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Work-Based Learning in Rural America: Employer Participation in School-To-Work Programs and Apprenticeships

Gary Paul Green
University of Wisconsin-Madison

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Since the 1980s, many states have initiated institutional reforms designed to address perceived deficiencies in traditional schooling. Most of these reforms involve stronger linkages between employers and schools. In this article, I examine the factors influencing employer involvement in school-to-work programs and apprenticeships in rural America. Data are drawn from a telephone survey of a stratified random sample of 1,590 employers in nonmetropolitan areas of the U.S. Firm size is the strongest factor influencing employer involvement in school-to-work programs. Employers expressing difficulty in recruiting workers are more likely to be involved in school-to-work programs. There is considerable regional variation in employer involvement, with firms in the West and Midwest more likely to be engaged in these activities. Large firms in the manufacturing sector are most likely to be offering apprenticeships.

> "The only adequate training for occupations is training through occupations."
>
> John Dewey (1916)

Introduction

Several recent federal policies have been aimed at improving the preparation of students for work and the transition from school to work. The 1990 reauthorization of the Carl D. Perkins Applied Technology and Vocational Education Act was a significant policy shift in its call for coordination between secondary and postsecondary educational institutions, as well as its emphasis on academic and occupational skills. The focus of the Act was Tech Prep, which coordinated programs between secondary and community colleges and enabled students to start working on a certificate or degree while in high school.

The School-to-Work Opportunity Act (STWOA) of 1994 was one of the most significant policy developments in the area of workforce preparation. A key element of this act is the integration of vocational and academic educational programs for all students, not just targeted populations such as minorities, women, individuals with handicaps, the poor, or those students with limited English proficiency. School-to-work programs involve a broad set of programs in high schools and community colleges. Among the most popular programs are cooperative education, youth apprenticeships, and school-based enterprises (Stern, Finkelstein, Stone, Latting, & Dornsife, 1994). Cooperative education involves vocational training, work periods during school time, and written arrangements between school and employers. Youth apprenticeships prepare students for education as work, and they typically involve a paid work experience, coordination between school and workplace learning, recognized credentials available at the end of the program, and governance by a broad set of institutional partners. Finally, school-based enterprises are growing in popularity. These programs in-

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Correspondence concerning this article should be addressed to Gary Paul Green, Department of Rural Sociology, University of Wisconsin-Madison, 1450 Linden Drive, Madison, WI 53706-1562. (gpgreen@wisc.edu)

volve students in school-based activities that produce goods or services for people, usually other than students.

States also have been active in promoting traditional apprenticeships. Concern with a skills shortage in the late 1990s and the declining strength of unions has placed renewed interest in finding ways to build a skilled workforce. Many of these apprenticeship programs are based on stronger relationships between employers and local training institutions and schools. States are increasingly offering financial incentives to employers participating in these programs.

While many of the work-based learning programs are relatively new in some areas of the U.S., they have been extensively used in Europe for years, especially in Germany. The labor supply, demand, and institutional structure of rural areas present potential obstacles to implementing these types of programs. In this article, I examine the extent to which employers in rural areas participate in these programs and how they overcome some of these obstacles. I first discuss the context for institutional innovation in rural labor markets. I review the literature on school-to-work programs and apprenticeships. Finally, I use recently collected data from employers to assess their involvement in these programs.

The Context

Rural communities face numerous obstacles in promoting workforce development. Below, I summarize the three broad sets of obstacles as supply, demand, and institutional.

