DOCUMENT RESUME

ED 329 749 CE 057 305

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TITLE A Feasibility Study of the Use of Unemployment Insurance Wage-Record Data as an Evaluation Tool for JTPA. Report on Project's Phase I Activities. Research Report Number 90-02.
INSTITUTION Illinois State Dept. of Commerce and Community Affairs, Springfield.; Northern Illinois Univ., De Kalb. Center for Governmental Studies.
SPONS AGENCY National Commission for Employment Policy (DOL), Washington, D.C.
PUB DATE Jan 91
NOTE 136p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS Adult Education; Comparative Analysis; Cost Effectiveness; Database Design; Databases; Employment Programs; Feasibility Studies; Federal Programs; Followup Studies; High School Equivalency Programs; High School Graduates; *Information Utilization; *Job Training; Outcomes of Education; *Program Effectiveness; *Program Evaluation; Secondary Education; State Programs; *Unemployment Insurance; *Wages
IDENTIFIERS *Job Training Partnership Act 1982

ABSTRACT

A project studied use of state unemployment insurance (UI) wage-record data for Program Year 1986 to assess the effectiveness of Job Training Partnership Act (JTPA) programs. Eleven of 27 interested states were selected by ability to meet data requirements. These issues associated with the use of UI data as an assessment tool were explored: coverage, accuracy, timeliness, and confidentiality. Among the principal advantages of wage record data for program analyses identified were flexibility, capacity to provide longitudinal data, usefulness as a resource for net impact studies, and cost-effectiveness. A database containing longitudinal UI wage-record data and JTPA program data was developed. A comparison of wage-record data with post-program survey data found that on each of three criteria for judging data quality (lack of bias, precision, and consistency), wage record data were superior. An examination of pre- and post-program employment and earnings of JTPA participants indicated increased post-program earnings but declining post-program employment and a delay in increased employment for participants in remedial and basic education. Roles for wage record data were suggested in the context of the JTPA performance standard system: identification of groups of participants with limited employment experience and development of post-program performance measures. (Twenty-three references and 32 tables/figures are included. Appendixes contain data tables and lists of data file elements.) (YLB)

A Feasibility Study of the Use of Unemployment Insurance Wage-Record Data as an Evaluation Tool for JTPA

Report on Project's Phase I Activities

Research Report Number 90-02

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with

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National Commission for Employment Policy

January 1991

This project was conducted with funds provided under programs of the Job Training Partnership Act. The funds were provided by the National Commission for Employment Policy to the Illinois Department of Commerce and Community Affairs. The positions reported in this paper do not necessarily represent in whole or in part the viewpoint of the National Commission for Employment Policy or the Illinois Department of Commerce and Community Affairs.

Acknowledgements

A study as large and potentially significant as this one is always the result of the efforts of many people. A list of the participants from each of the 11 states is provided on a separate page. We extend our thanks to all of them for their efforts and encouragement. In turn, we urge them to continue to use their capacity to match JTPA and UI data in managing and evaluating their JTPA programs.

Singling out individuals for special recognition is risky for fear of overlooking one or more who were especially helpful in the project. Three people, however, have given tirelessly of their assistance to us in the first phase of this project. Ray Worden has been a most insightful, positively demanding, and encouraging project manager. With determination and good humor, he has provided invaluable guidance in the design and direction of this feasibility study.

We would also like to thank David Stevens and Tim Harmon for being on call when we needed them and for so willingly critiquing our thoughts, analyses, and writing. Their assistance has been timely and insightful.

Many people reviewed drafts of this report and served to provide us with instructive comments, questions, and guidance. Especially helpful were the comments and queries from Karen Greene and her staff in the Office of Strategic Planning and Policy Development, Employment and Training Administration, U.S. Department of Labor. In addition, we want to thank Vince Geraci of the National Commission for Employment Policy for his critical and positive insights.

Ultimate responsibility for the content of this report is ours. We hope our mistakes are few and minor, and that the importance of this endeavor and our findings will have the significant impact we think they deserve.

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Preface

In May of 1988 the National Commission for Employment Policy launched a multi-state project to study the feasibility of using unemployment insurance (UI) wage records for the evaluation of programs funded under the Job Training Partnership Act (JTPA). Such evaluations would address the legislative provision that job training is an investment in human capital and that the return on this investment shall be measured in terms of increases in the participants' employment and earnings and reductions in welfare dependency. This report covers the first phase of the project.

This phase included 11 states and data for Program Year 1986 (July 1, 1986 to June 30, 1987). The study demonstrates the technical feasibility of linking UI wage records to JTPA administrative records, and it explores the utility of UI data in the evaluation of pre-post earnings for JTPA terminees. Subsequent phases will increase the number of states and add data from Program Years 1987 and 1988. Analyses based on these expanded data sets will serve to clarify and extend the findings of the present study.

The Commission wishes to recognize the many individuals who have made this project a success. First, from the panel of technical experts, we wish to recognize the key role played by Dr. Burt Barnow of Lewin/ICF, Inc. whose advice was invaluable in shaping the major thrust of the study. The following other panel members also helped in developing the research design: Dr. Terry Johnson, Battelle, Inc.; Dr. Dan Friedlander, MDRC; Dr. Kalman Rupp, formerly of Westat, Inc.; Dr. David Stevens, University of Maryland at Baltimore County; and Dr. Larry Orr, Abt Associates.

From the 11 participating states there were many individuals who played important roles, most notably Mr. Tim Harmon. On behalf of the State of Illinois which served as the project clearinghouse, he provided critical leadership in organizing and sparking the data collection effort. Others who deserve special recognition appear in the List of Participating States and Representatives below.

The Commission also wishes to thank the U.S. Department of Labor staff who provided helpful advice, especially Ms. Cindy Ambler of the Office of Unemployment Insurance and Ms. Karen Greene of the Office of Strategic Planning and Policy Development.

Above all, the Commission would like to recognize the enormous contributions of Mr. Ray Worden, formerly on the Commission staff and now Executive Director of the New Hampshire Job Training Council, who coordinated the entire effort.

The National Commission for Employment Policy is pleased to have sponsored this informative and stimulating report. On behalf of the Commission, I express our appreciation to the authors.

JOHN C. GARTLAND
Chairman

List of Participating States and Representatives

Florida	*Kathy Greer*
Idaho	*Jeff Klein* *Judy Welker*
Illinois	*Tim Harmon*
Indiana	*Patrik Madaras*
Missouri	*Sandy Owens* *Dennis Reed*
Nevada	*Jim Hanna*
Oregon	*Tom Lynch* *Ron Stewart*
South Carolina	*Mike Dall*
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Virginia	*Frank Sansone*
Washington	*Kent Meneghin*

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EXECUTIVE SUMMARY

In March 1988, the National Commission for Employment Policy invited all states to participate in a project designed to explore the issues involved in using state unemployment insurance (UI) wage-record data to assess the effectiveness of JTPA programs. The Commission was interested in examining these issues across states to evaluate the feasibility of using UI data as a national evaluation tool. Twenty-seven states expressed interest in this request; eleven states were selected on the basis of their ability to meet the project's data requirements: Florida, Idaho, Illinois, Indiana, Missouri, Nevada, Oregon, South Carolina, Utah, Virginia, and Washington. The state of Illinois was also selected as the clearinghouse for the project. Under its auspices, the Center for Governmental Studies at Northern Illinois University served to compile and analyze the multi-state database.

In conjunction with this feasibility assessment, the Commission outlined four major analytical goals for the project:

- To study both pre-JTPA and post-JTPA earnings patterns of individuals who terminated from JTPA during Program Year 1986 (PY86--July 1, 1986 to June 30, 1987).
- To explore the differences in earnings by subgroups of participants.
- To compare earnings patterns by type of service(s) provided.
- To learn how the results of the 13-week participant follow-up begun in PY86 compare to the post-UI data.

This report presents the results of the first phase of the feasibility assessment and summarizes the findings of the research performed to date to achieve the analytical goals.

Subsequent phases of this project will increase the number of states and add data on terminees from Program Years 1987 and 1988. Analyses of these expanded data sets should serve to clarify and extend the findings summarized below.

Major Findings

THE UNEMPLOYMENT INSURANCE WAGE-RECORD DATA COLLECTION SYSTEM

The Deficit Reduction Act of 1984 increased the level of uniformity among state systems for collecting UI data. Before the legislation, some states had adopted a wage request approach to operate their UI systems. This approach required employers to submit wage information only when it was necessary to process an unemployment insurance claim. The Deficit Reduction Act eliminated the wage request option. As of September 30, 1988, the vast majority of employers in all states were required to submit quarterly information on earnings.

Technical discussions of the potential use of UI wage records for longitudinal analysis

typically center on four topics: coverage, accuracy, timeliness, and confidentiality. An analysis of these issues indicated the following:

- Virtually all jobs that most observers would consider appropriate targets for JTPA terminee placement are covered by the UI reporting system.
- Nearly all of these jobs offer money wages, commissions, and bonus forms of compensation, which are subject to accurate reporting practices.
- The incidence of late reporting by employers is low and expected to improve as more businesses adopt electronic reporting procedures.
- State laws and administrative regulations need not act as a barrier to the responsible use of the wage-record data in full compliance with the spirit and case law of state privacy requirements.

THE UNEMPLOYMENT INSURANCE WAGE-RECORD SYSTEM AS AN ASSESSMENT TOOL

Because each UI quarterly wage record contains information from each employer about each employee, the information can be analyzed in a variety of ways. When JTPA records are merged with UI wage records, post-program earnings histories can be examined by participant characteristics (age, sex, etc.), types of program interventions (basic educational training, on-the-job training, etc.), service provider, geography (county of residence, SDA, state), industry of pre-program employment, industry of post-program employment, or any combination of the above.

UI wage records also permit the tracking of post-program experiences well beyond the current 13-week post-program period. By continually appending additional quarters of wage information to client records, one can follow the progress of JTPA terminees for several years if desired. In addition, the use of the UI wage records could substantially expand the pre-program information base on JTPA clients without imposing the burden of collecting additional data on local program operators.

The UI system is an excellent resource for studies concerned with assessing the net impact of JTPA and other employment and training programs. Since UI data can be obtained both for program participants and members of a comparison or control group, the employment and earnings outcomes of the two groups can be defined and measured consistently. Finally, UI wage-record data are an extremely cost-effective alternative to other sources of post-program information.

This review of features of the UI wage-record system as an assessment tool revealed the following:

- The use of UI wage-record data would enable detailed analyses of the long-term employment and earnings patterns of JTPA terminees.
- UI wage-record data offer great promise as a resource for studies designed to measure the net impact of employment and training programs.
- UI wage-record data are a cost-effective means for obtaining pre- and post-program employment and earnings information on JTPA participants.

THE DEVELOPMENT OF THE 11-STATE DATABASE

One of the major activities of the first phase of this project involved the construction of a database containing longitudinal UI wage-record data and JTPA program data from the 11 participating states. The effort required each state to negotiate agreements for the exchange of data within the state and with the Commission. Each state also had to match the JTPA and UI files and produce a set of standard tables. The clearinghouse was required to establish data transfer conventions for all states to follow, compile state files, check them against the standard tables the states produced, and merge the state files to produce a unified database. While there were some technical issues, most of the problems were encountered in processing the JTPA files rather than the UI files. However, these problems were minor and, once identified, were quickly corrected.

The project paid particular attention to the activity or intervention records maintained in the state JTPA management information systems. Activity data were particularly prone to coding errors, and some service delivery areas (SDAs) may under-report this information.

The experience of constructing the 11-state database of matched UI wage records and JTPA terminee and program intervention records is summarized as follows:

- The technical problems of matching records from the two data systems are relatively minor and easily overcome.
- If a state resolves to use the UI wage-record information as an assessment tool, necessary agreements and procedures for exchanging data can be established and executed.
- There are a number of specific issues regarding the accuracy and reliability of program activity data.

COMPARISON BETWEEN UI WAGE-RECORD DATA AND THE POST-PROGRAM DATA OBTAINED FROM SURVEYING JTPA PARTICIPANTS

The database constructed in the first phase of this project provided an opportunity to examine some of the issues surrounding the quality of the post-program survey data. The study revealed that certain subgroups of the JTPA population had lower response rates even after the effects of employment status at termination were controlled. In particular, males, minorities, high school dropouts, and welfare recipients had significantly lower response rates to the survey. This evidence suggests that the levels of service an SDA provides to these groups probably influences the response rates it achieves on the post-program survey.

The project's database also provided the first large-scale opportunity to examine the issue of nonresponse bias and its impact on the estimates of program performance. The study found that the post-program employment experiences of survey respondents and nonrespondents were distinctly different. In particular, respondents had higher post-program employment rates than nonrespondents, suggesting that the survey estimates of post-program employment are upwardly biased. Further analysis revealed the source of this bias and that the current nonresponse adjustment procedures were ineffective in combatting this problem.

Overall, there was a fairly high degree of correspondence between the employment information obtained from respondents to the survey and their UI records. Efforts were made to identify the roots of the discrepancies between the two data sources. Although data limitations inhibited this analysis, the evidence suggests that two explanations are likely to account for the majority of these mismatches, namely, out-of-state employment and noncovered employment, e.g., self-employment. In both cases, the problems associated with these coverage issues can be addressed through several remedial measures.

The relative costs of the two data collection options were examined. The study roughly estimated that if each state in the nation implemented a UI-based data collection system, the total start-up cost would be less than one-half of the current cost of collecting post-program survey data. Furthermore, the ongoing costs would be less than one-fifth of the cost of participant contact. This could result in a saving of over two million dollars each program year. Given the greater volume of information that can be accessed from state UI systems, these preliminary estimates understate the cost effectiveness of the UI-based approach.

The major findings of this comparison between the two data sources are as follows:

- There is evidence of nonresponse bias in the 13-week post-program survey data that inflates the estimates of post-program performance.
- Although there are coverage issues surrounding the use of UI wage-record data, they are unlikely to pose insurmountable barriers to the confident use of this data for performance assessment.
- The cost of using UI wage-record data can be expected to be much lower than current survey costs and may actually decline.

SUBGROUP AND ACTIVITY ANALYSES USING UI WAGE-RECORD DATA

The project performed several analyses to demonstrate the different ways UI wage-record data can be used to examine the employment and earnings experiences of JTPA participants. The first set of analyses explored the pre- and post-program employment and earnings trends of various demographic subgroups in the JTPA population. The second set of analyses considered the experiences of participants grouped on the basis of the type of interventions they received during their tenure in the JTPA program. The study examined both the distribution of participants across various sequences of program activities and the termination outcomes for those sequences. It also examined the pre- and post-program employment and earnings of participants who received the most common JTPA services.

Although the analyses should be viewed as exploratory, the findings provide some insights into the JTPA program. The major findings to date include the following:

- Although the earnings of JTPA participants show a sharp decline prior to enrollment, employment levels remain fairly constant.
- The average post-program earnings of terminees increase during the post-program period, but employment levels decline.

- Terminees with lower pre-program earnings and employment experiences tend to receive more intensive JTPA services.

- The differentials found in the post-program earnings of participants receiving different types of intervention tend to correspond to the differences found in their pre-program earnings.

- There is some evidence that remedial and basic education lead to increases in employment for participants which show up after a delay of a few quarters upon termination from this activity.

THE ROLE OF UI WAGE-RECORD DATA IN THE CONTEXT OF THE PERFORMANCE STANDARDS SYSTEM

Wage-record data can play two important roles in the context of the JTPA performance standards system. The first role is to define groups of participants with limited employment experience. Once these groups are identified, efforts can be made to provide performance standards adjustments to SDAs based on their levels of service to these groups. The evidence indicates that such groups can be defined and that performance standards adjustments are warranted.

