Chapter 2

Economic Indicators of Program Performance

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Chapter 2

Economic Indicator of Program Performance

The impacts of vocational education on earnings, hours worked, unemployment and other labor market outcomes have been studied by economists for many years.¹³ Their research typically relies on survey data that tracks the educational and employment experiences of large numbers of high school students over several years. These studies have attempted to address the general economic question — does vocational education pay? — but the data they have relied on can provide very limited information about the relative quality of specific vocational programs. Disaggregated, program specific data are necessary to ascertain whether students in a given high school program experience subsequent labor market advantages as compared to students who are not in that program.

STATE AND LOCAL EFFORTS

In January 1989, OTA conducted a telephone survey of State directors of vocational education to determine the extent of State activity in performance standards. States were asked both about placement rate and competency-testing activity, as well as about efforts to introduce academic material into the vocational education curriculum. OTA

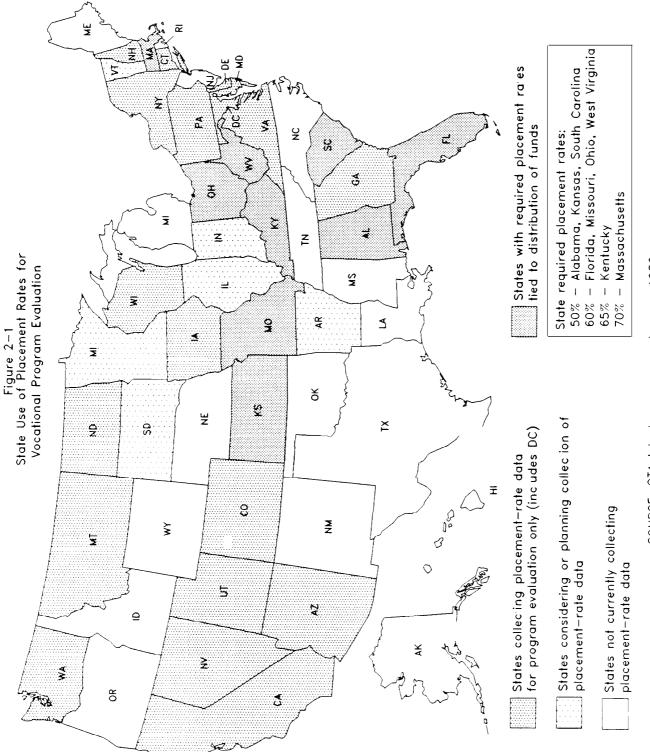
^{13.} See, for example, Russell Rumberger and Thomas Daymont, "The Economic Value of Academic and Vocational Training Acquired in High School, "Youth and the Labor Market: Analyses of the National Longitudinal Survey, Michael E. Borus (cd.) (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1984); Paul Campbell et al., Ohio State University, National Center for Research in Vocational Education, "The Dynamics of Vocational Education Effects on Labor Market Outcomes," monograph, 1987; John Bishop, "Academic Skills and Occupational Training," in U.S. Department of Education, Design Papers for the National Assessment of Vocational Education (Washington, DC: February 1987); and Robert Meyer and David Wise, "High School Preparation and Early Labor Force Experience," The Youth Labor Market Problem: Its Nature, Causes, and Consequences, Richard B. Freeman and David A. Wise (eds.) (Chicago, IL: University of Chicago Press, 1982).

found that States use placement rate data within a larger framework of accountability, which usually includes information about a number of variables related to vocational education programs. Examples of these variables, many of which are specified in the Perkins Act, include access and support services for handicapped and disadvantaged students, appropriateness of equipment and supplies, safety of work areas, appropriateness of curriculum, existence and operations of advisory committees, provision of guidance and placement activities, and staff development.

Many States and school districts attempt to evaluate their vocational programs by tabulating labor market statistics of graduates with information from their transcripts. As shown in figure 2-1, 27 States use followup surveys to collect data on job placements of graduates, which in many cases includes information on wages, job tasks, and employers' views of employee job performance. Followup surveys are typically conducted 9 to 12 months after the student has left school and data is generally collected by district personnel and/or teachers.