Labor Supply

Rural areas, on average, have lower levels of formal schooling and training than do urban areas (McGranahan, 1998). In addition, the Economic Research Service (1991) found that rural employers provided fewer opportunities for training. According to Teixeira (1998), more than 60% of rural workers do not receive any training at all. Returns to human capital also are lower in rural than they are in urban areas (Beaulieu & Mulkey 1995; Greenberg, Swaim, & Teixeira 1995). Employers may be more reluctant to invest in job training in rural areas because of the low wages offered to skilled workers. Historically, workers in rural areas have had an incentive to migrate to urban areas where they earn higher wages. This dynamic relationship between human capital investments in rural areas and out-migration discourages investment because of perceived loss of benefits. Although Teixeira and Mishel (1992) argued that the threat of a labor shortage in rural areas is a "myth," the evidence suggests that many rural areas in the U.S., especially in the Midwest, experienced a shortage in the late 1990s. This labor shortage created increased interest in workforce strategies for improved training programs.

Labor Demand

Rural firms tend to be later in the profit/product cycle than those in urban areas (Markusen, 1985). Innovative and high profit firms are most likely to be located in metropolitan areas where they have better access to producer services, consumer markets, and linkages with other firms in their industry. As a result, rural firms have less demand for skilled workers. Also, because these firms are likely to be located in markets with high levels of foreign competition, they may be under greater cost pressures and may be less likely to invest in training their workforce.

In recent years, there has been a growing debate regarding the extent to which the demand for skills has changed in the economy. A large body of economic literature suggests there has been a marked shift in employer demand away from jobs requiring less education to jobs demanding higher levels of skills (Holzer, 1996). This process has been referred to as the skills mismatch. Most of the explanations for this shift emphasize technological advances (especially computer technology) and growing international competition, which has devalued low-skilled work in the U.S. (Berman, Bound, & Griliches, 1994). Even in the jobs that continue to be filled by low-skilled workers, it is argued employers are demanding an increasingly complex set of social skills due to organizational changes and the need to interact with customers. Again, this shift may be occurring less in rural than in urban areas.

The decline in the demand for low-skilled workers also may have been influenced by the declining proportion of jobs in the manufacturing sector, which has historically provided more opportunities for mobility and job training, along with higher wages, benefits, and job security, especially for minorities and women, than have other sources of employment. The Northeast and Midwest have experienced the greatest declines in manufacturing jobs over the past 20 years. These declines in manufacturing employment have had the greatest impact on minorities and may have contributed to increases in the level of income inequality. Overall, rural areas generally have a lower level of demand for skills workers and may be more vulnerable to international competition today.

Institutional Factors

Rural labor markets also are disadvantaged in their institutional structure. In many metropolitan areas, intermediaries help match the demand for and supply of labor in a region. For example, temporary firms, unions, and community-based organizations are involved in training, recruitment, mentoring, and other aspects of workforce development. These intermediaries affect the functioning of local labor markets in several ways. A key advantage is that they improve the information available to employers

and workers. By maintaining strong linkages with employers, intermediaries can provide workers with more complete information on vacancies and the specific skills required for these positions. Similarly, intermediaries can provide more complete information to employers about the productivity of workers. Such intermediaries can facilitate school-to-work by improving the flow of information between employers, workers, and training institutions.

Rural communities generally have fewer labor market intermediaries than do urban areas. Distance and density (and the lack of a critical mass) may explain the differences. Because employers and workers are spread out across a broader region, it is more difficult for intermediaries to play this role of linking supply and demand for labor and improving the information flow between workers and employers.

Rural areas also have fewer unions than urban areas. The lack of unions in many rural areas has an important effect on wages, worker mobility, and information flows (Freeman & Medoff, 1984). The obstacles to the flow of information presented in rural areas may increase the tendency for workers to face difficulties in finding positions consistent with their skills. Unions also play an important role in promoting employer-provided training. Unions are frequently a key sponsor of apprenticeships and other similar programs. Similarly, there are fewer community colleges in rural areas to help support school-to-work programs (Katsinas & Miller, 1998).

The structure of rural economies may also serve as a major obstacle to implementing school-to-work programs. Most schools will need a sufficient number of students to develop programs. The small number of firms in specific industries may make it difficult to develop programs that can be linked to a sufficient number of firms.