Wage-record data can also be used to develop a variety of post-program performance measures. This report examines and discusses a number of candidate post-program measures. Of special note is that UI wage-record data can be used to capture the level of post-program employment retention among JTPA participants.

The major findings to date concerning the possible role of UI wage-record data in the performance standards system can be summarized as follows:

- The preliminary evidence indicates that pre-program UI information can effectively be used to isolate hard-to-serve client groups and provide performance standards adjustments to SDAs for serving these populations.

- The time lag involved with gaining access to UI wage-record data is not viewed as a major barrier to the use of this information in the performance standards system.

- UI information can be used to design a variety of post-program performance measures which more adequately reflect the goals of the Job Training Partnership Act than the current survey-based measures, e.g., long-term earnings and employment retention.

IMPLICATIONS FOR THE JTPA SYSTEM

The findings from the first phase of this project indicate that JTPA and any other program whose goal is to increase the employment and earnings of participants can use UI wage-record data with confidence. Obtaining post-program information from state UI systems is not only a viable option, it is far more cost-effective than the current practice of gathering this information through contact with participants. Furthermore, UI data are of higher quality than corresponding survey-based information. In short, UI wage-record data can be used to develop an extremely flexible, longitudinal database representing virtually all JTPA participants,

which will greatly enhance the ability of the Congress to evaluate the performance of the JTPA program.

These findings suggest that further steps should be taken to facilitate the movement of JTPA towards a post-program assessment system based on UI data. This change would affect all levels of the program--federal, state, and local. As a result, it is necessary to examine the implications at each of these levels.

FEDERAL LEVEL

One of the major implications of moving to a post-program assessment system based on UI data is the need to create new performance measures. The fact that UI information can be used to track individuals for multiple quarters after program participation offers a great deal of flexibility in designing these measures. This report illustrates the potential for using UI data to develop long-term post-program measures that can tap different dimensions of the employment and earnings experiences of JTPA participants.

A second implication of moving to an assessment system based on UI data is the need to develop a transitional strategy to allow states enough time to adjust to the new measures. One option is to adopt the strategy used to introduce the post-program performance measures based on survey data. That strategy allowed each state to select from a menu of alternative performance standards. This menu approach proved to be very effective then, and there is no reason to believe that it would be less effective now.

A final implication concerns the problem of the time lag involved in gaining access to UI information. DOL confronted this issue before in the movement from termination-based performance measures to the current post-program measures. The solution was to begin the performance measurement period in the last quarter of the program year under evaluation. The same approach can be used to accommodate the slightly greater time lag imposed by using UI wage-record information.

STATE LEVEL

The first and most obvious implication of moving to a UI-based assessment system for a state is that the agency administering JTPA will need to obtain UI wage-record data. Many state JTPA agencies, including those participating in this project, have already developed procedures to gain access to this information. However, a number of other states will need to forge data exchange agreements to obtain the UI data. A state's ability to accomplish this task is likely to depend on the current level of integration and coordination between its JTPA and UI systems. In those states where the level of contact has been minimal, the process of developing these agreements may foster closer working ties between the two systems.

A state will also need to decide how to address the issue of out-of-state employment. There are a number of alternatives. A state may decide to rely on a statistical adjustment procedure. Alternatively, it may conduct a supplemental post-program survey for those terminees who were placed in out-of-state employment. A state may also decide to develop data-sharing agreements with neighboring states. Interest in developing a national archive for UI data is increasing. If such an archive is developed, the coverage issue surrounding out-of-state employment will become moot.

Once access to UI data is obtained, states will confront the technical problem of merging UI information with their current JTPA management information systems (MIS). States will also need to decide how long they wish to track the progress of JTPA terminees given the limits of their MIS to store information.

SDA LEVEL

For many SDAs, DOL's change in PY90 to a system that bases adult and welfare performance standards solely on post-program survey data has created a difficult management environment. In the past, SDAs have used the performance measures to monitor the performance of their service providers. However, this management tool loses its effectiveness when performance measures are limited to post-program survey data. In the majority of states, post-program data are collected from only a sample of the SDA's former participants. Consequently, only a very small number of terminees served by a given subcontractor are likely to be selected for post-program follow-up. The number of clients sampled from each subcontractor is unlikely to be large enough to permit confident evaluations of subcontractor performance. This problem is especially acute in large urban SDAs that have an extensive network of providers to monitor.

The movement to an assessment system based on UI data would return this management tool to SDAs. Through the UI system, post-program information can be obtained for virtually all of an SDA's terminees. An SDA would be able to use this information to assess the performance of subcontractors on the same measures the state uses to assess the SDA's performance. The results of these assessments could then be used as a basis for future contract negotiations.

FINAL IMPLICATIONS

The use of UI wage-record data as an evaluation tool has implications beyond the JTPA program. Increasingly, Congress has turned to the use of performance measures to insure greater accountability in federally funded programs and to monitor their performance. Recent national welfare and vocational education legislation are just two examples of this trend. In addition, the effort to improve the current levels of coordination and cooperation among these programs is likely to produce higher levels of co-enrollment in the future. These two factors, performance measures and co-enrollment, argue for a common framework to measure labor force outcomes of employment and training programs. Methods of collecting data based on surveys are ill-suited to establishing such a framework. They require extraordinary efforts to impose some consistency among the various survey efforts and to avoid duplication of effort. Furthermore, each program may wish to examine the progress of former clients using different post-program time frames. This would diminish the effectiveness of any coordination effort, and many clients who are co-enrolled will likely face the prospect of being the subject of multiple surveys.

On the other hand, a coordinated UI data collection effort providing consistent and reliable data for all programs is a distinct possibility. Such an effort will allow each program to choose its own post-program measurement period and still benefit from a cost-sharing approach. As federal funds become increasingly scarce, greater efforts should be made to promote the use of the inexpensive and high-quality information waiting to be accessed on state UI data systems.

Chapter 1

Introduction

Background

This study is the product of a long and abiding interest within the employment and training community concerning the possibility of using wage-record data from the Unemployment Insurance System (UI) as a national evaluation tool. In the past, the prospects of using this data source for national studies were limited because the states had different UI reporting requirements. However, recent legislation mandating all states to collect quarterly wage-record information as of October 1988 has essentially eliminated this barrier and has renewed interest in using UI data for program evaluation. The possibility of conducting cost-effective program evaluations with information gathered by state UI systems has also gained the attention of Congress. In recent sessions, members of Congress have shown an increasing willingness to require or allow the use of this information for a variety of purposes. For example, pending legislation to amend the Job Training Partnership Act and to reauthorize the Francis Perkins Act contains provisions that permit the use of UI records to track participants and evaluate program effects.

In response to these recent developments, the National Commission for Employment Policy announced a project in late March of 1988 to study the utility of UI data for assessing the effectiveness of JTPA programs. The primary goal of this project was to examine the issues involved in using this data source for the purpose of long-term, post-program evaluation.

The Commission proposed four major uses for UI wage record files:

- To study both pre-JTPA and post-JTPA earnings patterns of individuals who terminated from JTPA during Program Year 1986.[1]
- To explore the differences in earnings by subgroups of participants.
- To compare earnings patterns by type of service(s) provided.
- To compare the results of the follow-up study obtained with UI data to results of the 13-week participant follow-up begun in 1986.

The Commission encouraged all states to submit requests to participate in the study, and 27 states responded. Applicants were primarily screened according to their ability to meet the project's data requirements. States had to have JTPA records on individual terminees from PY86, including records of services received, and UI wage-record data for each of these terminees dating from at least July 1985. Eleven states were selected: Florida, Idaho, Illinois, Indiana, Missouri, Nevada, Oregon, South Carolina, Utah, Virginia, and Washington. The state of Illinois was also selected as the

clearinghouse for the project and through the Center for Governmental Studies at Northern Illinois University served to compile and analyze the multistate database.[2]

The Commission convened a panel of technical experts drawn primarily from leading private-sector research and consulting firms with extensive experience in the quantitative analysis of employment and training programs. The panel was asked to review the objectives of the study and guide its design and implementation. The panel voiced two general concerns. First, there was the concern that the pre- and post-earnings changes examined in this study would be misinterpreted as evidence of the net impact of the JTPA program. None of the analyses presented in this report constitute a study of net impacts, which is a more complicated form of analysis designed to determine the contribution of program participation to the observed gross effects. A secondary concern of the panel focused on whether the various state MIS systems for JTPA management were sufficiently consistent and reliable to study the effects of sequential or concurrent program activities.

The panel concluded that the merits of the proposed study significantly outweighed its concerns, noting in particular three features of a JTPA-UI matched file system:

- Such a matched file may provide the only realistic vehicle to address the mandate of Section 106 of the Job Training Partnership Act, namely to measure the increased earnings of participants. Even more to the point, the matched file approach may be the only cost-effective way to satisfy the mandate.

- The matched file approach would provide extremely useful comparisons with the required 13-week follow-up telephone survey data.

- The successful ability to match JTPA MIS records with UI wage records should encourage states to develop a long-term evaluation system.

This report, prepared by the clearinghouse, describes the activities, problems, findings, and prospects gleaned from the first phase of this study to assess the feasibility of using wage-record files from the Unemployment Insurance system to assess the effects of the programs of the Job Training Partnership Act.

Organization of the Report

This study involved three major activities. The first concerned constructing the matched files in each of the 11 states and merging them into one file. The report will discuss the problems associated with developing these files. The second activity centered on comparing post-program records based on UI data to the information from the follow-up telephone interviews of a sample of terminees. We will discuss the results of the comparisons for the eleven states and compare the costs of these two information sources. The third activity concerned actually using the matched files to assess program features or results. We will describe applications that illustrate the utility of the matched file approach for cost-effective program evaluation.

Chapter 2 of the report gives the background of the UI system and discusses the general issues associated with the use of UI data as an assessment tool. Specific strengths of the UI data system are highlighted in Chapter 3.

Chapter 4 focuses on the development of the database of matched JTPA and UI records from the 11 states. We identify specific data elements included in all of the matched files and discuss the problems associated with developing the database.

Chapters 5-7 report on applications of the matched state files. In Chapter 5, we compare post-program data based on UI wage records to data from the 13-week follow-up survey. In Chapter 6, we examine pre- and post-earnings patterns of client subgroups defined on the basis of the program services they received. Chapter 7 considers the role of the wage record data in the context of the JTPA performance standards system. The report concludes with a summary of findings and their implications for the JTPA system.

Chapter Endnotes

1. Program Year 1986 extended from July 1, 1986, to June 30, 1987.

2. At this writing, the project is in its second phase involving PY87 data and four additional states. The latter are Georgia, Kentucky, Maryland, and Texas. A third phase will add PY88 data and more states. Illinois remains as the project's clearinghouse, a role which continues to be executed through the Center for Governmental Studies at Northern Illinois University.

Chapter 2

An Overview of Issues Concerning the Use of UI Wage-Record Data

For over 50 years, unemployment compensation has provided America's workers with financial assistance during temporary periods of involuntary job loss. The business community, whose tax contributions help support the unemployment insurance system, has also benefited from this program. Research indicates that the UI system reduces recessionary pressures in times of local and national economic downturns. The bulk of unemployment benefits immediately returns to the local economy through purchases of retail goods, services, and nondeferrable expenses.

This chapter gives a brief background of the UI system and describes its current status. We examine recent federal legislation that has laid the groundwork for the increased use of UI data in the management and evaluation of federally funded programs. In addition, we explore the issues of coverage, accuracy, timeliness, and confidentially to determine whether they represent serious barriers to the use of UI information as an assessment tool.

Background of the UI System

A national UI system in the United States can be traced to the Federal Unemployment Tax Act (FUTA) of 1937 (U.S. Congress, January 25, 1990, p.3; U.S. Department of Labor, January 3, 1988). This act established a federal tax on employers of 3% of a specified wage base. A 2.7% credit against this 3% gross rate was offered to each state that complied with federal standards for the administration of a state unemployment compensation program. Within a few years, all of the states had established eligibility for this 2.7% credit. The federal standards consisted of the following requirements:

- Covered employers had to report total covered earnings each quarter so that the applicable tax could be computed and assessed.
- Covered employers had to be able to document each employee's earnings, so that eligibility to receive unemployment insurance benefits could be determined if it became necessary to do so.

All covered employers in each of the states were required to comply with the first standard by reporting to the state employment security agency within a specified period of time.

The states adopted one of two procedures to comply with the second federal standard. Many states required covered employers to report the earnings of individual employees each quarter. This practice became known as wage-reporting. The remaining states adopted a second approach, called

wage-request. This approach allowed employers to defer reporting individual earnings until the information was requested to process an unemployment insurance claim. The Deficit Reduction Act of 1984 diminished the attractiveness of wage-request option by requiring all states to collect information on individual earnings each quarter. All but three of the states have adopted the wage-reporting procedure. Massachusetts and New York comply with this mandate through a state authority other than the state employment security agency. Michigan collects the information through its employment security agency but still maintains the wage-request procedure for administrative purposes.

Congress has been increasingly willing to require the use of state wage-record data for a variety of purposes. This tendency concerns the administrators of state unemployment insurance programs, who are responsible for protecting the anonymity of employees and employers. Some administrators are concerned that secondary uses of the information will interfere with the primary purpose for collecting the data--administration of the state unemployment compensation program. They are also concerned that the state employment security agencies may ultimately bear the costs of providing the information to external parties without reimbursement, a serious problem in view of shrinking budgets. They also point out that a clear understanding of the nuances of the data is essential to reliable applications. In 1988, the Employment and Training Administration of the U.S. Department of Labor created a task force to explore the issues involved in the use of UI wage records by external parties and the implications of that use for the UI program.

The federal statutory language that is most directly relevant to this report appears in Section 106(b)(3)(C) of the Job Training Partnership Act, which states that performance standards will include provisions governing "cost effective methods for obtaining such [performance standards] data as is necessary to carry out this section, which, notwithstanding any other provision of law, may include access to earnings records . . . , state employment security records, Federal Insurance Contributions Act records, State Aid to Families with Dependent Children records, statistical sampling techniques and similar records or measures" (emphasis added). At least with respect to the eleven states that participated in the first phase of this project, an important feature of the project is to demonstrate that state laws and administrative regulations need not act as a barrier to responsible use of the wage-record data in full compliance with both the spirit and the case law of state privacy requirements.

Coverage provisions, both with respect to employer liability to pay taxes and employee rights to accrue eligibility, are state prerogatives. However, federal requirements associated with approval of the current 5.4% credit against the 6.2% gross tax rate have created a substantial amount of de facto uniformity among the states (U.S. Congress, January 25, 1990; U.S. Department of Labor, January 3, 1988; U.S. Congress, February 22, 1990).

Up to 1956, the federal requirement applied only to employers of eight or more workers for one or more days in at least 20 weeks during a calendar year. The minimum number of paid employees was reduced to four in 1956, and then to one in 1972. Coverage now includes cases in which at least $1,500 in wages has been paid in any quarter during the current or preceding

calendar year, excluding certain agricultural and domestic service cases (see Appendix A for state-by-state coverage provisions).