Only nine States have established policies that directly tie placement rates to the distribution of funds. The established rates range from 50 to 70 percent, with three States requiring 50 percent placement, four requiring 60 percent, one requiring 65 percent, and one requiring 70 percent. Seventeen States use placement-rate data for program evaluation but do not link the rates to funding decisions. Six States are planning to use placement-rate data, of which one is considering required rates. The States that mandate placement rates usually provide technical assistance to deficient programs before withholding funds.

To gain additional insight into the implementation of placement rate standards OTA looked more closely at the policies of five States.



SOURCE: OTA telephone survey, January 1989.

Missouri

Since 1985,-approximately 37 percent of Missouri% State funds for vocational education have been distributed to programs according to scores on two factors: 1) how well programs train students for jobs in areas of high market demand (demand is estimated from rankings prepared by the Missouri Occupational Information Coordinating Committee in cooperation with the division of Occupational and Adult Education of the Elementary and Secondary Education Department, using employment projections prepared by the State Employment Security Agency), and 2) placement of students in jobs related to training. Local placement performance is accepted as sufficient justification to continue a program that is identified as being of low priority using this ranking procedure. A bonus is offered for placing hard-to-serve students. The State provides districts with information regarding the dollar value of each of their programs based on the above two factors, thereby giving districts information needed to make maintenance or cancellation decisions.

In keeping with Perkins Act requirements, programs are also evaluated once every 5 years on <u>process</u> factors, such as whether they have their competency-based educational program in place and whether they have an advisory committee. These onsite evaluations, however, do not influence the distribution of vocational education funds. Missouri has not yet conducted a formal evaluation of the impact of their placement-rate policy.

Kansas

Kansas requires that 50 percent of its vocational education graduates find jobs related to the field in which they were trained. Students who have dropped out in the llth or 12th grades can be counted as placements if the jobs are in the area of training. Programs that do not meet the 50 percent requirement are placed on probation and have 3 years to raise their rate. During those 3 years, the program receives technical

assistance from the State Education Department, and if a 50 percent placement rate is still not achieved, support is discontinued. Less than 5 percent of the programs in Kansas have failed to meet the standards.

South Carolina

South Carolina uses both positive and negative incentives to influence vocational education. The 50 percent placement requirement means that one-half of all students who complete <u>defined courses</u> are expected to find jobs. This requirement is different from those in effect elsewhere that are based on program, school, or district completions. Placements must be in the area of training and attendance at a postsecondary institution must also be in the area of training. South Carolina also includes dropouts in its count of successful placements if they obtain jobs in the area of training. Placement rates are verified by the State, and involve pulling of records, visits to employers, and interviews with employers and graduates regarding wages and employee satisfaction.

As a positive incentive, South Carolina's General Assembly allocated in 1984 \$25 million to vocational education programs to be distributed over a 5-year period for the purchase of high-technology equipment. Districts are required to do a needs assessment every 5 years, based in part on labor market conditions, which is to be used in their proposal for funds to purchase the high-technology equipment. District plans and their needs assessment reports are read by a private sector panel. South Carolina also places strong emphasis on the academic aspects of vocational education and participates in a vocational education consortium of the Southern Regional Education Board, whose primary aim is to promote the infusion of academic material into vocational education. ¹⁴

^{14.} See ch. 4 for a more detailed description of the Southern Regional Education Board's performance measurement strategy.

An average of seven programs have been discontinued in each of South Carolina's 92 districts over the past 4 years. Discontinuances are reported to be based primarily on decline in labor market demand rather than on inadequate program quality. For example, programs in body and fender and building construction have been discontinued. The discontinuances are based on a combination of low placement rates and failure to qualify for the high-technology equipment funds.

