, interpersonal skills) are also valuable to employers. A high school diploma signals to an employer not only actual knowledge, but also a greater likelihood that the worker possesses desired characteristics and attitudes that will make him or her a valuable employee.

Educated Workforce More Costly

The above discussion begs the question of why plants hire employees without high school diplomas. Based on weighted estimates from the ERS survey, about 30 percent of nonmetro manufacturers employ only high school graduates, while 23 percent have a workforce where fewer than 75 percent graduated. As is pointed out elsewhere in this issue (see “Advanced Technology Means Better Pay and Benefits for Workers”), employing a more educated workforce is costlier. Plants offering low wages and benefits will find attracting high school graduates difficult.

For many employers, however, the education level of their workforce may be dictated by the local pool of labor. In the past, many companies chose to site their plants in areas where high school graduation rates were low to have access to low-wage, nonunionized labor. Given the apparent high degree of frustration with labor quality in plants with a less-educated workforce, this “low road” strategy is likely to become less viable. This suggests that new plants would be less likely to open in areas with a less educated workforce, and old plants in such areas would be prime candidates for closure. However, we should not expect a wholesale relocation of industry to areas where the “best” labor is located. Studies of business location decisions show that labor issues are important, but not a dominant factor in location choices. This suggests that many businesses are tied for other reasons (access to natural resources, markets, transportation, or personal preference) to a particular location where the available pool of labor is inadequate.

Employers Provide More Training to Address Labor Quality Problems

Many employers are addressing skill deficiencies by training their employees. The ERS survey shows that 47 percent of nonmetro manufacturing employers provide formal training for their workers, and about three-fourths of those reported increasing the amount of training over the previous 3 years. Labor quality problems appear to have induced some firms to increase training (fig. 3). Thirty-five percent of employers who reported major problems with labor quality said that the amount of training they provide had “increased a lot” over the previous 3 years, compared with 23 percent of those who reported no problem with labor quality.

The dominant reasons for the rise in training appear to be demand-side factors stemming from the greater need for product quality, efficiency, and skill. Teixeira reports that, when rural manufacturers are asked for their reasons for increasing the amount of training, the most frequent response is “heightened concern about product quality,” followed by “to improve productivity.” Adoption of new equipment and management practices were cited as very important reasons by 40-50 percent of employers who said they increased training. A supply-side factor, “new employees less skilled than previous years,” is the least cited reason. Still, about 70 percent of rural manufacturers who increased training said less skilled employees were either “very important” or “somewhat important” reasons for the increase.

Supplying Adequately Skilled Workers Is a Difficult Challenge

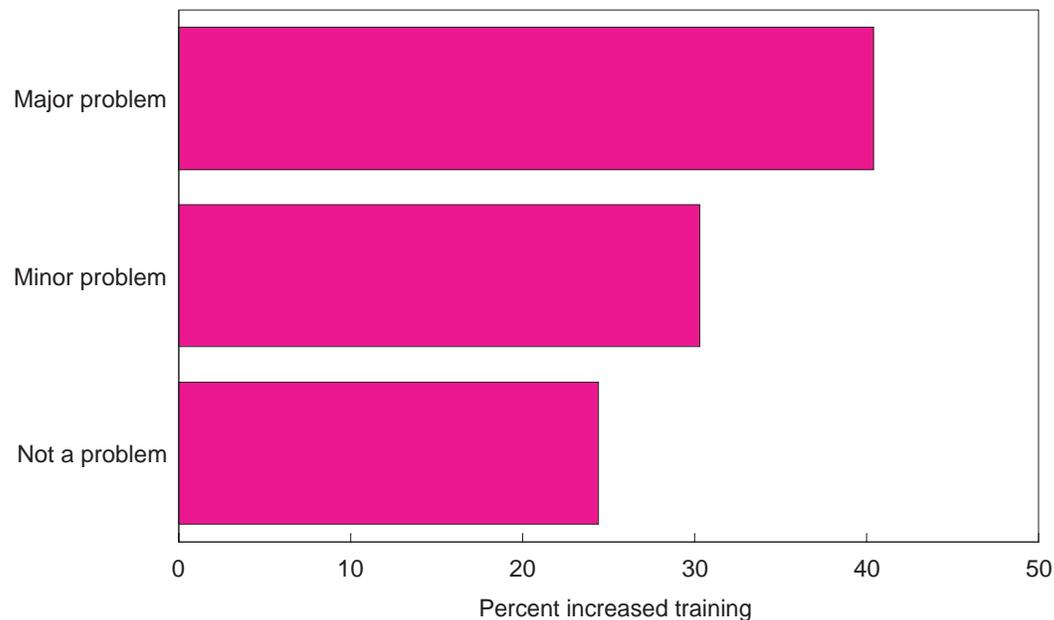
Adequacy of worker skills seems to be a concern for all types of manufacturing employers and for both rural and urban communities. Growing demand for skill appears to explain part, but not all, of the labor quality problem. Problems with labor quality are widely reported even by employers who say that skill requirements have grown little or stayed the same. The supply of adequately skilled workers seems to be an important part of the problem. Some commentators and business leaders suggest that poor skills and work attitude are a result of declining educational standards and cultural change in American society, but long- and short-run economic factors may also play a role. The pool of labor available to manufacturing employers may be shrinking as more talented workers are

Figure 3

Rural manufacturers who reported training "increased a lot" during previous 3 years, by reported problems with labor quality

Firms reporting labor quality problems also increased training

Local labor quality



Source: Calculated by ERS using data from the Rural Manufacturing Survey.

drawn to growing white-collar occupations. The tight job market produced by strong economic growth in the mid-1990's may play a role by increasing the number of opportunities for workers and increasing job turnover rates.

While academic institutions, individuals, and companies have expended considerable effort to upgrade computer skills, they have done less to address problems with work attitude and skills that are more difficult to develop, such as problem-solving and teamwork. Short-term employer training may address needs for computer and technical skills, but building basic skills, such as work attitude and problem-solving ability is more difficult to accomplish on the job. Maintaining and improving the quality of the local labor force is a difficult and important challenge facing many communities, both rural and urban. [Fred Gale, 202-694-5349, fgale@econ.ag.gov]

Other Factors May Contribute to Labor Quality Problems

This article focuses on the effects of growing skill demands on labor quality problems, but several other factors may also contribute. Tight labor markets during the mid-1990's economic expansion could be one explanation for the seriousness of labor quality problems, even among high-wage employers. Abundant job opportunities in a strong job market make it difficult for an employer to attract and keep sufficient numbers of adequately skilled workers, since other employers are also hiring new workers. Additionally, rising wages and job opportunities in services and other sectors may have drawn workers away from manufacturing, shrinking the pool of labor available to manufacturing employers. Demographic trends (the relatively small "baby bust" cohort of entry-level workers) may also have helped to shrink the pool of potential manufacturing workers. These factors may help account for the high incidence of labor quality problems found in this survey.