The practical importance of these coverage definitions is that one employee earning $116 a week for 13 consecutive weeks makes an employer liable for payment of the tax. Almost all jobs that might provide employment opportunities for JTPA participants are likely to satisfy this minimum criterion for coverage. However, there are exceptions. Federal provision with respect to agricultural employment is a quarterly payroll of $20,000 or 10 or more paid employees in each of 20 weeks during the current or preceding calendar year. Railroad employees are covered under separate legislation. Independent contractors whose service is performed outside the employer's place of business and who are free from control over performance are not covered in most cases. This group includes many real estate sales representatives and some other commissioned personnel. Self-employed individuals are not liable. Military personnel and federal government employees are not covered. Some part-time volunteers for nonprofit organizations, some employees of religious orders, and some students employed by their schools are not covered. Despite these exemptions, it is estimated that over 90% of workers in the U.S. economy are in jobs covered by the UI system.

Many different exemptions from coverage and tax liability have been granted in the 53 political jurisdictions. Some observers therefore argue that lack of uniform coverage makes wage records unreliable for nationwide longitudinal tracking.

Recent federal initiatives promise to improve the quality of the wage-record data for JTPA tracking purposes. The Bureau of Labor Statistics of the U.S. Department of Labor is creating a business establishment list, which will identify employment by site. Currently, employers who operate more than one facility in a state often have the option of reporting employment for each unit separately or for all of them combined. This has made it difficult to trace employment dynamics by size of firm or substate area. The Bureau of Labor Statistics is working with the state employment security agencies to convert to universal establishment reporting within the next few years. Current plans will require employers to distribute the total number of employees among production sites, but not to identify individual employees by location of employment.

The Unemployment Insurance Service has begun a quality control program to correct weaknesses in the tax collection process. The rapid growth of small businesses, particularly in the services sector, has created concern about possible noncompliance problems (Burgess, February 21, 1990; Burgess, February 22, 1990).

Congress has enacted several requirements for the use of wage records. During recent sessions, for example, Congress has directed that UI wage records be used to verify income and to locate parents responsible for child support. These mandates have required the Unemployment Insurance Service and the state employment security agencies to reexamine their policies and procedures for responding to such requirements.

General Issues Concerning the Use of UI Wage-Record Data

Four topics arise in most discussions about the potential use of UI wage-record information for longitudinal tracking purposes: coverage, accuracy, timeliness, and confidentiality. We examine each of these topics and assess whether the issues they raise pose a serious barrier to using UI data as an evaluation tool.

COVERAGE

Five types of employers are subject to coverage: (1) for-profit businesses, (2) nonprofit organizations, (3) nonfederal government entities, (4) employers of household employees, and (5) agricultural enterprises. The conditions under which employers are liable depend on the type of employer they are. For-profit, private-sector businesses become liable based on four criteria: (1) paying a specified total payroll during a designated time period; (2) having one or more paid employees during a specified number of weeks in a defined time period; (3) acquiring and continuing another party's business; or (4) being liable under the FUTA and employing one or more paid workers in a state.

Nonfederal government entities are liable regardless of their payroll or the number of weeks their employee worked. Only very small nonprofit agencies are exempt from tax liability. Agricultural employers are liable if they employ 10 or more workers in 20 different weeks during a year or if they pay $20,000 in cash wages during any calendar quarter. Both conditions apply to cumulative employment in all states. Employers of paid household help are liable if they pay at least $1,000 in cash wages during any quarter. The specific payroll and employment thresholds are not uniform among the states, but the FUTA standards must be met to remain eligible for the federal tax credit.

Each state maintains a record of covered employment in that state only. All of the states use social security numbers to identify individuals. It is therefore possible, in principle, to determine whether a particular person appears in any state's administrative records. There are many precedents for realizing this potential, including the exchange of wage-record information between Illinois and Missouri during this project.

Federal civilian and military employees, U.S. postal service workers, railroad employees, and most independent contractors and employees of religious organizations are not covered. However, the Education and Training Placement Information Program in Florida has established pioneering relationships with the federal Office of Personnel Management, postal service administrators, and the Department of Defense to secure employment and earnings information on these sectors, too. Florida's success can be expected to result in other requests to these agencies. A high priority should therefore be given to establishing uniform policies for responding to such requests. In the absence of such policies, it is inevitable that the cost and logistical disruption of multiple requests for data will result in a blanket refusal to cooperate. The design of these policies must include reliable estimates of the cost of specified types of cooperation. Self-employed individuals are not covered. Individuals in this category represent an important challenge in creating comprehensive longitudinal files.

Reportable compensation can include regular cash payments, bonuses, commissions, tips, vacation pay, severance allowances, and the cash value of other compensation (e.g., food and shelter). There is no ceiling on the amount that must be reported, unlike the Social Security reporting requirement.

State exemptions from tax liability result from successful lobbying in individual state legislatures, and many different exemptions have been granted in the 53 political jurisdictions. Some observers therefore argue that lack of uniform coverage makes wage records unreliable for longitudinal tracking. In very few circumstances, however, is this viewpoint compelling, and in such cases complementary data collection procedures can easily be adopted. Despite these exemptions, it is estimated that over 90 percent of workers in the U.S. economy are in jobs covered by the UI system.

The practical importance of these coverage definitions is that having one employee earning $116 a week for 13 consecutive weeks makes most employers liable for payment of the tax. Almost all jobs that might provide employment opportunities for JTPA participants are likely to satisfy this minimum criterion for coverage.

ACCURACY

Four areas raise concern about accuracy: (1) the identification of employers for the purpose of assessing job retention; (2) employers' reports of a covered employee's presence; (3) employers' reports of the money earnings paid to an employee; and (4) employers' reports of nonwage compensation. The contribution and wage report, which every covered employer submits in paper or electronic form each quarter, is the source for each of the four data items.

The employee's social security number is the only way to link reported earnings to a specific individual. Reporting errors sever the connection between earnings and the person to whom they should be credited (U.S. Department of Health and Human Services, January, 1990). Algorithms have been developed to detect invalid number sequences and to reveal transposed digits in sequential quarterly wage reports. Employees who attempt to avoid taxes by using multiple or false social security numbers create a different type of problem.

The employer identification number typically contains 14 digits, although each state sets its own reporting standard. For illustrative purposes here, a number may contain six digits that represent a unique employer account code. The seventh digit may be changed when ownership is transferred to another party so this becomes a flag to look for such changes. The next three digits might give the federal information processing system (FIPS) code that identifies the location of the reporting unit, with exceptions that are described in the next paragraph. The final four digits may represent the standard industrial classification (SIC) code for this business.

Employers conducting business in more than one location in a single state may request a unique account code for each establishment, but they are not required to do so. When they do not make this request, the FIPS code is an inaccurate identifier of the actual work site. The reporting practices affect different numbers of covered workers in a particular state because of the unique size and ownership characteristics in each. The business establishment list of the Bureau of Labor Statistics can be expected to create more uniformity in reporting practices among the states, but it will still not be possible to link individuals to their work sites. The specific features of

multiestablishment reporting practices across the states should be documented.

A four-digit SIC code is assigned to each reporting unit when a business first establishes tax liability, and the code is subject to review every three years thereafter. The accuracy of this code depends upon the information that the business initially gives to the state employment security agency, the interpretation of the information by the agency employee who assigns the code, and the repetition of these two activities during each review cycle. Individual states have attempted to assign different SIC codes to major subsidiaries of some major reporting units, but no uniform practice of this type exists.

The six-digit employer identification number is specific to each state. Use of an employer's federal identification number would facilitate interstate tracking of covered earners. A reporting unit may be identified with a location other than the actual worksite. A federal common paymaster plan is used in unusual circumstances such as longshore assignments, some construction work, and the growing temporary help sector. States also permit joint employer accounts to be established in order to determine taxes. Each of these practices increases the difficulty of assigning an individual to a work site.

The accuracy of the reporting of money wages is unknown. However, relatively few corrections occur in the routine processing of individual unemployment insurance claims. In addition electronic payroll processing is increasing, electronic cross-matching capabilities are expanding, and new revenue quality control practices have been introduced. Thus, there is reason to think that the accuracy of UI data is higher than that of self-reported sources of earnings information. Intentional underreporting of wages constitutes fraud, which is subject to sanctions. Unintentional misreporting is subject to penalty payments. Intentional reporting errors introduce a downward bias, since overreporting would create a higher tax liability. Unintentional misreporting should not reveal any pattern.

The incidence of off-the-books payments, tips, and nonwage forms of compensation varies highly across occupations and industries. The food and beverage, private household, and professional service sectors are particularly vulnerable to intentional underreporting.

This examination of the combined issues of coverage and accuracy supports the following conclusions:

- Most jobs that would be considered appropriate targets for the placement of JTPA terminees are found in the covered sector.
- Virtually all of these jobs offer money wage, commission, and bonus forms of compensation--all of which are required to be reported.
- The exceptions to this general rule are concentrated in a few occupations and industries.

TIMELINESS

Employers are required to submit their contribution and wage report within one month of the end of each calendar quarter. They can request extensions, but they are liable to penalty and interest charges for late payment of taxes.

State employment security agencies mail contribution and wage report forms to liable

employers near the end of each quarter, except when arrangements have been made for electronic reporting. The accuracy of the mailing depends upon the cooperation of other state agencies as they become aware of the formation of new businesses. This cooperation is a function of each state's commitment of resources to cross-matching and enforcement activities.

The size of businesses affects the timeliness of reporting. Small businesses are less likely than larger ones to report electronically or to have specialized personnel routinely responsible for completing reports. Thus, small businesses would be expected to have a higher incidence of late reporting and a higher inaccuracy rate (Burgess, February 22, 1990).

Currently, wage-record data are available six to nine months after they are collected. The information employers are required to submit within 30 days of the end of a quarter must then be entered into the administrative data system of the state employment security agency. For instance, January data reported in April would normally be expected to be available in July. The data must be available by then so that the agency can use it to administer the unemployment compensation program. The speed of a state agency's response to third-party requests for access to administrative data typically depends on other data-processing priorities, what is requested, and whether cost recovery is offered. Requests for selected information items and those that require file merging impose a greater burden on the agency. For example, if information is sought from the agency's employer file about the total number of employees or total payroll amount, then the wage records and employer files have to be merged. Such requests can be expected to take longer.

CONFIDENTIALITY

Each state unemployment compensation statute contains a confidentiality provision that protects the anonymity of employees and employers. These stipulations were introduced when the programs were first established in the 1930s. The maturation of data processing capabilities, combined with widespread interdependences among private- and public-sector agents, have created a concern that disinterested third parties will violate these confidentiality standards.

Those who seek to limit access to the data cite examples of the unauthorized use of the data. Those who advocate expanded access for responsible parties point to the historical record of authorized use in full compliance with state confidentiality requirements as evidence of successful cooperation.

Many ways to encrypt wage records exist so that individual social security numbers and employer identification numbers cannot be read. These methods permit recurring mergers to be performed to lengthen a longitudinal record. The major stumbling block to date has been a limited sense of the urgency of establishing confidentiality standards and practices of at least minimal uniformity. This limited interest was a natural response to a small number of requests for access. Now, with congressional mandates and requests to use the data multiplying, the Department of Labor has begun to investigate the issue. It will be easy to compile documentation of security procedures used by other public agencies, e.g., the Internal Revenue Service, the Social Security Administration, the Bureau of Labor Statistics, the Department of Defense, and the National Institutes of Health.

Abuse of confidentiality is not inevitable. Awareness of the privacy standards and of the sanctions that will be imposed for violating them will control most of the vulnerability of the data. Common sense caution in the handling of the records will eliminate most of the risk that remains. It is reasonable to assume that the heightened awareness of the issue will lead to tighter security.

The continuous wage and benefit history program conducted by the Unemployment Insurance Service from 1977 through 1983, which included 14 states, and this project, which in its first phase includes 11 states, are just two of many examples of state cooperation . Additional examples include voluntary release of the wage records to universities, to non profit and for-profit research organizations, and to other state agencies.

Summary

This chapter examined the issues of coverage, accuracy, timeliness, and confidentiality. Well over 90 percent of total employment is covered by the UI system. The complementary interests of employees, reporting employers, and the state employment security agency foster accuracy. Advances in data processing technology continue to make data available more quickly. Confidentiality in the use of the data can be protected by providing access only to responsible parties who use appropriate technologies and practices to protect the data and who understand the sanctions that will be imposed for misuse (Middlebrooks and Stevens, forthcoming).

For the purposes of tracking JTPA terminees, the technical issue that remains is the generation of reliable cost estimates for acquiring the data. This pilot project has taken a fir step toward the assembling of reliable cost data, including interstate exchanges of information. These cost estimates are discussed in Chapter 5.

Chapter 3

Principal Advantages of UI Wage Record Data for Program Analyses and Evaluation

In this chapter we discuss the ways in which wage-record data from the Unemployment Insurance system can enhance the scope and quality of the information currently available to policy analysts and program decisionmakers. The UI system is a rich yet underused source of information. The richness of the UI files results from the variety of ways the information can be analyzed, not the number of items that are reported. This flexibility offers the opportunity to view the experiences of JTPA clients from a number of different perspectives, which, in turn, can assist decisionmakers in formulating new policies and evaluating existing policies.

The Flexibility of UI wage Records as a Data Source

One of the most attractive features of UI wage records is the opportunity they afford to tailor analyses to the specific questions of decisionmakers. For example, questions concerning the post-program earnings of clients who received different program interventions can be explored by examining the earnings patterns of participants grouped by the types of interventions they received during the program. On the other hand, questions concerning differences among SDAs with regard to the pre-program employment experiences of their clients require that these experiences be summarized for individual SDAs.

The ability of the UI data to fulfill these and other informational needs is a consequence of the way the data are reported. Each quarterly record contains information from a single employer for a single employee. This highly disaggregated level of reporting allows analysts using the data to design their studies with a great deal of flexibility. For example, when JTPA data are merged with UI data, it is possible to examine long-term pre- and post-program earnings of JTPA clients by (1) the characteristics of the clients, (2) the types of services they received, (3) geography, e.g., county, SDA, state, (4) industry of previous employment, (5) industry of placement, or (6) any combination of the above.

Although the ability to summarize UI data across various dimensions is an important feature, the greatest value of this database lies in the opportunity it provides to focus analyses at the individual level.[1] Analyses at the individual level provide insights into the employment and earnings experiences of JTPA participants that cannot be obtained from summary data. For example, such analyses can uncover the factors that promote employment retention among former JTPA clients. It is even possible to determine whether these factors are different across subgroups of the JTPA population, e.g., among males and females, welfare and nonwelfare recipients, etc.

Capacity to Provide Longitudinal Data

The examples above point to the potential for using UI data to examine the long-term employment and earnings experiences of JTPA clients. Currently, much of what is known about their post-program experiences is limited to the information collected through DOL's mandatory 13-week post-program survey. Although this survey can provide a valuable range of information not contained in the UI records, it offers a short-term snapshot of the post-program experiences of clients. Many observers feel that the information is inadequate to judge the long-term success of program participants. This perspective is shared by the Senate's Labor and Human Resources Committee, which has proposed an amendment to the JTPA legislation prescribing a performance standard based on employment retention of six months.

Quarterly UI wage records offer the opportunity to examine the post-program experiences of clients far beyond the six-month period proposed by this amendment. As additional quarters of UI data become available, they can supplement previously archived information. This will permit the tracking of post-program employment and earnings patterns over an expanding period of time.

Quarterly UI wage record data can also be used to obtain information concerning the pre-program employment and earnings of clients. Although the availability of this information is uneven because some states have only recently become wage reporting, all states are expected to maintain files containing at least five quarters of UI wage data in the future. If UI files are accessed when clients enter the JTPA program, at least one full year of pre-program data will be obtained. Many states, however, maintain archives that will permit access to much older records. For example, all the states participating in the current project were able to gain access to eight quarters of UI wage records, and one state provided twenty quarters of UI wage data for each client.