Florida

Florida's legislature enacted a placement rate requirement of 60 percent in 1983-1984, then raised it to 70 percent in the next year. Programs that fail to meet the standard are automatically reviewed by the Florida State Department of Education, which then submits the review to a regional coordinating council along with a plan for improving the placement rate for that program. As of the 1985-1986 school year, any program in which the placement rate for completers was less than 70 percent for 3 consecutive years was ineligible for State funding. To compensate for adverse economic or demographic conditions, the Department of Education was given the authority to adjust placement rates at the regional level using a statistical method approved by the State board. Adjustments must be reviewed by the Legislature before submission to the State board.

Florida's unemployment rate for youth in 1987 was 16.1 percent. The placement rate requirement of 70 percent establishes the expectation that completion of a vocational program should increase the likelihood of job placement by approximately 14 percent over what would occur without special training.

Data on placements is collected at the local level, generally by the vocational program teacher with the assistance of a placement specialist. This data is then forwarded to the district and on to the State. The Florida Legislature specified that audits of accuracy regarding placement rates are to be conducted by the Office of the

Auditor General of Florida, although none have been conducted as yet. Florida's response rate on these followup surveys has increased from 62 percent in 1982-1983 to 89 percent in 1985-1986.

Florida is moving to a statewide system for tracking individuals who complete vocational programs. This system draws from employment data, postsecondary enrollment, and national military records, and uses students' social security numbers as identifiers. One limitation is that not all students have social security numbers and cannot be required to obtain or report one. Once this data is collected, it must be returned to the local education agencies, who then determine whether or not the placements are in areas related to training.

Florida has defined a vocational completer as a student who has completed a specified course of study and exhibits mastery of designated competencies. Exceptional students are not included in the computation of program placement rates if they do not meet these criteria. Also excluded from the computations are prison inmates, nonresident aliens, or aliens who are in the United States on nonimmigration visas. Students who are not located are counted as nonplacements.

In 1983-1984, 45 percent of the total programs were required to receive a modified program review, because they had not met the placement-rate standard. This rate dropped to 14 percent during the next 2 years. The number of students (both secondary and postsecondary) who were designated as having completed vocational programs declined by almost 12,000 during this same period. Possible reasons are that schools either are being more cautious about who qualifies as a completer, more selective regarding who is permitted to enroll in a vocational program, or that fewer students are electing to enroll in vocational programs. In addition, these same data show that, while placements in employment related to training increased, placements in continuing education and full-time military dropped substantially. No studies have been conducted to identify possible explanations of these trends.

Illinois

Seven "vital signs" comprise Illinois' model of vocational program evaluation. The vital signs, based on a medical model of diagnosis, include labor market justification, placement, enrollment, employer satisfaction, student satisfaction, student performance, and cost containment. A particularly interesting aspect-of Illinois' accountability effort is their reliance on a computerized expert system that helps to identify <u>causes</u> of problems. Plans for improvement are designed collaboratively with local school personnel and State education staff, and are derived from the information gathered and analyzed by the expert system. If this system is demonstrated to be accurate, it could become attractive in other States_s where the basic computerized model could be tailored to meet local needs.

WAGE RECORDS DATA AS A BASIS FOR PERFORMANCE MEASUREMENT

State and local efforts at performance measurement, while commendable, frequently fall short of providing accurate and statistically valid indicators of program quality. First, the data are self-reported by program graduates, who may have difficulty recalling the courses they took in school and who may be unwilling to give accurate earnings information. 15 Second, the surveys are usually conducted by school Personnel

^{15.} For example, in a study that matched transcript data against self-reported information, it was found that many students misclassified themselves: "... a number of those who reported themselves to be in the general track in high school actually took three or four vocational courses." See John Bishop, "Policy Evaluation With Archived Wage Record Data: Limitations of Existing Data Sets," in Northeast-Midwest Institute, The Feasibility of a National Wage Record Database: Four Working Paper, prepared for a conference on "Employment and Earnings Dynamics in the United States: Policy Issues and a Longitudinal Data Source" (Washington, DC: January 1989), p. 14. Also see Robert H. Meyer, "An Economic Analysis of High School Vocational Education, I: Vocational Education: How Should It Be Measured?" (Washington, DC: Urban Institute), unpublished monograph, Aug. 31, 1981.