School-to-Work Programs

In this section, I briefly summarize the literature on several aspects of school-to-work programs. First, I discuss why employers become involved in these programs. Second, I summarize the research on the benefits for students. Most of this literature is based on urban or suburban settings. The research on school-to-work programs in rural areas is almost nonexistent, and none of the studies reviewed below focuses on rural areas.

Why Do Employers Participate?

How many employers are currently involved in school-to-work programs? In 1997, the U.S. Census Bureau conducted a survey of private establishments with 20 or more employees and found that approximately 26% are participating in school-to-work partnerships. Large firms and service sector establishments were most likely to participate. Based on these figures, employer recruitment into these programs would not appear to be a problem. In a study of several school-to work programs, Hughes (1998) concludes that employer participation is not the major reason why these programs fail. Yet, most of these assessments are based on a small number of programs at an early stage of development. There are significant turnover problems with these programs, with employers dropping out after a short period (Wieler & Bailey, 1997).

To examine why employers participate in school-to-work programs, Bailey, Hughes, and Barr (2000) surveyed employers participating in five school-to-work programs as well as employers in the same labor market area who were not participating in these programs. A critical question in their research is whether employers are motivated to participate in these programs by philanthropic concerns or by self-interest. They found that 24% of the employers provided internships. Several employer characteristics are related to involvement in school-to-work programs. One of the strongest influences is firm size: Large firms are more likely to provide internships. They hypothesize that program officers may turn to large firms first because they can offer more opportunities for students. Employers with interns are more likely to be oriented toward national and international markets and to have more progressive human resource practices. They define progressive practices as use of job rotation, self-managed work teams, quality circles, total quality management, and profit sharing. Bailey et al. argue that school-to-work programs are part of a larger package of human resource policies that employers use. They also find that private-for-profit firms are less likely to be involved in school-to-work than are nonprofit and government organizations. Their assumption is that not-for-profit organizations would be more motivated by philanthropic concerns than for-profit organizations. Bailey et al. conclude that "although the data are certainly open to interpretation, it is hard to argue from this evidence that most firms are participating out of a conviction that participation will advance their business in any direct way" (p. 52).

Philanthropy is a strong motivation for employer involvement. Lynn and Wills (1994) found that most employers participating in cooperative education programs did so to perform a community service. One of the issues that potentially influences employers' willingness to participate in school-to-work programs is the ability of employers to recoup their investments in general training. In an intensive study of seven school-to-work programs, Bassi and Ludwig (2000) found that in only a few cases can firms obtain enough benefits to justify these expenses. They conclude that even if these programs produce net benefits to society, there is no guarantee that they can be maintained in the long run. Rather, firms appear to be driven more by concerns over current and future staffing needs.

There is substantial evidence that employers that become involved in school-to-work programs are generally

satisfied with the experience. Employers cite a number of benefits, including access to low-cost employees, reduced training and recruitment costs, improved community relations, and higher levels of productivity (compared with recruiting regular entry-level employees). However, research suggests there are costs associated with participation in school-to-work programs as well (e.g., program administration, student supervision). In one of the few studies to assess the costs and benefits of these programs for employers, Bassi and Ludwig (2000) found significant variation in the benefit/cost ratios. They conclude that among the firms that were first to participate, it was unclear that economic benefits were sufficient for employers to motivate employers to continue providing general training.

Overall, the evidence suggests that firm size and industry are major determinants of participation in school-to-work programs. The literature is less clear on whether economic or noneconomic factors influence employer involvement and whether firms will benefit enough in the long run to continue being involved in these programs. None of the major studies have examined participation among employers in rural areas. The discussion above about the differences in the structure of urban and rural labor markets suggest there may be several institutional obstacles to employer involvement in school-to-work programs in rural areas.

What are the Benefits for Students?