Wage-record data from the Unemployment Insurance system for pre-program quarters will provide a much needed supplement to the sketchy information currently available on the pre-program employment experiences of JTPA clients. For example, the only nationally reported data item related to the pre-program employment experiences of JTPA participants is the number of clients who were employed fewer than 15 weeks of the 26 weeks prior to enrollment. Pre-program wage information is even scarcer. The average pre-program hourly wage is reported only for Title III terminees. The use of UI wage records can substantially expand this information base without imposing an additional burden of collecting data on local program operators.

Access to pre- and post-program UI wage records will permit detailed longitudinal analyses of the employment and earnings of JTPA clients. For example, it will be possible to determine the percentage of former JTPA participants who remained employed at various post-program time intervals. More focused analyses can reveal those factors associated with long-term employment retention. In addition, the employment histories of clients can be developed from pre-program UI wage records. These analyses will be useful in identifying subgroups of JTPA clients who need more intensive services.

The availability of employer identifiers in the UI wage-record data will further expand the scope of analysis. One analytical option would be to examine the issue of job retention among former JTPA clients. Here, the focus is not whether former clients remain employed but how long they remain on the job with the same employer. For example, it would be possible to know how many quarters JTPA clients remain with their employer at placement. Furthermore, it may be possible to provide estimates of the number of JTPA clients who work for more than one employer.

Resource for Net Impact Studies

UI wage records also hold great promise for studies attempting to assess the net impact of JTPA and other employment and training programs. Employment and training programs are intended to have long-term impacts on the lives of participants. Net impact studies are designed to assess these impacts by isolating the unique contribution of program participation to long-term employment and earnings. This is accomplished by comparing the labor market experiences of participants with the experiences of a group of nonparticipants eligible for the program. The control or comparison group is carefully constructed so that their labor market experiences approximate what the experiences of participants would have been if they had not participated in the program. The difference between the actual experiences of participants and their hypothetical experiences is used to estimate the net impact of the program.

Regardless of whether experimental or quasi-experimental designs are used to estimate the hypothetical experiences of program participants, UI wage records can play a key role in net impact studies by providing the information necessary to develop long-term measures of employment and earnings. Since UI data can be obtained for both participants and nonparticipants, measures developed from this database will be consistently defined across the two groups and over time.

A particular advantage of using UI wage records to construct employment and earnings measures is the ability to examine net impacts at various time intervals following program participation. As a result, it will be possible to determine whether the impacts of program participation identified for one time period tend to increase, decrease, or remain constant over time.

Comparison with Alternative Data Sources

SOCIAL SECURITY ADMINISTRATION RECORDS

Among administrative data sources, the earnings files maintained by the Social Security Administration (SSA) pose the most serious challenge to UI wage-record files as a source of longitudinal data. However, there are serious drawbacks to the use of SSA files. Since SSA records report only annual earnings, analyses of the post-program trends in employment and earnings must focus on the year-to-year changes in the measures. Furthermore, since earnings above the taxable maximum are not reported, statistics generated from SSA data can be biased.

The most critical weakness of the SSA earnings files is the substantial delay in obtaining the data. Typically the data are

three to four years old before they are released in a form that analysts can use. Even then, a considerable amount of time is required to compile and analyze the data before evaluation results can be published. This time delay significantly reduces the value of SSA information to decisionmakers.

SURVEY-BASED DATA

The alternative to using administrative records for developing longitudinal databases is to rely on data gathered in panel surveys. In a panel design, the same individuals are interviewed at two or more different times. Each time individuals are interviewed, their responses are merged with information gathered from previous interviews. The result is a longitudinal database recording changes in the employment and earnings status of panel members.

Although panel surveys can provide a wide range of information not reported to the UI system, they are subject to a number of biases. Information collected in panel surveys rests solely on the memory of panel members, and the recollection of events decreases over time. Moreover, memory acts selectively. Some aspects of previous labor force experience may be accurately recalled, others lost, and still others distorted. Thus, employment and earnings histories constructed from information obtained in a panel survey may be incomplete and misleading.

Problems associated with low response rates have a more general impact. A panel design requires periodic surveys of the same population. Since gaps in the data are unacceptable in many types of longitudinal analyses, high response rates must be achieved each time the panel is surveyed. If panel members fail to respond to one of the surveys, whatever information they may have provided previously declines in value.

More important than the reduction in the number of cases is the fact that high attrition rates can destroy the integrity of the longitudinal data. The reasons for nonresponse are seldom random. The major source of attrition is the inability to contact panel members for follow-up interviews. Many of the reasons for these failures can be linked to the employment and earnings status of the panel member, e.g., a disconnected phone number may indicate a loss of employment. This implies that a high rate of attrition will change the composition of the panel so that it no longer represents the target population.

If the experience collecting JTPA post-program data can be used as a guide, it is extremely doubtful whether attrition from the panel can be sufficiently controlled to permit the development of a quality longitudinal database. Many SDAs are having difficulty in maintaining the 70% response rate required by DOL's thirteenth-week post-program survey.[2] A one-year follow-up survey of JTPA participants will likely produce much lower response rates, possibly below 50%, unless substantial amounts of time and resources are devoted to administering the survey. In addition, a one year follow-up is likely to produce larger differences in response rates among status groups than the thirteenth-week post-program survey.

Even if the quality of the data were not a concern, the cost of constructing a nationally representative database from survey data would be enormous. The additional number of cases required to draw comparisons across groups and programs would push costs to an astronomical level. Bishop (1989) considered the cost of implementing a survey-based impact study comparing four target groups and three

different program strategies. He estimated that the costs for data collection alone would be $120,000,000.

The same database could be constructed from UI wage-record data for just a fraction of the cost. The present study attempted to access at least eight quarters of UI wage data for each of the 205,750 PY86 JTPA terminees in the combined 11-state database. For their efforts, each state received $10,000, and the clearinghouse state received an additional $15,000, making the total cost of this study $125,000.[3] To consider the cost of gathering this information through a panel survey, assume a total of five interviews (an initial interview to collect all the pre-program information and four quarterly follow-up interviews) at a cost of $25 per interview.[4] The total cost of collecting the data through survey methods would be $25,718,750. Viewed another way, if the funds allocated to this project were used to conduct a panel study, the $125,000 would permit the collection of longitudinal data for only 1,000 of the 205,750 terminees.

Summary

This chapter has identified a number of strengths of UI wage-records as an assessment tool. The flexibility of this data source offers the opportunity to examine many previously unanswered questions. Of special interest is the ability to use UI wage-record data to conduct detailed analyses of the long-term employment and earnings patterns of JTPA participants.

The data also has potential for use in assessing the net impact of JTPA and other employment and training programs. Since UI data are available for both program participants and a comparison group, the employment and earnings of the two groups can be defined and measured consistently. UI data can be obtained more quickly than other administrative data, and they are not subject to the biases and errors that affect survey data.

Finally, conducting research with UI data is clearly cost-effective. Given the increasing scarcity of federal funds, this factor alone suggests that greater efforts should be made to take advantage of this database.

Chapter Endnotes

1. The analysis of individual-level data does not jeopardize the confidentiality of the information.

2. Training materials distributed at the PY90 Performance Standards Conference sponsored by the U.S. Department of Labor and the National Alliance of Business indicate that one-third of all SDAs were unable to achieve the 70% response rate for adults in PY88.

3. Although the start-up costs estimated by the states exceeded $10,000, all states estimated that their continuing costs would be below $10,000.

4. The $25 per interview figure is based on a survey conducted in 1987 by the National Governors' Association.

Chapter 4

Compiling the 11-State Database

One of the primary goals of this project was to develop a database containing longitudinal UI wage-record data and JTPA program data. This chapter discusses the achievement of that goal. It is organized into four sections. The first section discusses the issues faced by the states in gaining access to the required data and outlines the procedures used to transfer the data files to the clearinghouse. The second section describes how the clearinghouse processed the state data and discusses the various checks performed to ensure the integrity of the data. The third section focuses on coverage issues and describes the data elements contained in the final database. The final section offers some observations concerning the problems encountered in developing this database.

Data Access Issues and Transfer Procedures

The 11 states participating in this project organize their JTPA and UI programs differently. For example, in Illinois, separate agencies administer JTPA and UI; in Indiana, the functions are merged within the Department of Employment and Training Services. In Missouri, the relationship is more complex. Different agencies administer JTPA and UI, but the same data processing unit maintains the data for each.

The states faced different challenges in obtaining access to the data for this project. In states where the same agency administered JTPA and UI programs, data access issues were a concern within the agency and could be addressed at that level. However, when different agencies administered the two programs, the issues were complicated by the need to develop interagency agreements and data sharing procedures between the agencies.

The states also differed with regard to their experience in developing an interface between the JTPA and UI data systems. Some of the states had a long history of working with combined JTPA and UI data files. The necessary cooperative agreements and procedures were already in place and firmly established. On the other hand, this project offered some states their first opportunity to link the two data systems. In these states, interagency or interdepartmental agreements had to be forged or invoked for the first time in order to satisfy the data requirements of the project.

One concern in accessing UI wage record data is the issue of confidentiality. Some observers of this project felt that the states would experience difficulty in releasing the data because release could jeopardize the confidentiality of the information contained in the records. When requested, the National Commission for Employment Policy contacted the state's attorney general's office to provide assurances that

the data would not be released in a form that would compromise the anonymity of individuals or employers. As an added safeguard, some states encrypted client identifiers to further ensure the confidentiality of the information.

Although the states were left to their own devices in gaining access to the data, the clearinghouse provided the states with procedures for transferring the data. Data were transmitted in three separate files. The JTPA file was defined so that it would contain all requested JTPA data items except those providing information about program activities. These latter data elements comprised the second activity file. The third file contained all the information extracted from the state's UI data system. The data items requested for each of the three files are listed in Appendix B.

Previous experience of the clearinghouse staff with the JTPA management information systems (MIS) in various states indicated that the two-file strategy would be the most effective means for transferring the JTPA data. Most state systems employ a hierarchical data structure for storing JTPA data. This structure, which was assumed to be common among the participating states, requires that each activity in which a participant is involved be recorded as a separate data record. Thus, it is relatively easy to develop a separate data file containing one record for each activity. However, padding each participant's data record with activity information would require some intricate programming and substantially increase the amount of time necessary to produce and transfer the file. In addition, since the procedures developed to process activity data required that a separate file be developed, requesting that the participant record be padded with activity data seemed to be counterproductive. Thus, the two-file option for the JTPA data was adopted.

The third state file, the UI file, contained quarterly UI data. This file was defined so that each data record would contain UI data for a single quarter. Since it is possible for a terminee to have more than one employer during a quarter, this file can contain more than one record per quarter for a participant. Thus, the file is considered to be employer-based. For each data file, the clearinghouse defined a data format that specified the locations for each requested data item, and strongly encouraged the states to use these formats in constructing their data files. These formats included a user-defined segment where states could provide supplemental data if they desired.

The clearinghouse also provided the states with a suggested coding scheme for each of the data items, but we did not insist that states use these coding conventions. If a state chose to deviate from the scheme, it was instructed to document the differences and submit this documentation with its data files.

A question that emerged from several states was whether to include essentially blank records on the UI file for quarters where a match did not occur. The clearinghouse left this decision to each state. It would have been desirable, however, for the states to include such records. They would have provided a direct means for assessing whether there had been an attempt to obtain a UI match for each participant in the JTPA file. At the present time, we have only indirect evidence of the completeness of the files in those states that chose not to include blank records.

Processing the State Files

We used a number of procedures to insure the integrity of the state databases. For the JTPA data file, these checks focused on the post-program data. For example, a procedure was used to test whether all of the mandatory post-program data items contained valid entries when a post-program survey completion was recorded. When a mandatory item was missing, we changed the status of the record to indicate a noncompletion. Furthermore, if a noncompletion was indicated, we reset the values of all the post-program data items to "missing" regardless of whether valid data were present for one of these items. Although this procedure destroyed the information gained from partial completions of the survey, it imparted some degree of consistency to the state databases. It also corresponds to the way data are reported to the U.S. Department of Labor.

The major issue concerning the use of the UI files was whether all the states used the same decision rules to identify pre- and post-UI quarters. Therefore, we asked states to include a data item on the UI files that indexed each UI wage record to the program participation dates of the corresponding client. For example, if the state followed the suggested coding scheme, a code of T01 indicated that the record contained UI data corresponding to the client's first full quarter after termination and a code of E02 indicated that the record corresponded to the second full quarter prior to enrollment. Without this index, it would have been extremely difficult to determine whether the states were interpreting the UI data in the same way.

We used a simple procedure to assess whether the states were defining pre-and post-program quarters consistently. First, the clearinghouse constructed its own quarter index using the dates of program enrollment and termination from the JTPA file and the starting date of the quarter from the UI file. We then compared this index to the index calculated by the state. If the two indexes did not match, we attempted to identify the source of the discrepancy and resolve the differences. This procedure revealed that, with one exception, all of the states had calculated the index correctly. We notified the remaining state so that it could correct the errors in its file.

We used a procedure to indirectly assess the completeness of the UI files for those states that excluded nonmatched participants from the UI database. Using the merged JTPA and UI file we performed a check to determine whether an entered employment reported on the JTPA file could be verified with the UI data. Although we did not expect that all JTPA reported employment could be verified with the UI wage data (e.g., those clients who gained employment in other states), we expected the vast majority of these cases to be matched. If we found an abnormally low percentage of entered employments matched in a state, this would suggest that the UI file was incomplete. This procedure was instrumental in identifying an incomplete UI file in one state. We informed the state of this problem, and a new file was processed.

The activity file required the most extensive processing. Since activities are coded differently in each state, the major task was to translate the state codes into a common coding scheme. The clearinghouse developed a coding scheme consisting of nine categories. The goal was to minimize the number of categories while retaining the basic distinctions between broad classes of activities. The scheme appears in Table 4.1.

Table 4.1
Categories Used To Recode State Activity Data

1. ***Occupational Classroom Training.*** Training provided in a classroom-like setting designed to promote the technical competence needed for a particular type of job. Examples include vocational skills training and pre-apprenticeship training.

2. ***Remedial or Basic Educational Training.*** Training provided in a classroom-like setting designed to promote basic skills development. Examples include English As a Second Language programs and GED preparation.

3. ***On-the-Job Training.*** Interventions that provide skills training in a specific occupation in an actual work setting.

4. ***Work Experience.*** Part-time or short-term subsidized employment designed to assist participants in entering or reentering the labor force or in enhancing their employability. Both limited and regular work experience are included.

5. ***Employment and Training Services.*** Activities designed to assist participants in other JTPA-funded training and to enhance employment opportunities, facilitate movement into unsubsidized employment, or assist in retaining employment. Included are labor market orientation, job counseling, and introduction to the world of work.

6. ***Job Search Assistance.*** Interventions that offer aid to participants in locating, applying for, or obtaining a job. Included are direct placement, job referral, and job development.

7. ***Youth Programs.*** Activities focused on improving the employability of youth participants. Included are exemplary youth programs and pre-employment training.

8. ***Other.*** Interventions that cannot be included in the categories described above.

9. ***Holding.***

The clearinghouse recruited four volunteers to recode each state's activities independently. After each person completed this process, the clearinghouse examined the results to identify any differences in the codes assigned to particular activities. Fortunately, only minor discrepancies appeared. In these cases, we assigned the code used by the majority to that state's activity.

Once the activity data were recoded, the clearinghouse processed the data to produce a single variable for each participant that could be used to assess the sequence of activities in which the participant engaged. Through this activity sequence indicator, it is possible to determine the activities and the order of activities in which a participant was involved.