which introduces a possible bias if program funding is tied to survey responses. Finally, most of these surveys have relatively low response rates, because graduates are hard to locate.¹⁶

These kinds of technical and methodological problems have always made vocational educators wary of performance measures based on economic outcomes. But recent changes in the way States gather earnings data have spurred renewed interest in the possibility of relatively cost-effective outcome-based performance measurement. As a result of amendments to the Social Security Act contained in the 1984 Deficit Reduction Act (Public Law 98-369), States now maintain an income and eligibility verification system based on employers' quarterly wage reports. ¹⁷ For th_e first time, fourth quarter earnings for 1988 will be available for all 50 States, from which it will be possible, in principle, to construct longitudinal earnings profiles for almost all working adults.¹⁸ Covered employers report wages for employees who were on the payroll during the quarter, including the value of meals, lodging, and other remuneration. Thus, for example, earnings data for a June graduate, whose first full quarter of employment begins in July, would be available for retrieval beginning in January of the next year.

While there are possible sources of error in these data, due to reporting inaccuracies of various sorts, the wage records are typically quite reliable, and are considered greatly superior to self-reported information. Because they are employerbased, these data have the added benefit of linking earnings information with characteristics of reporting companies. In addition, because States pay unemployment insurance based on these data, there are strong incentives for accurate and timely

^{16.} In New York City, for example, the only graduates surveyed are those whose telephone numbers are the same as when they were in school.

^{17.} This discussion is based on David Stevens, "Using Wage Records Data to Construct Measures of Secondary Vocational Education Performance," OTA contractor report, Dec. 12, 1988.

^{18.} There are exclusions that do not severely hinder the usefulness of the data for secondary vocational education program assessment. See Stevens (ibid.) for a more detailed discussion of wage records coverage.

reporting. (Most States determine eligibility to receive unemployment compensation benefits based on covered earnings in the first four of the last five completed quarters.) While there is some justified concern with confidentiality issues, most knowledgeable observers conclude that appropriate uses of the data can be designed following strict guidelines to prevent disclosure of personal wage and employment information,

The principal advantages of the wage records data are:

- coverage is comprehensive enough for most tracking purposes;
- the data are available quickly enough for most types of evaluation;
- the data are more accurate than self-reported survey information;
- the data can be merged with other databases (such as military service records **or** education records), using social security numbers for student identification and then deleting individual identifiers for analysis purposes; and
- movement across State boundaries can be traced by establishing procedures for matching interstate records (several employment security agencies have already done this for their own administrative purposes. ¹⁹

Despite these improvements in the quality and cost of data collection, however, the usefulness of the wage records system is limited by problems that exist with any kind of

^{19.} See James Hanna, "The State Perspective on a National Wage Record Database," in Northeast-Midwest Institute, op. cit., footnote 15.

labor market data. A basic question is whether economic outcomes provide enough information to measure fully program performance. Many vocational educators are opposed to relying on these measures because of the difficulty in isolating the effects of participation in a vocational program from other factors that influence labor market performance. 20 For ewample if individuals who choose to enroll in vocational programs are more interested and/or more experienced in specific skills than those who do not enroll, then it is difficult to measure the added value of participation in the program. Similarly, use of labor market outcomes requires, in addition to substantial background information on program participants, detailed information about employer recruitment and compensation practices, which may not always reflect accurately on either individual abilities or program quality. In addition, there is concern that emphasis on placements will induce schools to concentrate resources on students who are most likely to be placed, at the expense of those who need the most instructional attention. (The problem of "creaming," i.e., program managers' incentives to train the most likely-to-succeed individuals, is discussed in box 2, page 36). Thus, while the wage records offer the potential to assess relatively long-run labor market effects of vocational programs, there will likely always be a credibility problem.