Numerous studies have examined the effects of cooperative vocational education programs on students. The evidence regarding the impacts of these programs on wages, job mobility, and other outcomes is mixed. Several studies find that students participating in these programs earn lower wages and are less likely to be employed than students not participating; other studies find the reverse. Hernstadt, Horowitz, and Sum (1979) found that students in cooperative vocational education programs did not experience higher rates of labor force participation, employment, or wages. However, co-op students had more positive attitudes toward their work. Walsh and Breglio (1976) found that students participating in school supervised employment were actually less likely to be employed 2 years later. An important issue in all these studies is how long of a period is necessary to see an effect from the program. Other studies also have failed to find any positive economic impacts for high school co-op students (Bishop, Blakemore, & Low, 1985; Lewis, Gardner, & Seitz, 1983).

There are several methodological issues that should be raised regarding this research in this area. Most co-op programs in high schools steer students away from college-prep curriculum, which creates a selection bias in the comparisons of co-op and non-co-op students. Further, work-related training tends to focus only on a few occupations.

On a positive note, a methodological advance is that recent studies have found an important intervening variable: whether or not the student finds employment in the field for which he/she was trained. Previous studies that did not control for this factor found no significant impact of vocational training. Once researchers control for this factor, they find that students receiving training earn roughly 30% more than students in nontraining related employment (Campbell, Elliot, Laughlin, & Seusy, 1987).

Another approach to this question has been to examine the short- and long-term outcomes of working while in high school. Several studies have explored this question, and there is yet any consensus on the answer. Many of the studies have used longitudinal data, such as the National Longitudinal Survey of Youth Labor Market Experience (NLSY). Some studies find positive effects, but the effects tends to vary by race, with significant effects for Whites but not for African Americans or Hispanics (Steel, 1991).

Many studies find that the number of hours students work per week can influence the effects of paid employment while going to school. The assumption is that if students work many hours per week, they have less time for homework, will be more likely to drop out, and have lower aspirations for attending postsecondary schools. Some research has found the most harmful effects for students who work 20 or more hours per week (D'Amico, 1984).

Examining the effects of employment and wages is a fairly narrow approach to assessing the consequences of vocational education. A few studies have examined other outcomes. Campbell and Basinger (1985) found that participation in a vocational training program did not affect subsequent job satisfaction. They found no differences in a variety of political and social activities as well.

Stern et al. (1994, p. 56) conclude from their literature review that "high school vocational education has been found to have positive effects on earnings if students take a coherent sequence of courses and find jobs related to their training." Unfortunately, the research shows that only few students actually take a coherent set of courses and then go into a related field.

The most often cited factor for promoting programs like school-to-work is that they solve the problem of "floundering" in the labor market. The assumption is that students participating in these programs will find a better job and that they will stay in those jobs for a longer time (Rosenbaum et al., 1992). The primary criticism of these programs is that they emphasize the needs of employers over students (Levine, 1994).

In summary, research on the benefits of school-to-work programs for students is inconclusive. One of the weaknesses in this research is methodological—few studies have taken into consideration the selection bias or have been able to analyze whether or not students end up in the career for which they were trained. The research suggests that students

are most likely to benefit from well-structured programs that provide strong linkages between the classroom and work sites. Students benefit from finding jobs in the areas for which they were trained. And White students are more likely to benefit from work-based programs.

Method

Businesses were included in this survey only if they were operating in nonmetropolitan areas in the U.S. The Census Bureau defines nonmetropolitan areas as having fewer than 50,000 people and not strongly linked to a metropolitan area. This definition has recently been revised, but the new definition was not available at the time of the present study. I stratified the business sample by both industry (manufacturing and service industries) and the number of employees in the establishment (1-19 employees, 20-99 employees, and 100 or more employees). Approximately one half was manufacturing establishments; the other half was service establishments. Small firms (1-19 employees) constitute 25% of the sample, with medium-size (20-99 employees) firms and large firms constituting 35% and 40% of the sample, respectively. The respondent for the study was the person in charge of hiring (the personnel manager or human resource director in most cases). Once the appropriate person was identified, we only included cases if the establishment had hired workers in the past year for a position that did not require a college degree.