We constructed a number of other variables from this file. For example, we constructed a variable to signal whether a participant received support services, e.g., needs-based payments. We also constructed a set of variables to reflect the length of time participants were enrolled in each of the nine categories of activities and the length of time they received support services.

We performed a check on each state's activity file prior to processing it in order to ensure that at least one activity or support service was reported for each participant. Although the result of this test was positive, some problems continue to exist with the activity data. Compared to other information, activity data are more likely to be miscoded when entered in the state data systems. Approximately 3 percent of all activity records the clearinghouse received contained codes that were not found in the state documentation. The actual percentage of miscodes is probably higher given that some activities were likely to be miscoded with a valid state code. We will discuss the impact of this situation later in this chapter.

The construction of the state databases proceeded slowly at first. Much of the initial effort was spent in developing computer programs and data checking routines that could be used, with minor modifications, to process the data from all states. Once these programs were written and debugged, it took from four to six hours to modify them to accommodate each additional set of state files. Depending on the size of these files, it takes from one to three days from the time a data tape is received to process a state's files and produce a working database.

Initially, the clearinghouse took the position that a common file format was needed in order to reduce the degree of programming required to produce the various state databases. However, our experiences with states that did not provide the JTPA data in the suggested format indicate that programming time is not appreciably increased as long as adequate documentation is available.

A more important determinant of programming time was the extent to which the states adhered to the suggested coding scheme. The data files from states that opted to use their own coding scheme required more programming time than files from states using the suggested scheme. However, the amount of additional programming was not great enough to warrant limiting the flexibility of the states. In fact, this flexibility has enriched the database. For example, although the suggested coding scheme included the category "employed" for the employment status at enrollment, some states further identified participants as employed part-time or full-time.

Once the three data files submitted by a state were processed, they were merged to produce a single, individual-level database for each state containing all the data items provided by the state. At this point, we constructed a set of data tables for each state and cross-checked against a corresponding set of tables produced by the state. If we found discrepancies between the two sets of tables, we attempted to identify the source of these differences. On the basis of this information, either the clearinghouse or the state made corrections.

The final step involved producing the 11-state database by linking the separate state databases. Given the efforts to ensure that the individual state databases were accurate and consistent, this step was a formality.

Coverage and Available Data Items

The states were requested to submit enrollment and termination data for all PY86 Title II-A and Title III adult terminees and all PY86 Title II-A youth terminees who were not in school. Only two of the states fell short of this goal. One state was unable to provide information on its PY86 Title III terminees because it had technical problems gaining access to all the requested data items for this client population. The other state's omission of Title II-A youth data, however, appears to have been an oversight.

The remaining coverage issues centered on the availability of post-program survey data. The amount of post-program data available in a state depends on whether the state surveyed all terminees or a random sample of terminees. Most of the states employed sampling techniques; however, four states surveyed all PY86 adult Title II-A terminees.

Two of the 11 states could not provide post-program data that were representative of all participants that terminated from their programs in PY86. In one state, the state MIS system was not modified in time to permit the SDAs to enter post-program data in PY86. However, individual-level Title II-A post-program data were available for four of the SDAs in the state, and the complete state Title III sample was available as well.

A different problem affected post-program coverage in another state. Post-program start-up problems resulted in the failure to collect information from participants who terminated from the program prior to January 1, 1987. However, once data collaboration began, the state surveyed terminees from all SDAs. With some minor omissions, the states were able to provide the clearinghouse with all of the JTPA data items it requested. Four of the 11 states do not record the age of the youngest dependent child so they were unable to identify whether a terminee was a single parent with a child under six years of age. Also one state could not provide the county of residence.

Several states chose to supplement the requested data items with additional information on their JTPA participants, with these states providing the clearinghouse with complete access to their MIS data. Another state provided an impressive array of additional data items collected through its post-program survey, including the welfare status of terminees at follow-up, the amount of the welfare grant they received at follow-up, and whether their current job provided health insurance.

It was encouraging to find that many of the states went beyond the minimum requirement of four quarters pre-program and four quarters post-program data in developing their UI files. Five of the 11 states submitted additional pre-program quarterly wage data, and six states submitted additional post-program wage data. Furthermore, five states provided the clearinghouse with UI data for the quarters in which their terminees participated in the program.

Although all of the states were able to provide UI data containing employer identifiers, one state was unable to provide the employer's industry code. That state collects the industry code information, and it is available on the state's on-line UI database; however, it was absent from the archived UI tapes the state used to collect the historical data for this project. Only two states were able to provide UI data on the number of weeks worked in the quarter, and

one state provided the number of hours worked in the quarter.

To extend the range of information contained in the final databases, the clearinghouse constructed a file containing SDA-level economic factors, including: (1) area average wages in 1986, (2) area average earnings in wholesale and retail trade in 1986, (3) unemployment rate for PY86, (4) population density in 1980, (5) percentage of families below poverty in 1979, and (6) the 1980 employee/resident worker ratio. The source for this data was the Department of Labor's technical assistance guide for the PY88 performance standards models.

The clearinghouse also developed a county-level economic database for use in this project containing four economic indicators calculated for each county in the 11 states. The indicators include: (1) area average wages in PY86, (2) area average earnings in wholesale and retail trade in PY86, (3) unemployment rate for CY86, and (4) the employment growth rate between CY85 and CY87. This file permits a more extensive examination of the effects of local economic conditions on performance indicators. It is especially important for Title III analyses since SDAs did not always administer Title III services in PY86.

Observations and Assessment

When we began this project, we anticipated that most problems would emerge in working with the UI data files. As it turned out, processing of UI data was surprisingly easy. The major problem was the difficulty one state had in correctly identifying pre- and post-UI quarters. However, this state is distinguished by the relatively large number of programming errors it made during the course of the project.

In contrast, we experienced a number of problems in processing the JTPA data. For example, in creating the JTPA database for one state, we noted that a high percentage of cases contained invalid codes for a particular data item. An examination by the state revealed that it had substituted a different data item in place of the one we had requested. As a result, the state had to generate a new file and transfer it to the clearinghouse.

A more serious problem resulted when a state misunderstood the data transfer conventions. We expected the JTPA file to have only one record per program termination. However, we found that the file submitted by one state had multiple records per termination. After some discussion, it became clear that the state mistakenly believed that the clearinghouse wanted one record per termination from each activity, rather than one record per termination from the program.

Normally, this misunderstanding would not pose a major problem provided that the state defined the other data items in the JTPA file correctly. However, this was not the case. Specifically, the state used the enrollment and termination dates for the activity in place of the enrollment and termination dates for the program. Since the latter items are the keys to identifying and defining pre- and post-program UI quarters, a substantial effort was needed to rectify this situation.

These two examples illustrate the point that many problems could have been avoided by eliminating the need for states to pre-process the JTPA data prior to transferring it to the clearinghouse. In the first example, the excluded data item would

have been available if we had requested a full rather than an abridged data file. In the second example, the simple request that states submit all of the JTPA data would have removed the basis for the misunderstanding. Although it was not difficult to correct these and similar problems, the effort involved delayed the production of the final databases and decreased the time available to analyze the data.

Unabridged JTPA files could have been useful for other reasons as well. For example, they would have reduced the data processing burden on the states. In fact, Oregon asked to submit an unabridged file to the clearinghouse because it estimated that an abridged file would cost over four times as much as producing an unabridged file, $7,500 as opposed to $1,600. In addition, unabridged files would have increased the number of available data items, which would, in turn, have increased the richness of the final database. For example, the information collected by the states to determine Title III eligibility would have been a welcome addition to the database.

Of all the data items contained in the final database, those constructed from program activity information were the most likely to be biased. We found a relatively high number of miscodes when we constructed the activity sequence indicator. When we found these invalid codes, we excluded the unidentified activity from the calculation of the indicator. For example, if a participant engaged in an activity that could not be identified, we ignored that activity and processed the remaining activity information as if that activity had not been received. This procedure affected relatively few individuals, but it did introduce a minor source of bias in the data.

A more important source of bias in the program activity data resulted from the nonreporting of program services. We suspect that an unknown percentage of services are never reported on state data systems. For example, a participant served through a performance-based contract may be reported as engaging in only one activity, e.g., occupational classroom training, although that participant could have received a variety of additional services through the contractor, e.g., job search assistance. Since the program activity information contained in this database reflects only reported services, it is likely to undercount the actual level of services provided to JTPA participants. Thus, the measures should be interpreted with caution, especially when focusing on activities that can be considered as adjuncts to other services.

The problems surrounding the use of program activity data are a consequence of the lack of attention these data receive compared to the other data items reported on state JTPA data systems. All states closely monitor the quality of participant characteristic and outcome data because this information is important to their performance management systems. Furthermore, since SDAs receive incentive funds on the basis of this information, they have a vested interest in assuring that the data they provide are complete and accurate.

It is doubtful whether program activity data receive the same level of concern and attention. Instead, we suspect that the quality of such data is a direct function of the role this information plays in the state's performance management system. Since some states take an active interest in the services offered by their SDAs, and other states have a hands-off approach, it is likely that the quality of this information varies

from state to state. Until program activity information attains a prominent role in all state performance management systems, the consistency of the data is likely to suffer.

Fortunately, there is some relief in sight, at least in the case of the Title III program. The Title III reporting requirements for PY90 direct substate grantees to report the percentage of participants receiving specific types of JTPA services. It is hoped that this mandatory reporting will lend some degree of consistency to the data.

Summary

We expected to uncover problems in matching and merging data from different systems within a state, let alone trying to construct a unified database spanning several states. As this chapter has detailed, however, we had few problems and most were readily correctable. In many respects, it is surprising that the number of problems was not greater given that this was the first attempt to develop a multistate database of this type.

One technical issue that remains to be addressed concerns the ability of the states to integrate UI wage-record data into their JTPA data management systems. The current project did not require the states to modify their JTPA data management systems to accept UI wage-record data. As a result, we suspect that most states developed and analyzed their databases outside the context of this system. A logical next step is for these states to incorporate UI data elements into their JTPA MIS database to allow client records to be updated periodically as additional quarters of UI data become available. This will provide immediate on-line access to current information for both the states and SDAs.

The difficulty of integrating UI wage record data into existing JTPA data management systems will vary from state to state. A state's level of difficulty will depend on the ability of its JTPA data system to accept and store information from external databases. Some states have always had this capacity, or they have developed it in response to the need to incorporate post-program survey data collected by outside contractors. However, other states maintain systems that require all data to be entered manually into the database. It will be necessary to overcome this limitation to permit UI data to be electronically transferred into the system.

Further analysis of the issues involved in incorporating UI wage-record data into existing JTPA data systems would be beyond the scope of this project. It is sufficient to note that any problems that may emerge in this process can be characterized as obstacles to overcome rather than insurmountable barriers. The fact that each state was able successfully to merge the information from JTPA client records with quarterly wage data from the UI system suggests that a fully integrated data system is a real option for the future.

Chapter 5

UI Wage Record Data Versus Post-Program Survey Data

When post-program measures were introduced to the JTPA performance standards system, contact with participants was the only way to collect data that had the potential to provide accurate and reliable post-program information across all states and SDAs. Although other sources were considered, none were sufficient to meet the specific needs of the JTPA program. For example, the possibility of using UI wage records as a data source was dismissed as an option because only 38 states required employers to report the earnings of employees in the absence of a UI claim. This drawback was essentially eliminated with the passage of the Deficit Reduction Act of 1984, which mandated that all states report wages by October 1988. With this new mandate in effect, the Commission recognized the need to re-evaluate the use of UI data for JTPA post-program assessment.

In this chapter we compare UI wage-record data with the information obtained through the mandatory post-program survey. We examine the post-program survey by describing some of the factors that can affect the quality of the survey data and provide a context for assessing the quality of the UI wage-record data. Then we analyze some of the differences between the two sources of data and discuss the relative quality of the information each provides. Finally, we compare the costs of obtaining post-program data through these two options based on the experiences of the states participating in this project.

Post-Program Survey

A key consideration in the design of any survey is the establishment of procedures to safeguard the reliability and accuracy of the information collected. Issues of data quality are accentuated in the JTPA post-program survey because critical decisions are based on the collected information. In designing a system to collect post-program data based on participant contact, the U.S. Department of Labor (DOL) faced a number of challenges to ensure that accurate estimates of post-program performance could be obtained for all SDAs. Since the actual surveys were to be conducted at the state or in some cases the SDA level, DOL had to develop specific guidelines to promote consistency in the data collection efforts and maximize the quality of the follow-up information.

Each of the decisions DOL made in designing the system can be viewed as an attempt to improve the overall quality and consistency of the post-program data. For example, although DOL permits each state to determine whether to interview all terminees or use a more cost-efficient sample of terminees, those states selecting the sampling option must adhere to rigidly defined sampling procedures. Each sample

has to be randomly selected from the terminee pool and has to be large enough to provide accurate estimates of performance for all the post-program measures. In addition, DOL requires the information to be collected directly from the participant either by telephone or in person. Less reliable mail questionnaires are permitted only when the participant cannot be reached by telephone.

Nonresponse bias, the most common problem affecting the accuracy of survey data, is difficult to identify and control. In the context of the post-program survey, the concern was that terminees not responding to the survey might have substantially different post-program experiences from those of respondents. In such a case, estimates of SDA performance based on survey responses will not reflect the actual performance of the SDAs.

The only way to reduce nonresponse bias is to minimize the number of nonresponses to the survey. For this reason, DOL requires minimum response rates. Since there is a special concern that terminees employed at termination will be easier to locate for the survey than those not employed, DOL requires a minimum response rate of 70% for both groups. If the difference between the response rates for the two groups is greater than five percentage points, SDAs use an adjustment procedure that attempts to correct for this possible source of bias.

There has been very little research into the extent to which nonresponse bias affects the post-program survey data because there is no adequate database to support the research. The major source of information on response rates available at the national level is the JTPA annual summary reports. These reports provide only the overall response rates achieved by each SDA for the three survey populations (Title II-A adult terminees, Title II-A adult welfare terminees, and Title III terminees). At a minimum, identifying nonresponse bias would require access to the response rates of client subgroups suspected of having different post-program experiences.

The database developed through the current project offers the first opportunity for a detailed multi-state analysis of the response rates to the post-program survey. Since it is an individual-level database, response rates for different client subgroups can be calculated and compared. More importantly, the database incorporates UI wage-record data, which can be used to determine whether the response rates for the various groups are associated with their post-program employment and earnings experiences.

In the analyses that follow, we focus on the survey conducted to produce estimates of the post-program performance of Title II-A adult participants. Across the eleven states, 42,564 PY86 adult terminees were selected for post-program follow up, and 27,721 responded to all three of the mandatory questions--an overall response rate of 65.1 percent.

We found that certain subgroups are more likely to respond to the post-program survey than others. The greatest difference is between the two subgroups defined on the basis of their employment status at termination from the program (see Table 5.1). Participants employed at termination from the program had a response rate of 70.2 percent, much higher than the 49.6 percent rate for those who were unemployed at termination. In addition, we found substantial differences in response rates across comparable sex, race, education, and public assistance subgroups. These results suggest that males, minorities, high school dropouts, and welfare recipients are all less

Table 5.1

Post-Program Survey Response Rates by Client Subgroups

Title II-A Adult Survey Population

Characteristic	Response Rate
Sex	
Males	62.0
Females	67.5
Race	
White	66.8
Black	61.5
Hispanic	60.7
American Indian or Alaskan Native	52.9
Asian or Pacific Islander	65.3
Educational Status	
High School Dropout	60.8
High School Graduate	66.4
Post High School Education	67.5
Welfare Status	
Non Recipient	65.7
AFDC Recipient	63.7
General Assistance Recipient	49.3
Refugee Assistance Recipient	62.4
Employment Status at Termination	
Employed	70.2
Unemployed	49.6

likely to respond to the post-program survey.