There remain also some technical problems that need to be resolved to allow effective use of the wage records data (see also box 3, page 42):

Administrative information about high school programs is not uniform. Individual institutions and school districts use unique classifications of vocational and academic courses, as well as different definitions of vocational students. While externally imposed

^{20.} A recent national poll found that **nearly** 70 percent of the 265 responding school districts were opposed to the use of job placement rates as a measure of student success. See National School Boards Association, Off ice of Federal Relations, "Survey on Vocational Education: Summary and Recommendations for Reauthorization of Carl D. Perkins Vocational Education Act," unpublished document, February 1989.

uniformity could solve the comparability problem, it might also drive out important differences in curriculum and placements that stem from local school authorities' knowledge of local conditions.

Although there are no legal barriers to the use of earnings data provided that individuals are not identifiable — the confidentiality question continues to pose problems. Some administrators, for example, who are uncertain about legal restrictions, take a cautious route and prefer not to make information available from earnings files. Relieving these uncertainties would bean important prerequisite toward wider utilization of the wage records data.

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The efficiency of the wage records approach is partly a function of the administrative costs associated with this kind of data management. Currently, the merging of data on students' exposure to vocational courses, their acquisition of various skills, and earnings and employment data requires coordination of at least two State agencies (Employment Security, which manages the wage records data, and Vocational Education, which collects school data). Box 2

JTPA Revisited Some Effects of Outcome Measures

The Job Training Partnership Act and its performance standards system have been operating for nearly 8 years and considered by many observers to be remarkably are successful. Labor Department officials note that almost 70 percent of trainees have found jobs.²¹ Other supporters, in both political parties, claim that JTPA is proving to be a cost-effective tool for training and job placement. But a group of critics, equally bipartisan, argue that while the program is a significant improvement over CETA, its emphasis on cost and placement has shortchanged the very poor and hard-to-employ.²² The performance standards create financial incentives for program managers to place applicants quickly in private sector jobs and at low cost. "[JTPA] pretty much serves the job-ready individual as opposed to the long-term unemployed, does not adequately reach the problem of youth unemployment and is severely limited in the number of people who are eligible to take advantage of training," said Rep. Augustus F. Hawkins, chairman of the House Committee on Education and Labor.²³

^{21.} Neal R. Peirce and Robert Guskind, "Job Training for the Hard-Core Unemployed Continues to Elude the Government, " National Review, vol. 17, Sept. 28, 1985, p. 2197.
22. Ibid.

^{23.} Ibid., p. 2198.

The issue of who is eligible for JTPA services brings up the problem known as creaming, which describes a situation where a service delivery area (SDA) might tend to enroll clients who are easiest to train and place because it can be done most cost-effectively. John E. Fisher, general chairman and chief executive officer of Nationwide Insurance Company and chairman of the Columbus-Franklin County (Ohio) private industry council (PIC), which provides basic skills and remedial programs for the least-qualified applicants, says "the performance guidelines are unintentionally pushing the program towards creaming, to be sure."²⁴ But others, such as Senator James M. Jeffords, (R-Vt), counter that with limited funds it is bound to happen. "Human nature tells you to serve those who come to you rather than people who have to be kicked in the rear."25 This sentiment is echoed in another PIC chairman's job training strategy: "Find real, live jobs that clients can fill without going back to school. If they're illiterate, there are plenty of funds available for remedial education. If they've dropped out of high school, they'd better go back." 26

In a recent report on the effects of JTPA performance standards on clients, services, and costs, the National Commission for Employment Policy (NCEP) found that in areas with low unemployment, most of the clients interested

^{24.} Ibid.

^{25.} Ibid., p. 2199.