Telephone interviews were conducted between January and August, 2001. The interviews averaged 18 minutes. (A range of 1 to 47 calls were made to obtain a complete interview, with a mean of 6 calls.) The overall response rate was 57.5%, which is considered good for employer surveys. The response rate was generally lower for small businesses, especially those in the service sector.

The models for estimating employer involvement in school-to-work programs focus on employer and market characteristics, region and community size, and cooperation with other employers. Among the firm characteristics considered are profit/nonprofit status (coded 0 = for profit, 1 = nonprofit), firm size (number of workers), and industry (coded 0 = service, 1 = manufacturing). I also consider several characteristics of the workforce: percent unskilled workers (requiring no formal training), percent unionized, percent women, and percent minority.

The literature suggests that local labor market conditions also may affect the level of job training. Osterman (2001) argues that in tight labor markets, employers may be more inclined to invest in training as a way to retain good workers. I would expect that firms facing difficulty in recruiting would be more likely to be engaged in school-to-work as a strategy to recruit workers. I include two indicators of labor market conditions: the number of vacancies in the firm and the difficulty the employer is facing in hiring qualified workers. I asked employers whether they would say it is very easy (coded 1), somewhat easy (2), somewhat difficult (3), or very difficult (4) to find qualified applicants at the present time.

I also considered how the level of competition influences employer involvement in school-to-work programs. If firms are reluctant to invest in training because of costs, it should be evidenced by their level of competition. Firms in highly competitive markets may not be in a position to provide formal training. Two variables are considered: the level of market competition and foreign competition. I asked employers how much competition they face in their main market or service area and how much foreign competition their organization faces. Both variables were coded on a 4-point scale: none (1), a little (2), some (3), or a great deal (4).

The context in which employers are located may influence their involvement in school-to-work programs. I focus on two characteristics: census region and population size. Again, we only collected data from firms in nonmetropolitan areas. I chose to include population size as a measure of urbanization, but it also may influence the ability of educational institutions to participate in school-to-work programs. In case studies we have conducted, we found that schools in sparsely populated areas had an especially difficult time developing these programs (Green & Galetto, 2005).

Finally, I examine whether collaboration with other firms in the community influences school-to-work. Collaboration may reduce some of the incentives to engage in school-to-work programs because it reduces the uncertainty to employer-provided training. On the other hand, collaboration with other firms in the community may be an indicator of the willingness of the employer to support the community. To assess the extent to which employers collaborate with other firms in their training efforts, I asked if they cooperated with firms in their community. These responses were coded as no (0) or yes (1).

The two dependent variables in this analysis are participation in (a) a school-to-work program or (b) an apprenticeship program. We asked employers if their firm was "currently involved with a school-to-work program." Forty-two percent of the employers reported they were involved with such a program. We also asked respondents whether the firm "currently offers any apprenticeship programs." Approximately 32% reported they did. Among the firms offering apprenticeships, most were involved in skilled trades or health care programs. Very few were engaged in nontraditional apprenticeships.

The average establishment had 156 employees (including permanent full- and part-time workers, as well as temporary or seasonal employees), with a range from 1 to 5700 (Table 1). Roughly one half of the establishments were branches. The average workforce was nonunion, with only about 10% of the establishments having current employees