The next step was to determine whether differences in response rates among the demographic subgroups were statistically significant after we controlled for the effects of employment status at termination. Since the demographic subgroups we examined tended to have different levels of employment at termination, this step is necessary to eliminate the possibility that subgroup differences in response rates are merely a product of the difference in response rate between the employed and unemployed.

The results of the multivariate analysis indicate that the differences in response rates among the demographic groups remain even after we control for employment status at termination (see Table 5.2). Although those employed at termination are still the most likely to respond to the survey among all the subgroups examined, the fact that the

Table 5.2

Regression Results for a Model Predicting Response to the Post-Program Survey

Title II-A Adult Survey Population

Regression Variable	Coefficient
Employed At Termination	.204
Male	-.073
Black	-.041
Hispanic	-.043
High School Dropout	-.043
Welfare Recipient	-.023
R^2 .0433	

Note: All variables significant at alpha = .001
N = 24563

regression coefficients for the demographic subgroups are statistically significant (alpha = .001) indicates that the differences in response rates found among these subgroups are not explained away by employment status at termination. Response rate patterns for the JTPA population are similar to those found in surveys of the general population.

The differences in response rates among the demographic groups helps to explain some of the variation in response rates found across SDAs. Even in states where a centralized system ensures that the same procedures are followed and the same level of effort is expended to collect data for all SDAs, the response rates of the SDAs tend to vary. Our analysis suggests that these variations are in part a function of the different clientele the SDAs serve. For example, SDAs that serve a high percentage of males should be expected to obtain lower response rates than SDAs that do not.

This analysis also indicates that any attempt to impose sanctions on states or SDAs for failing to achieve the minimum response rate would be ill-advised. The failure may not reflect the quality of data collection procedures; it may reflect the types of clients served. In some respects, a lower response rate may indicate that the SDA is attempting to serve the most hard-to-serve component of the population eligible for JTPA.

Differences in response rates cannot be used as evidence of nonresponse bias in survey data. At best, they merely signal that such bias might exist. For example, the observation that males are less likely to respond to the survey than females does not indicate that the estimates of actual performance are biased. This conclusion can be drawn only when it is also demonstrated that males and females have different post-program experiences. If the experiences of the two groups are the same,

then the fact that more females respond to the survey will not affect the estimates of actual performance. However, if their experiences are different, then the estimates of actual performance will be biased since the two groups are disproportionately represented among respondents to the survey.

Nonresponse bias can exist even when there are no observed differences in the response rates for client subgroups. Just as different response rates do not prove the presence of bias, the same response rates do not prove its absence. Suppose that males and females were equally likely to respond to the survey and were therefore proportionately represented among the survey respondents. In order to dismiss the possibility of nonresponse bias, it must be shown that the respondents for each of these two groups have post-program experiences that are typical of their respective populations. In other words, the post-program experiences of both groups of respondents must be the same as both groups of nonrespondents. If the experiences of either group of respondents differs from those of nonrespondents, then the estimates of actual performance based on the survey information will be biased.

The most troubling aspect of nonresponse bias is that it can rarely be identified. The only way to ascertain whether nonresponse bias is a problem is to have information for nonrespondents on the very behaviors or experiences the survey is intended to measure. Of course, if such information existed, there would be no point to conducting the survey. As a result, survey researchers must attempt to correct for nonresponse bias without the information that would enable them to do so. In the absence of this information, the attempts to correct for nonresponse bias can actually accentuate the biases that do exist. For these reasons, nonresponse bias has often been characterized as the weak link in survey research.

The access to UI wage-record data on the post-program experiences of virtually all JTPA terminees, whether or not they respond to the post-program survey, provides a unique opportunity to examine the issue of nonresponse bias in the post-program survey data. Although there are some coverage issues with regard to the UI data, their impact should be randomly distributed across the respondent and nonrespondent populations. In other words, we can expect each of these two groups to be equally affected by whatever coverage problems exist. Consequently, it is possible to use UI wage information for post-program quarters to determine whether respondents and nonrespondents have different post-program experiences and to examine the nature of these differences.

Using UI data to compare the post-program experiences of respondents and nonrespondents suggests the potential for a high degree of nonresponse bias in the survey results. Although 70.7% of respondents were in UI-covered employment during the first post-program quarter, only 61.1% of nonrespondents were. This implies that estimates of post-program employment derived solely from the employment experiences of survey respondents will overstate the actual level of employment in the terminee population. There is also evidence that nonresponse bias affects the post-program earnings measure. The UI wages of respondents who were employed during the first post-program quarter averaged $2002; the wages of nonrespondents averaged $1836. Earnings estimates based on data gathered from survey respondents will overestimate the actual level of terminee earnings.

Table 5.3 displays the results obtained when the respondent and nonrespondent groups were subdivided by their employment status at termination. This analysis is of special interest because procedures used to correct for nonresponse bias in the survey data focus on employment status at termination.

Those employed at termination are more likely to respond to the survey and be employed during the first full quarter after leaving the program than those unemployed at termination.[1] The higher levels of employment for those participants who were employed at termination justifies the concern that the different response rates of the two groups could inflate estimates of post-program employment based on the survey data.

The second observation concerns the differences in the post-program employment status of respondents and nonrespondents within the two subgroups defined on the basis of termination status. Although the post-program employment experiences of respondents and nonrespondents are similar for those unemployed at termination, there is a marked difference in the post-program employment status of respondents and nonrespondents who were employed at termination. This suggests that respondents who were employed at termination are not a random subset of all terminees who were

Table 5.3

Comparison of the Employment Rate for the First Full Quarter After Program Termination for Respondents and Nonrespondents by Employment Status at Termination*

Title II-A Adult Survey Population

Post-Program Survey Status	Employment Status at Termination	
	Employed	Unemployed
Respondents	78.2	38.8
Nonrespondents	72.7	40.1
Response Rate	70.2	49.6
First Quarter Employment Rate	76.6	39.5

*Employment rates calculated from UI wage record data.

employed at termination. Since respondents from this group had higher levels of employment than nonrespondents, the estimates of post-program employment for all terminees who were employed at termination that are solely based on the experiences of survey respondents will be upwardly biased.

The fact that respondents who were employed at termination are not a random subset of all terminees who were employed at termination points to the limitation of the procedure used to adjust for nonresponse bias. The only source of nonresponse bias that is considered by the adjustment procedure is the bias that occurs due to differential response rates across subgroups. In attempting to correct for these differences, the procedure assumes that within each subgroup the post-program experiences of respondents and nonrespondents are similar. The evidence presented above indicates that this assumption is correct only for those who were unemployed at termination, and it does not hold for those who were employed at termination. As a result, the adjustment may provide some relief from nonresponse bias, but it does not provide a full solution to the problem.

The incidence of nonresponse bias produced by the different experiences of respondents and nonrespondents within subgroups is further demonstrated by examining the results for males and females displayed in Table 5.4. Although an earlier analysis indicated that the response rate difference for males and females is statistically significant, the overall post-program employment levels for the two groups were very similar. Moreover, within each respondent category, the male and female post-program employment levels were approximately equal. However, for each sex, there is a large difference between the post-program employment experiences of respondents and nonrespondents, indicating that the survey estimates of performance for both sexes is upwardly biased. Further evidence presented in Table 5.5 indicates that, for both groups, this bias is produced by the differences found among those who were employed at termination.

It is important to note what would happen if the adjustment procedure was used in an attempt to correct for the different response rates of males and females. Given the similarity in the post-program employment levels among male and female respondents, the effect of this adjustment would be negligible. In other words, the bias produced by the different post-program experiences of respondents and nonrespondents within each sex category would remain unchecked.

There are two major conclusions to be drawn from these analyses. First, there is ample evidence to suggest that the post-program survey data is substantially affected by the presence of nonresponse bias. While this conclusion is based largely on the examination of post-program employment experiences, it is suspected that the same conclusion would hold if the focus was on post-program earnings. The second conclusion is that the major source of this bias, i.e., the different post-program employment experiences of respondents and nonrespondents who were employed at termination, is not addressed through the current nonresponse adjustment procedures. The implication of these findings is that the estimates of post-program performance based on the information gathered through the post-program survey are not a true reflection of actual post-program experiences of all JTPA terminees.

Table 5.4

Comparison of the Employment Rate for the First Full Quarter After Program Termination for Respondents and Nonrespondents by Sex*

Title II-A Adult Survey Population

Post-Program Survey Status	Sex of Respondent	
	Males	Females
Respondents	71.2	70.4
Nonrespondents	62.2	60.0
Response Rate	62.0	67.5
First Quarter Employment Rate	67.8	67.1

*Employment rates calculated from UI wage record data.

Issues Concerning the Comparison of UI and Post-Program Survey Data

The most basic problem with comparing the UI data with the survey data is deciding on what to compare. A comparison of the overall UI match rate and the response rate to the survey is unjustified since the two rates convey different types of information.[2] Both rates measure success in locating JTPA participants, but the match rate depends on the pre- and post-program employment of the terminee population. If a wage record for an individual is not found in a state's UI file during a given quarter, it is virtually certain that the individual was not engaged in UI-covered employment during that quarter in that state.[3] In contrast, the fact that an individual does not respond to the survey provides no clue to their post-program employment status.

This study focused on the differences that emerged when UI data and survey data were used to measure the post-program experiences of JTPA terminees. A technical barrier to performing this analysis is that the two data sources use different post-program intervals. The survey uses a 13-week post-program period that begins with the week following a participant's termination date. Although the survey asks participants the total number of weeks they were employed during this period, it focuses on employment and earnings data for the last week of this 13 week period. UI wage-record data report wages for a complete fiscal quarter defined in terms of calendar dates not tied to the participant's week of termination. This difference in measurement interval makes it ill advised to

Table 5.5

Comparison of the Employment Rate for the First Full Quarter After Program Termination for Respondents and Nonrespondents by Sex and Employment Status at Termination*

Title II-A Adult Survey Population

I. Employed at Termination

Post-Program Survey Status	Sex of Respondent	
	Males	Females
Respondents	76.8	79.2
Nonrespondents	70.7	74.7
Response Rate	66.7	73.1
First Quarter Employment Rate	74.8	78.0

II. Unemployed at Termination

Post-Program Survey Status	Sex of Respondent	
	Males	Females
Respondents	42.8	36.5
Nonrespondents	44.0	37.3
Response Rate	52.2	52.2
First Quarter Employment Rate	43.5	36.9

*Employment rates calculated from UI wage record data.

compare the two sets of data for all terminees.

One solution is to focus on survey respondents whose 13-week post-program period corresponds with a fiscal quarter. This is accomplished by identifying those Title II-A terminees who left the program one week prior to the week containing the starting date of a fiscal quarter.[4]

This solution does not address a second problem which emerges because UI earnings are reported for the quarter they are paid, not the quarter they are earned. As a result, UI earnings may appear for participants who were not employed during a given quarter or may not appear for participants who were employed during a quarter. For example, if an individual became unemployed during the last week of a quarter, a portion of the wages earned during that quarter may not be paid and reported by the employer until the next quarter. Similarly, if an individual began employment during the last week in a quarter, wages earned during that quarter may not be paid and reported until the next quarter.

The only post-program measure we could replicate in both sets of data was the one that identified the terminee as employed at some point during the first full post-program quarter. For the UI data, we determined whether there were nonzero wages for the terminee during that quarter. For the survey data, we examined the responses to the question concerning the number of weeks worked during the 13-week post-program period and flagged terminees who claimed they worked one week or more during that period.

We did not compare the earnings information provided by the two data sources because their wage reporting intervals are different. Although it is tempting to use the survey data to estimate quarterly earnings, this procedure makes the unfounded assumption that respondents' earnings for each week were the same as those for the thirteenth week. Furthermore, there is the issue of how to treat respondents who claimed they worked during the post-program period but not in the thirteenth week. In these cases, there would be no survey data on which to base the estimate of quarterly earnings, but these earnings would be reflected in the UI data. The errors introduced by attempting to make the UI and survey data comparable on earnings would undermine the validity of any differences that emerged.

The project's requirement that survey information include the number of weeks worked in the post-program period posed a major problem in using the data from two states and a minor problem in a third. Since one state did not supply this information at all and another did not provide it for respondents who indicated they were unemployed during the thirteenth week, neither state could be included in the analysis. Furthermore, a third state's survey data for terminees who left the program during the third quarter of 1986 was of dubious quality. An unusually high percentage of these terminees claimed that they were not working during their first post-program quarter, but the UI data contained a wage record for them. To avoid the possibility of contaminating the results of the analysis, we excluded third-quarter terminees from this state. Of the 35,415 remaining terminees selected for participation in the post-program survey in the nine states, 1,285 participants (3.6%) terminated from JTPA during the required interval. That is, their termination week was the last week of a fiscal quarter, which makes their 13 week post-program period virtually coincident with the next fiscal quarter. This

group consisted of 863 survey respondents and 422 nonrespondents.

Comparison of UI Wage Data to Participant Follow-up Data

The two data sources placed over four-fifths (81.7%) of the 863 terminees who responded to the 13-week survey into the same employment status categories (Table 5.6). This result reflects a higher level of correspondence than Zornitsky et al. (1985) found in a similar analysis based on data from the state of Maryland (70.3%). However, this difference could result from the different procedures used to identify the terminee subgroups.[5]

Although both data sources indicated that the majority of terminees were employed sometime during the first full quarter after termination, the employment levels they depicted were different. Survey data disclosed that 86% reported being employed at least one week during the quarter. However, UI files contained wage records for only 77.9% of these terminees. The reason for this difference is that there were many more terminees who claimed they worked for whom there was no UI wage record (13.2%) than there were terminees who claimed they didn't work for whom there was a wage record (5.1%).

Assuming that employers do not report wages and therefore pay taxes for individuals they do not employ, it is

Table 5.6

Comparison of the Employment Status Results for the 13 Week Program Survey and UI Wage Record Data

Title II-A Adult Survey Population

Post-Program Survey Status	First Quarter UI Status: Employed	First Quarter UI Status: Unemployed	
Employed	628 (72.8%)	114 (13.2%)	742 (86.0%)
Unemployed	44 (5.1%)	77 (8.9%)	121 (14.0%)
	672 (77.9%)	191 (22.1%)	863 (100%)

Overall Correspondence = 705 (81.7%)

*Employment rates calculated from UI wage record data.

disturbing that for some respondents who claimed that they did not work during the quarter but a UI wage record emerged anyway. Some of these individuals may have deliberately misrepresented their employment status, but there is little evidence that misrepresentation is widespread. In fact, the level of misreporting among welfare recipients, the group with the strongest motivation for denying employment, was very close to the level found for nonrecipients (5.4% and 4.4%, respectively).

There are two likely reasons for the discrepancy. First, respondents actually may have earned the UI wages reported for this quarter during the previous quarter and subsequently lost their jobs. Second, respondents may have experienced memory decay, an important source of response errors. Both memory decay and the reporting of previously earned UI wages are possible given the fact that 29 of the 44 terminees who failed to verify UI reported employment were listed as being employed at termination from the program. However, unless one is willing to argue that all 29 terminees lost their jobs in less than the one week that elapsed between their termination from the program and the beginning of the post-program period, the inevitable conclusion is that memory problems played some role in the responses of this group.

Memory decay is only an issue with the survey question asking terminees to recall the number of weeks they worked during the post-program period. It is extremely unlikely that this problem had any effect on the responses to the question concerning employment during the thirteenth week.