^{26.} Craig Mellow, "Motown's Manpower Renewal, " Across the Board, vol. 24, June 1987, pp. 31, 34-39, p. 36.

in JTPA programs were those who had little work experience or had major barriers to employment, often requiring basic skills remediation. In contrast, in areas with high unemployment, those seeking JTPA services generally had more job skills and required help in retraining for new industries or occupations.²⁷

The NCEP report found that while performance standards can influence the type of clients enrolled in JTPA, the effects are not large. Even in States with policies that are found to discourage services to welfare recipients, SDAs are enrolling a considerable number. For example, on average, 29.5 percent of adult clients in JTPA programs are welfare recipients, approximately equal to their incidence in the eligible population, which is 30.6 percent. The results of the evaluation indicate that even in States with policies that discourage service to hard-to-serve clients, SDAs are serving these clients only slightly less than their incidence in the population. ²⁸

Many researchers agree that in a human resource development program where the mission is clearly defined, a well-targeted set of performance standards can have the desired effect of making the process as efficient as possible. While well-defined goals can make a performance management system more likely to succeed, there is also

^{27.} National Commission for Employment Policy, Evaluation of the Effects of JTPA Performance Standards on Clients, Services, and Costs, Research Report No. 88-16 (Washington, DC: September 1988), p. 119.
28. Ibid., p. 73.

evidence in JTPA of an emerging conflict between the goals of -enrolling the hard-to-serve and encouraging effective programs. ²⁹ "By definition SDAs take risks when they enroll hard-to-serve individuals, and if the performance standards system does not include adequate adjustments in the level of expected performance for serving these individuals, SDAs face a tradeoff between enrolling the hard-to-serve and achieving a high level of measured performance."³⁰

In an attempt to manage this tradeoff, there has been increasing interest in defining hard-to-serve status in terms of deficiencies and barriers, such as lack of basic skills and minimal work experience, and incorporating these factors into the adjustment models. From this, standards can be developed to encourage services to hard-to-serve individuals. The inclusion of a new youth standard in 1988, called "employability enhancement, " attempts to measure such things as work attitudes and job search skills. This expansion in performance standards recognizes that desired outcomes cannot always be measured simply by a placement rate.

The relative success of JTPA may lie in its clear and well-defined goals and objectives. JTPA's mission is to move individuals and families toward economic self-sufficiency. Unlike vocational education, which provides both technical and nontechnical training to "students" who plan to be both in

^{29.} Ibid. Barnow and Constantine, op. cit., footnote 12, p. 3.30. Ibid.

and out of the labor market, job training has restricted itself to more easily defined goals. When a consensus about program mission and goals exists, as in JTPA, appropriate measures of performance can be more easily designed.³¹

Differences in leverage and control through funding also set vocational education and JTPA apart. With nearly all JTPA's appropriations coming from the Federal Government, the use of incentives and sanctions based on the performance measures is a serious motivational tool. Secondary vocational education, on the other hand, has only a small percentage of its funding from outside State and local sources, substantially limiting the Federal Government's financial leverage.

There may be some important lessons for vocational education from the Federal, State, and local experiences with JTPA. In addition to the basic need to clarify program objectives, it is important to keep in mind that:

> performance standards appear to work well if local authorities are able to meet their other performance goals without major revisions;

31. Christopher T. King, Cross-Cutting Performance Management Issues in Human Resource Programs, Research Report No. 88-12 (Washington, DC: National Commission for Employment Policy, August 1988), p. iv.

- incentive policies -that- reward programs for going <u>beyond</u> defined outcome standards may lead to reduced service for some hardto-serve groups; and
- Federal standards based on minimizing program costs could have the worst impact on provision of services to hard-to-serve populations.³²

^{32.} See National Commission for Employment Policy, Evaluation of the Effects of JTPAPerformance Standards on Clients, Services, a n d Costs: Executive Summary (Washington, DC: September 1988), pp. 4-5.

Box 3

Merging Wage Records and Transcript Data: A Demonstration

In November 1988, OTA conducted a small study to demonstrate the potential of merging wage records data and vocational education student transcripts. ³³ OTA had access to all third quarter wage records for the years 1982 to 1987, from a single State Employment Security Agency. These data represent an example of what could be available at the national level if a national wage record archive or a distributed network of State Agency administrative records is established.