Table 1
Descriptive Statistics

	M	*SD*
School-to-work program (0 = no, 1 = yes)	.42	.49
Apprenticeship program (0 = no, 1 = yes)	.32	.47
Nonprofit organization (0 = no, 1 = yes)	.21	.41
Manufacturing firm (0 = no, 1 = yes)	.49	.50
Firm size	156	331
% Unskilled workers	36	33
% Union	7	22
% Women	53	33
% Minority	19	26
Number of vacancies	4.72	17.96
Difficulty recruiting (1 = very easy, 4 = very difficult)	3.01	.83
Market competition (1 = none, 4 = a great deal)	3.34	.81
Foreign competition (1= none, 4 =a great deal)	1.78	1.06
Census region		
West	13.9	
Midwest	38.5	
Northeast	11.7	
South	35.9	
Population >20,000 (0 = no, 1 = yes)	.34	.47
Cooperate with firms—community (0 = no, 1 = yes)	.35	.48

covered by a collective bargaining agreement. Approximately one half of the average workforce was female, and about 20% were of a minority ethnic or racial background. The average firm had five vacancies. Most employers reported that it was difficult to find qualified applicants at the present time. Almost half said it was somewhat difficult and one third (29%) reported that it was very difficult. More than half the firms reported that they face "a great deal" of competition in their market or service area. Only about 11% said they faced a great deal of foreign competition, and 58% reported no foreign competition.

Employer Involvement in School-to-Work Programs

Conducting a logistic regression analysis, I found several important factors influencing employer involvement in school-to work programs (Table 2). As much of the literature suggests, firm size strongly influences participation. As I expected, employers in larger communities were more likely to be involved than were firms in smaller communities. A factor that is more difficult to interpret is region—employers in the West were much more likely to participate in these program than employers elsewhere. I also found evidence that the composition of the workforce affects employer participation; firms that have a higher percentage of women and smaller percentage of minorities were more likely to participate in school-to-work programs.

Because of the substantial differences between manufacturing and service firms, I conducted separate analyses for firms in the two industries to examine whether the effects differ. Overall, the results look very similar across the two industries, although there are a few exceptions. Unionization improves the likelihood that manufacturing firms are involved in school-to-work programs but has no effect on service firms. Similarly, recruitment difficulty is strongly correlated with involvement in these programs for manufacturing firms but not for service firms.

Next, I looked at apprenticeship programs (Table 3). In the full model, two variables are strongly related to participation in apprenticeship programs: industry and firm size. Manufacturing and large firms were most likely to participate in apprenticeship programs. Interestingly, cooperation with other firms in the community has a negative effect on participation in apprenticeship programs. This finding would suggest that cooperating to provide training programs may be alleviating some of the perceived needs to invest in programs like apprenticeship programs.

Again, I conducted the analysis for manufacturing and service firms separately. And again, results differed in some instances. Recruitment difficulty increases the likelihood of manufacturing firms involvement in apprenticeship programs, while it has no effect for service firms. Curiously, cooperation with other firms in the community has a strong negative effect on service firms' participation in apprenticeship programs, while the relationship is not significant for manufacturers. Given that service firms are more likely to engage in these collaborations with other firms in the community to provide training, this may reduce some of the incentive for apprenticeships because the collaborations are providing the needed training.

Conclusions

This study reveals that employers in nonmetropolitan areas are heavily involved in school-to-work programs. The number of students in these programs is relatively small,

Table 2
Logistic Regression Analysis of Likelihood that Employer is Currently involved with School-To-Work Programs

	All Employers	Manufacturing	Service
Nonprofit firm (0 = no, 1 = yes)	-.026	-.559	-.031
Manufacturing firm (0 = no, 1 = yes)	.195		
Firm size (log)	.414***	.467***	.363***
% Unskilled workers	-.001	-.001	.000
% Union	-.006	-.008*	.001
% Women	.004*	.005	.004
% Minority	-.007*	-.013**	-.002
Number of vacancies	.013	.007	.020
Difficulty recruiting	.160*	.265*	.072
Market competition	-.087	-.068	-.087
Foreign competition	.104	.125	.020
Census Regions (Reference = South)			
West	.606**	.253	.848**
Midwest	.350*	.189	.458*
Northeast	.204	.200	.162
Nonmetropolitan Population (0 = <20,000, 1 = 20,000+)	.355**	.606**	.198
Cooperate with Firms in the Community (0 = no, 1 = yes)	-.766***	-.902***	-.655***
Constant	-2.456***	-2.398*	-1.858**
Log Likelihood	1531.958	739.933	777.267
Degrees of Freedom	16	15	15
Cox & Snell R^2	.139	.142	.146
N	1,268	631	637