There is little reason to suspect memory errors among the group of survey respondents who claimed they worked in the post-program period but for whom a wage record could not be found. On the other hand, there was a concern with the possibility of telescoping effects, i.e., the tendency of some survey respondents to report that an activity took place in a recall period when it actually took place outside the period. However, the vast majority of terminees in this group were employed at termination from the program (87.7%), and a large percentage claimed they worked during the thirteenth week (74.6%). These two results suggest that memory errors did not play a major role in their responses.

Another explanation is that some of these respondents worked in the latter part of the quarter but did not receive their wages until the next quarter. However, almost 88% of these respondents were employed at termination, so we suspect that the incidence of this problem is fairly low.

A number of alternative conditions can explain why an individual can be employed but not included in the state's UI data system. First, a person may be commuting to an out-of-state job or may have moved to another state and obtained employment. In either case, the earnings would be recorded on the UI system of the state where the individual worked.

Although limitations of the UI database prevent an accurate estimate of out-of-state employment, it may account for a significant percentage of the respondents in this group. For these states, the clearinghouse had information on the location of the job at placement. Of the 33 terminees from three states who claimed they were employed on the survey but for whom there was no UI wage record, 5 (15.2%) were employed outside the state at termination. Assuming that these terminees were also employed out-of-state at the time of the survey, out-of-state employment can account for a significant number of respondents.

This estimate is likely to understate the actual incidence of out-of-state employment among the 114 respondents who responded as employed in the post-program period but for whom no UI wage record was found. Over 28% of these respondents were from a state with a major out-of-state metropolitan area on its border. For this state, out-of-state placement is more likely to be an issue than in the three states we examined. As a result, 15% is a conservative estimate of the level of out-of-state employment represented in this database.

Second, individuals may have jobs not covered by UI. Earnings may be exempt from state and federal reporting requirements because the terminee is self-employed or is working for an employer who is not required to report wages. However, UI reporting requirements are such that the vast majority of workers whose earnings are exempt are likely to be self-employed (Hanna, 1989). Another reason that workers may not appear in the UI files is that they are paid under the table. There would be no official record of earnings on the UI system, but the individual may be willing to report earnings during a confidential survey.

A rigorous analysis of the relative roles of these two types of noncovered employment would require three procedures: (1) to remove those employed out-of-state from the database, (2) to identify self-employed individuals, and (3) to distinguish employers who are subject to UI reporting from those who are not. The current database does not contain the detailed information needed to support these procedures.

Can the limitations of UI wage records be addressed so that they can confidently be used for performance assessment within a state? First, if the purpose of using UI data is to draw state-level inferences, out-of-state employment is a minor issue in many states. In the three states where it was possible to identify the location of the job at termination, less that 5% of all employed terminees had jobs in other states. Thus, out-of-state employment is small and is unlikely to affect state-level estimates of post-program employment.

On the other hand, if the purpose of using UI data is to draw SDA-level inferences (which are necessary to produce SDA performance standards), it may be important either to gather supplemental information on those employed out-of-state or to introduce adjustment procedures to account for their occurrence. The SDA-level results in the three states with out-of-state placement information indicate that those employed out of state were not equally distributed across the SDAs. If participants employed out of state have markedly different employment experiences from those employed within the state, it is important to address the issue of out-of-state employment.

The problems associated with out-of-state employment can be corrected by developing data sharing agreements among states. The evidence from the three states indicates that over 99% of out-of-state employment occurs in neighboring states and that out-of-state employment in noncontiguous states is randomly distributed across all SDAs. Thus, efforts can focus on the collection of data from contiguous states for the few participants employed in those states at termination. The fact that a number of states participating in this project have provided each other with data supports the feasibility of this approach. Furthermore, the expansion of the Internet pilot program, which allows one state to crossmatch UI claims against the UI records of other states to detect possible cases of fraud, suggests

that data exchanges are becoming a routine activity among many states.

Other approaches to the problem of out-of-state employment are available. For example, SDAs with a high incidence of out-of-state employment could conduct surveys to provide the information needed to adjust the UI-based estimates of post-program performance. Since these surveys would target only those terminees employed out of state, they should not be costly.

Neither data exchanges nor adjustment procedures, however, may be required to draw accurate and reliable post-program performance estimates for SDAs. When we compared the follow-up entered employment rates for participants employed out-of-state at termination and those employed within the state, we found that the rates for the two groups differed by less than 0.5 percentage points. This suggests that gathering information on terminees employed out of state is probably not necessary because their post-program experiences are likely to be similar to those employed in-state. Therefore, SDA-level estimates based on participants employed in-state at termination might provide an accurate reflection of the performance of all terminees for an SDA. This preliminary conclusion, however, requires further investigation.

Estimates of performance based on UI data can be adjusted to account for terminees who are either self-employed or working for employers who are not required to report wages to the UI system. The proposed solution requires that states identify these two types of employment at termination. If information collected at termination indicates that the incidence of these types of employment is low or that they are randomly distributed among SDAs, such adjustments would not be necessary.

The coverage issue surrounding those terminees who were paid under the table, i.e., those who worked in a cash economy, deserves special attention. This problem has solutions, but it is not clear that they are needed. Virtually all jobs considered appropriate for JTPA participants are covered by UI, and employer compliance with UI laws is high. Thus under-the-table employment should be rare and randomly distributed across SDAs.

The possibility that under-the-table employment is not random leads to an interesting policy question. Should adjustments be introduced to provide credit to those SDAs whose terminees are more likely to be found in this type of employment? On the one hand, it can be argued that if an SDA is in an area with a higher level of noncompliance among employers, it should not be held accountable for this factor. On the other hand, such employers deny their employees the benefits to which they are entitled under state law. Adjustments might legitimize under-the-table employment as a desirable JTPA outcome.

The issue of under-the-table employment points to an important advantage of using UI wage records to assess post-program performance. It guarantees that the jobs obtained by JTPA terminees will provide a minimum level of benefits. The post-program survey reports any job held in the thirteenth week regardless of its quality--even a once-a-week babysitting job.

The movement to a UI-based assessment system is likely to decrease the incidence of employment not covered by UI in the JTPA population. Realizing that covered employment is the key to unlocking

incentive funds, JTPA service providers will focus their attention on providing their clients with services that can lead to such employment. Furthermore, they will monitor the employers of their participants more closely to ensure that they are providing the benefits required by law.

Cost Comparisons

The start-up costs for designing and implementing a system for gaining access to UI wage-record data will vary depending on the size of the state program. At the high end, one state in the project estimated that it cost $50,000 to $60,000 to develop its UI-based employment tracking system. However, this system is relatively sophisticated and can supply UI data to all state agencies, not just the one administering the JTPA program. Three other states providing information on their start-up UI/JTPA matching costs estimated their costs to be approximately $20,000, with a low of $18,257. The experience of these three states suggests that other states should expect a minimum expenditure level of around $20,000.

Estimated maintenance costs were much lower. No state estimated that it would cost more that $10,000 per year to access UI data for new terminees and to update existing files with additional quarters of post-program data. In fact, one state estimated that it would cost only $2,700 per year.

The estimated costs of collecting the post-program survey data are much higher. In some states, they are quite high. The state reporting the lowest cost for the survey estimated $75,000 as necessary to collect follow-up data in PY89. Another state estimated that its survey costs exceed $230,000 per year. Based on its estimate of the cost of collecting UI data, this last state would save over $200,000 if there was a shift to a UI-based post-program system.

The more a state spends to gather post-program survey data, the more it stands to gain in the movement to a UI-based assessment system. This is a simple function of the fact that maintenance costs are expected to be below $10,000 for all states. Even in states where the cost of post-program data collection is relatively low, a substantial reduction in the total cost of collecting data should be realized.

To provide a better understanding of the nationwide impact of these cost differentials, the clearinghouse compared the total costs of the two options based on start-up and maintenance costs of the six states providing information. The estimate for start-up costs for accessing UI wage records was based on the assumption that they would be a linear function of the JTPA Title II-A allocation for PY88. We also assumed that no state would have UI start-up costs of under $20,000 and set lower estimates to this amount. Maintenance costs were simply set at $10,000 for each state. Both sets of state estimates were then summed to produce the national estimates of $1,394,381 for start-up and $500,000 for annual maintenance of the system.

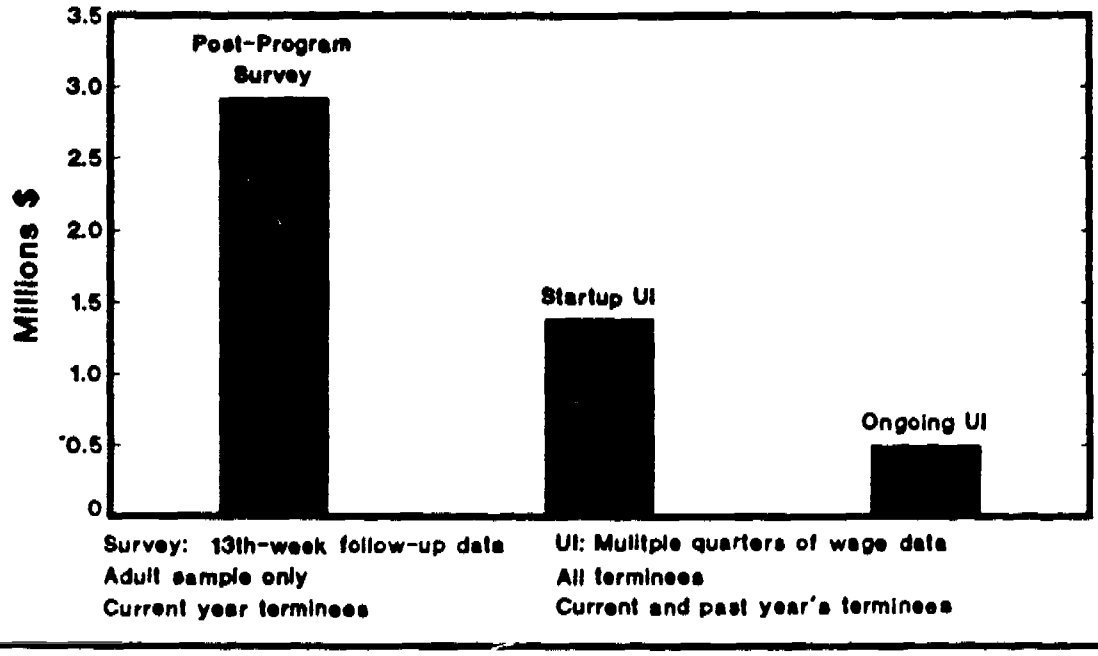
The clearinghouse roughly estimated the national costs of the post-program survey as follows. First, we estimated the minimum sample size for the Adult Title II-A survey for each state's SDAs using PY87 data on program terminations. This produced a nationwide estimate of approximately 161,000 sampled participants. Assuming a response rate of 70%, we estimated the number of respondents to be 112,700. We then multiplied this figure by the average cost per completion among the participating states, i.e., $25.90.[6] This produced a total

estimated cost of $2,918,930 for collecting post-program data for the adult sample for one year.

The three sets of results (Figure 5.1) dramatically illustrate the cost effectiveness of the UI approach. The cost of implementing a national UI-based data collection system is estimated to be less than one-half the current cost of collecting survey data, and the ongoing costs of maintaining the system are estimated to be less than one-fifth. Actual costs of conducting the follow-up survey are underestimated in this analysis because (1) the supplemental welfare sample is not considered, (2) the cost of Title III data collection is excluded, and (3) some states do not sample but survey their entire JTPA population.

Figure 5.1

Comparison of UI and Post-Program Survey Data Collection Costs



Another factor to consider in comparing costs is the quantity of data purchased with these funds. The post-program survey provides one week's worth of employment and earnings information on a sample of one year's terminees. UI data provides multiple quarters of pre- and post-program data for virtually all of those terminated from the program in a given year plus additional post-program information for terminees from previous years. If the two alternatives are compared solely on the basis of the quantity of information obtained, the UI approach has a decided advantage.

The impact on costs of new post-program data requirements for the Title III program must also be included. Previously, states were required to conduct a statewide survey of Title III participants. The new federal reporting requirements call for representative surveys conducted by or for each Title III substate grantee. Since the minimum sample-size criterion used for the

Title II-A surveys will apply to these surveys as well, the total number of JTPA participants needing to be contacted will be substantially increased in each state with more than one substate grantee.

The costs of survey research will keep escalating because it is a labor-intensive activity. The major expense is the wages paid to the interviewers. As wages rise, so does the cost of conducting the survey. New minimum wage legislation will almost certainly affect the costs of the post-program survey.

The collection of UI data depends on technology. Continuing advances in data processing technology are likely to keep costs at a reasonable level. In fact, it may even become less expensive to access this information in the future. The costs of collecting and storing this information are lower now than they were ten years ago. This suggests that the cost differential between collecting survey data and accessing UI data can be expected to increase over time.

Summary

Three basic criteria can be used to judge the relative quality of the post-program survey data and UI data. The first criterion is the extent to which each data source can produce unbiased estimates of SDA performance. The less biased an estimate, the more likely it is to reflect the actual performance of an SDA. The potential for bias in UI-based performance measures is minimal given the high percentage of employment covered under UI regulations. Furthermore, noncoverage problems are either random or they can be handled with adjustment procedures.

In contrast, the estimates of post-program performance produced by the survey data are substantially affected by nonresponse bias. Furthermore, the type of bias found is left unchecked by current adjustment procedures and tends to inflate estimates of performance. To a lesser extent, post-program survey data were affected by the memory recall problems of respondents. This was not a problem with the measure of employment during the thirteenth week, but it affected the measure focusing on the number of weeks worked in the post-program period.

The second criterion refers to the precision or reliability of the estimates that are produced. Although an estimate may be unbiased, this does not mean it is reliable. Reliability is primarily a function of the amount of data available to produce the estimate. The more data, the higher the level of confidence in the estimate.

Since UI-based performance estimates are calculated on a database that can potentially represent all terminees, high precision can be expected from these estimates. Thus, the reliability of UI-based post-program performance measures is essentially not an issue. Furthermore, the reliability of the performance estimates for each SDA should be approximately the same. As a result, a high level of confidence can be placed in the decisions made on the basis of UI information.

The precision of the performance estimates based on survey data is lower for two reasons. First, most states and SDAs survey a sample of terminees rather than their entire terminee population. Because fewer cases are used to produce the estimates, the precision of the estimates is lower. In addition, the number of nonresponses to the survey also serves to lower the number of cases and, therefore, the reliability of the

estimates. A particular concern with the post-program survey is a response rate too low to achieve the minimum sample size.

The minimum sample size requirements assume a response rate of 70%. SDAs tend to achieve different response rates for a variety of reasons, and in PY87 this resulted in a range of SDA response rates that varied by over 30 percentage points (Dickinson and West, 1989). There is likely to be a great deal of variation in their precision of the SDA performance estimates if the SDAs do not adjust their sample size to account for the particular response rate they achieve.

The final criterion addresses the quality of the data. Quality depends in part on whether the same procedures and level of effort are used to collect the information in each SDA. If these are the same, then the quality of the data is likely to be consistent. If not, then there are likely to be difficulties in drawing comparisons among SDAs.

There is no question that the quality of UI data will be highly consistent within a state. However, the coverage requirements of state UI laws differ slightly, and there are differences as well in the way states collect and process information. Some adjustments may be necessary before the data can be pooled across states for analysis.