To complement the 6 years of wage data, OTA obtained social security numbers of 138 secondary vocational graduates from the class of 1984 of a local vocational high school. Assurances of strict confidentiality were required, including no use of names and the deletion of all social security numbers from the final analysis file.

The social security numbers were matched against each year's wage record file. The table below shows the "hit" rates that were achieved in matching the transcript data and the wage records, along with an earnings profile for the third quarter of each year.

^{33.} The study was conducted by David Stevens of the University of Missouri-Columbia, under contract with OTA. See David Stevens, "Using Wage Records Data to Construct Measures of Secondary Vocational Education Performance," OTA contractor report, Dec. 12, 1988.

		QUAR	QUARTERLY EARNINGS**			
Year	Percent of <u>"hits"</u>	Mean	<u>Minimum</u>	Maximum		
1982	12	\$718.32	\$40.20	\$1,512.95		
1983	63	965.92	14.88	3,991.58		
1984 Graduation	74	1,585.91	37.51	5,451.73		
1985	63	2,284.65	27.99	6,164.00		
1986	64	2,455.21	24.38	7,225.17		
1987	67	3,035.94	61.42	7,077.83		

*Employed anywhere in the State during the third quarter of the designated year.

**Total earnings reported by all covered employers for whom an individual worked during the relevant quarter.

This table demonstrates the with which ease longitudinal earnings data can be retrieved for those who complete secondary vocational education programs. Quarterly data can be summed to provide annual reported earnings figures. Any classification system of school courses or achievement indicators could be merged with the file, making it possible to evaluate vocational programs at the district, school, or even class level. External activities, such as military service, Federal Government employment, or enrollment in postsecondary education, could also be added.

Geographic information in the wage records file permits the location of the graduates' places of employment. Where major metropolitan areas cross State borders, hit rates relying on a single State's data will be reduced accordingly; interstate matching of wage records can resolve this problem. If a national wage records archive existed, it would be possible to match social security numbers against other States' records to detect reported employment in any other

State. Two other types of information, the propensity for employees to remain with a given employer and/or in a given industry, can be derived using any starting and ending dates.³⁴ These data we important if job retention is selected as an outcome measure.

OTA did encounter several problems stemming from the ad hoc nature of the study. For example, the initial request for program completer transcripts also included an academic high school in the area, but social security numbers had not been maintained on the permanent student records. This problem would not recur if maintenance of social security numbers or other identifiers was mandated. (Note that due to recent changes in the tax law almost all children are acquiring social security numbers.) Many schools already have automated record systems, and most can be expected to adopt them in the next few years. Errors in data transcription at the school will increasingly be eliminated by the electronic transfer of information. It was also not possible to identify simultaneous enrollment in postsecondary

(continued)

In other applications, Stevens has prepared matrices of 34. intercounty and interindustry movement that reveal patterns of "staying," "exit," and "entry" affecting the specific sectors that are of interest. Tracing these flows is important in attempting to understand the role of secondary vocational education in economic development dynamics: who stays and prosper leaves. and how does each who through employment? See Stevens, op. cit., footnote 17.

education and reported employment. This would require a separate matching of social security numbers against each higher education institution% records.

OTA also discovered confidentiality issues in this case study that could pose problems if the wage records system were implemented for performance measurement. For example, in 14 cases the data merge yielded only 1 graduate employed in a given county. This would reveal the identity of the individual to anyone who knew that a graduate of that class was working in that county. While that may seem to be innocuous information, the same observer might also crosshatch geographic industry-specific this data with Industryemployment data containing earnings figures. specific "stayer" rates, i.e., the percentage of workers who remain in a given industry over time, present a frustrating confidentiality problem as well. While it would be useful to know how a new enterprise is staffed or the destination of workers affected by a plant closing or layoff, this information could be considered private. These questions would need to be addressed without revealing individual or other employing There are ample precedents for devising unit identities. procedures to comply with existing privacy laws (e.g., the Bureau of Labor Statistics, Social Security the Administration, and the Internal Revenue Service).

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