*$p < .05$. **$p < .01$. ***$p < .001$.

however, and they are concentrated in a few traditional programs (e.g., nursing). The strongest and most consistent factors influencing involvement in school-to-work programs among employers are firm size and recruitment difficulty. Small firms face much higher costs for training in general, and school-to-work programs require other resources, such as time, that are prohibitive as well. Bragg, Hamm, and Trinkle (1995) found that cost was one of the major obstacles to implementing school-to-work programs. Large firms also have more opportunities for school-to-work programs and are more likely to have employees that can supervise students in these programs. Further, firms facing hiring difficulties have an incentive to be involved in school-to-work programs as a means of recruiting workers.

Rural employers may face some additional obstacles to implementing school-to-work programs. Because of the

Table 3
Logistic Regression Analysis of Likelihood that Employer Currently Offers Apprenticeship Programs

	All Employers	Manufacturing	Service
Nonprofit Firm (0 = no, 1 = yes)	.152	-.604	.249
Manufacturing firm (0 = no, 1 = yes)	.615**		
Firm size (log)	.279***	.329***	.263**
% Unskilled workers	.000	.000	.000
% Union	.003	-.001	.012*
% Women	-.002	.002	-.005
% Minority	-.005	-.009	-.002
Number of vacancies	.008	.009	.008
Difficulty recruiting	.153	.262*	.028
Market competition	.057	.026	.089
Foreign competition	.033	.054	-.062
Census Regions (Reference = South)			
West	.140	.093	.198
Midwest	-.059	-.197	.088
Northeast	.382	.002	.543
Nonmetropolitan Population (0 = <20,000, 1 = 20,000+)	-.237	-.610**	.095
Cooperate with Firms in the Community (0 = no, 1 = yes)	-.658***	-.393	-.904***
Constant	-2.322***	-1.883	-1.322*
Log Likelihood	1470.459	686.229	764.262
Degrees of Freedom	16	15	15
Cox & Snell R^2	.091	.076	.111
N	1,267	632	635

*$p < .05$. **$p < .01$. ***$p < .001$.

need to develop programs of a sufficient size, employers in urban areas may collaborate to achieve economies of scale. This collaboration may be more difficult in rural areas where there are fewer firms with similar training needs. The findings indicate that when rural firms collaborate on training, however, they are less likely to be engaged in school-to-work programs. One possible explanation for this finding is that when employers collaborate on job training, they may have less need for school-to-work programs. Collaborating firms are able to accomplish many of the same objectives (e.g., recruitment and retention, skill development) of school-to-work programs.

There are some differences across regions in participation in school-to-work programs. These differences may reflect different state policies and/or differences in adoption. Additional research is needed to monitor and evaluate the

effectiveness of state policies in promoting or constraining school-to-work programs.

Previous research has debated whether employer participation in school-to-work programs was based on self-interest or motivated by philanthropic concerns. The present study does not directly address this question, but it does cast doubt about the argument that employers participating in these programs are driven by philanthropic concerns. The evidence clearly suggests that structural forces (firm size, population) play an important role, as does difficulty in recruitment. These factors would not be as important if firms were simply motivated by charity.

In conclusion, there is a caution to be made in developing school-to-work programs in rural areas. Because most rural labor markets are fairly thin (having few opportunities in various occupations), there is a need to maintain the appropriate balance between specialization and teaching general skills and knowledge. The danger in working closely with employers is that their needs may not be consistent with those of students in rural areas. Both sides should enter these relationships with open eyes (Schaeffer & Loveridge 2002).

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