Whether post-program survey data are consistent within a state largely depends on whether the collection is centralized or decentralized. If collection is centralized and a reputable survey research firm conducts the survey, the data are probably consistent. However, if each SDA is responsible for collecting its own data, there is always the risk that the quality of the data will vary from SDA to SDA. This probability is increased when the state fails to monitor the data collection activities of its SDAs through some form of validation procedure.

Consistency is an issue at the national level as well as at the state level. The federally mandated post-program survey can actually be viewed as over fifty separate surveys. Despite all precautions, the quality of the data probably varies across the states. The extent of this variation and its possible impact on the development of performance standards models remain to be examined.

On each of the three criteria for judging data quality (lack of bias, precision, and consistency), UI wage record data are found to be superior to post-program survey data. Concerns with regard to the use of UI data seem minor compared to the problems identified with the post-program survey data. Even if cost were not an issue in selecting a source of data, concern over the quality of the information argues strongly in favor of the UI alternative.

The relative costs of these two options for collecting data only serve to strengthen the argument for UI-based performance assessment. The ongoing costs of accessing UI wage-record data can be conservatively estimated as less than one-fifth the cost of collecting post-program data through participant contact. For a lower cost, the JTPA system can expect to receive more information on its participants than the survey provides. Such data will include valuable pre-program information plus the post-program data necessary to develop long-term performance indicators.

In this era of deficit reduction, it is evident that JTPA must seek cost-effective ways to fulfill its mission. One way to reduce costs and improve the capacity to monitor the system is to move toward a UI-based assessment system.

Chapter Endnotes

1. This evidence suggests that DOL was correct in assuming that these two groups would have different response rates to the survey.

2. The overall UI match rate is defined as the percentage of participants found to be employed in any of the pre- or post- program quarters. Since one of the most likely sources of a non-match is that the terminee was unemployed during both the pre-and-post-programs periods, the 88.6% match rate for Title II-A adult terminees and the 95.3% match rate for Title III terminees probably understates the overall success of this project in tracking JTPA participants through state UI files.

3. Although a nonmatch does not eliminate the possibility that the individual was employed in a different state or in a job not covered by UI, it substantially limits the range of alternatives.

4. This procedure allows for some minor problems to be introduced because the 13-week follow-up period may not perfectly coincide with the ensuing fiscal quarter.

5. The comparison group for the analysis of Maryland's data was based on two quarters of information and required that positive earnings be recorded for both quarters.

6. The average cost per interview among the participating states is very close to the average cost found in a survey of 42 states conducted by the National Governors' Association in 1987. This survey found that the average cost per completion in PY86 was $33.20. For those states that began conducting follow-up surveys before October 1986, the cost was $25.10.

Chapter 6

Pre- and Post-Program Employment and Earnings: Patterns of PY86 Title II-A Adult Terminees

One of the major advantages of UI wage-record data is its flexibility. Chapter 6 illustrates this flexibility by examining the pre- and post-program employment and earnings patterns of PY86 Title II-A adult terminees from two distinctly different perspectives. The first section focuses on selected demographic subgroups, and the second focuses on experiences of participants grouped according to program interventions.

Prior to presenting these findings, it is necessary to offer several words of caution regarding the interpretation of the results of these analyses. As noted earlier, The National Commission for Employment Policy convened a panel of technical experts to review and comment on the goals and objectives of this project. The panel voiced concerns that are particularly relevant to analyses discussed in this chapter. Findings from the simple descriptive analyses presented are often taken out of context. In particular, the panel was concerned that differences between pre- and post-program employment and earnings would be misinterpreted as evidence of the net impact of the JTPA program. There is a natural temptation to attribute gross changes in employment rates and average earnings to program participation. However, such conclusions are premature. Many other factors also contribute to these differences. For example, changes in local labor market conditions are likely to have a significant impact on observed differences in pre- and post-program employment rates and average earnings. Unless these factors are carefully controlled, their effects will mistakenly be attributed to program participation.

The fact that the following analyses cannot be used to draw inferences concerning the net impact of the JTPA program cannot be overemphasized. In order to estimate net impact, it is necessary to identify the incremental gains in employment and earnings of JTPA participants that occur over and above what would have happened if they had not participated in the program. In other words, the net impact of the program can only be assessed after the effects of other factors have been removed from the gross differences observed between pre- and post-program periods.

The only guaranteed way to remove nonprogram effects is to use a research design that directly relates the experiences of program participants to a control group of nonparticipants. For example, net impact studies employing classical experimental designs randomly select program participants from the pool of people eligible for the program and place those not selected in a control group. Another approach is to use a quasi-experimental design. These studies typically use administrative data

sources to assemble a comparison group (in lieu of a pure control group) and rely on statistical methods to adjust for the inherent differences between the comparison group and program participants.

Regardless of which net impact design is employed, the objective is to use the experiences of non-participants to approximate what the post-program labor market experiences of participants would have been if they had not participated in the program. Since the database developed for this project consists solely of program participants, it cannot address questions about the net impact of the JTPA program. However, this capacity can be developed. Some of the states participating in this project have undertaken the task of constructing comparison groups and are currently examining the net impact of JTPA in their states.

A related concern of the panel focused on the possibility that the findings produced from the subgroup analyses would lead to judgments that JTPA serves one subgroup better than another. The findings presented in this chapter are insufficient to support this type of conclusion because evidence to support it can be obtained only through a net impact design.

There are additional dangers in attempting to compare outcomes from program interventions. Participants are not randomly assigned to program activities. A myriad of factors influence assignments, including the preferences and needs of the client and the range of services offered by the SDA. Consequently, the characteristics of participants vary by program activity, and these differences complicate the comparison of outcomes. For example, it is impossible to determine from a simple comparison of two interventions whether the differences in their outcomes is a function of the inherent quality of the intervention of the differences in the types of participants receiving the interventions, e.g., welfare recipients versus nonrecipients.

The usefulness of these comparisons is not that they enable one to draw conclusions but to raise questions and issues. For example, these comparisons can focus attention on specific aspects of subgroup equity. Thus, although definitive conclusions cannot be drawn, the following analyses can contribute to ongoing debate by refining the issues and acting as a springboard for further research.

Subgroup Analysis

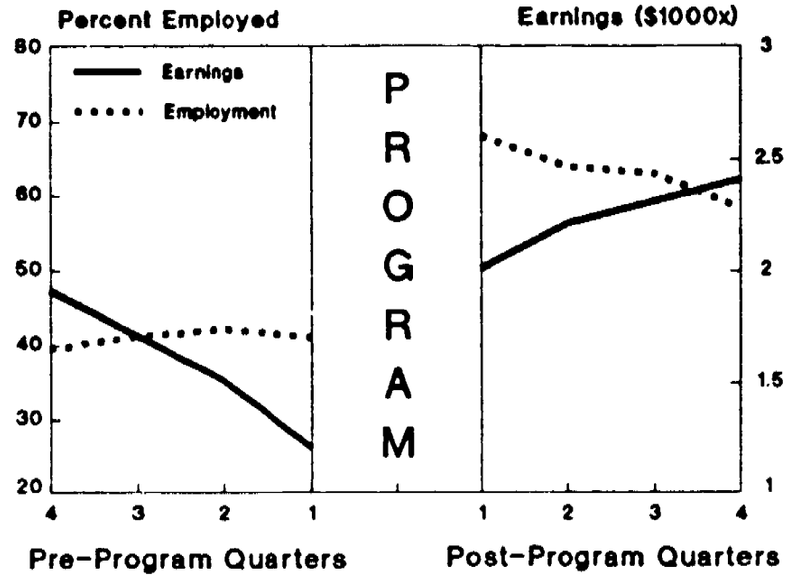
Figure 6.1 presents the pre- and post-program employment and earnings patterns for all PY86 Title II-A terminees. Although the average pre-program earnings declined sharply during the four quarters prior to enrollment, employment rates based on UI data showed relatively little change. These results, in part, reflect the fact that eligibility for the program is determined on the basis of income rather than employment. In addition, the relatively consistent employment patterns coupled with the dramatic decline in earnings suggests that a large number of terminees may have moved from full-time to part-time employment prior to entering the JTPA program.

The post-program employment and earnings patterns were also different. The average UI earnings of those employed increased over the post-program period, but the quarterly employment rates declined. These findings warrant a more detailed analysis of the relationship between employment and earnings. Subsequent phases of this project will cover PY87 and PY88, and they will extend the follow-up

period to eight quarters after termination for PY86 and PY87. These expanded data sets will support a closer analysis of the labor market experiences of JTPA participants, including the surprisingly large dips in employment rates between the third and fourth post-program quarters, which are illustrated in Figure 6.1.

Figure 6.1

Employment and Earnings Trends



The pre- and post-program employment trends of males and females were remarkably similar (Figure 6.2). Although females had lower employment rates than males for each of the quarters examined, these differences were not large, especially during the post-program period.

In contrast, the average earnings of males and females indicate large differences between the two groups in each pre-program and post-program quarter (Figure 6.3). Males, as expected, had higher average earnings. Although the difference between male and female earnings declined in the pre-program period, it increased over the course of the post-program period. The rate of increase was not large, but it is fairly constant.

The pre- and post-program trends by race and ethnic status revealed some surprising results. Three groups, Hispanics, American Indians and Alaskan Natives, and Asian and Pacific Islanders, had higher levels of employment in the quarters immediately prior to program enrollment than they did in earlier quarters (Figure 6.4).

The earnings for all racial and ethnic groups declined in the pre-program period (Figure 6.5). The rate of decline was roughly

Figure 6.2

Employment Trends by Sex

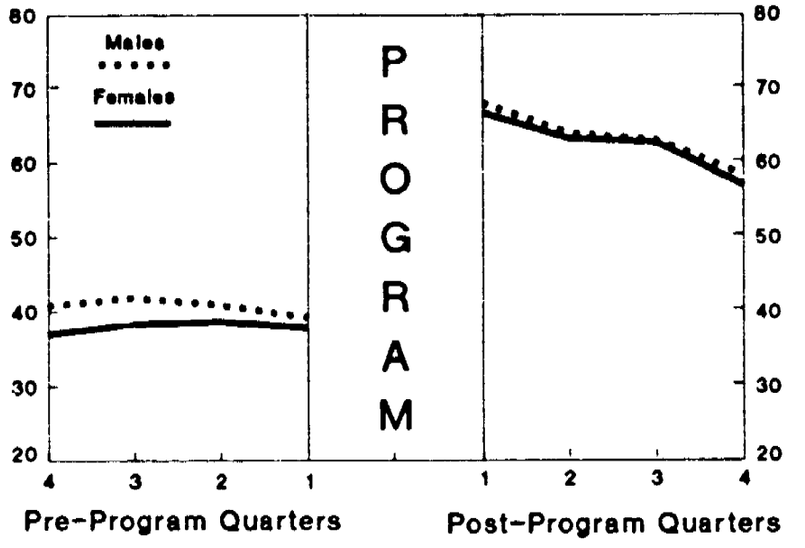
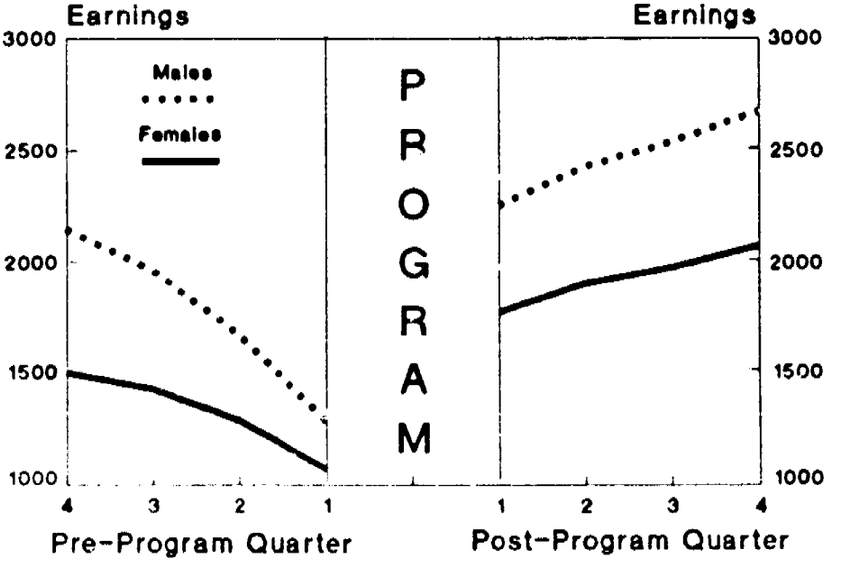


Figure 6.3

Pre/Post Average Earnings Trends by Sex



Average Earnings Based on Those Employed in Quarter

Figure 6.4

Pre/Post Employment Trends by Race

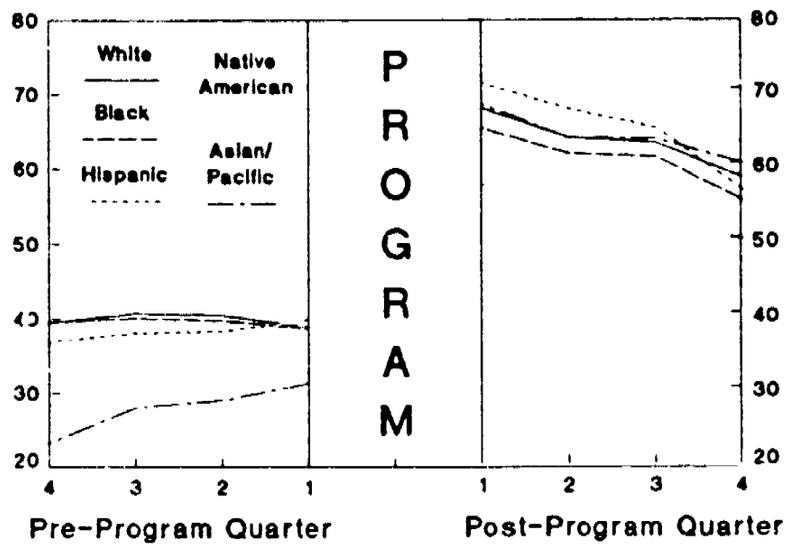
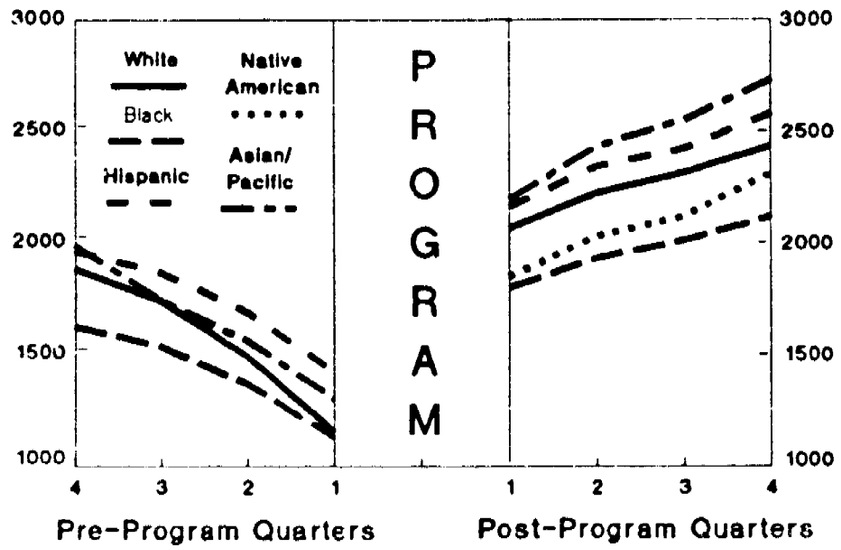


Figure 6.5

Pre/Post Average Earnings Trends by Race



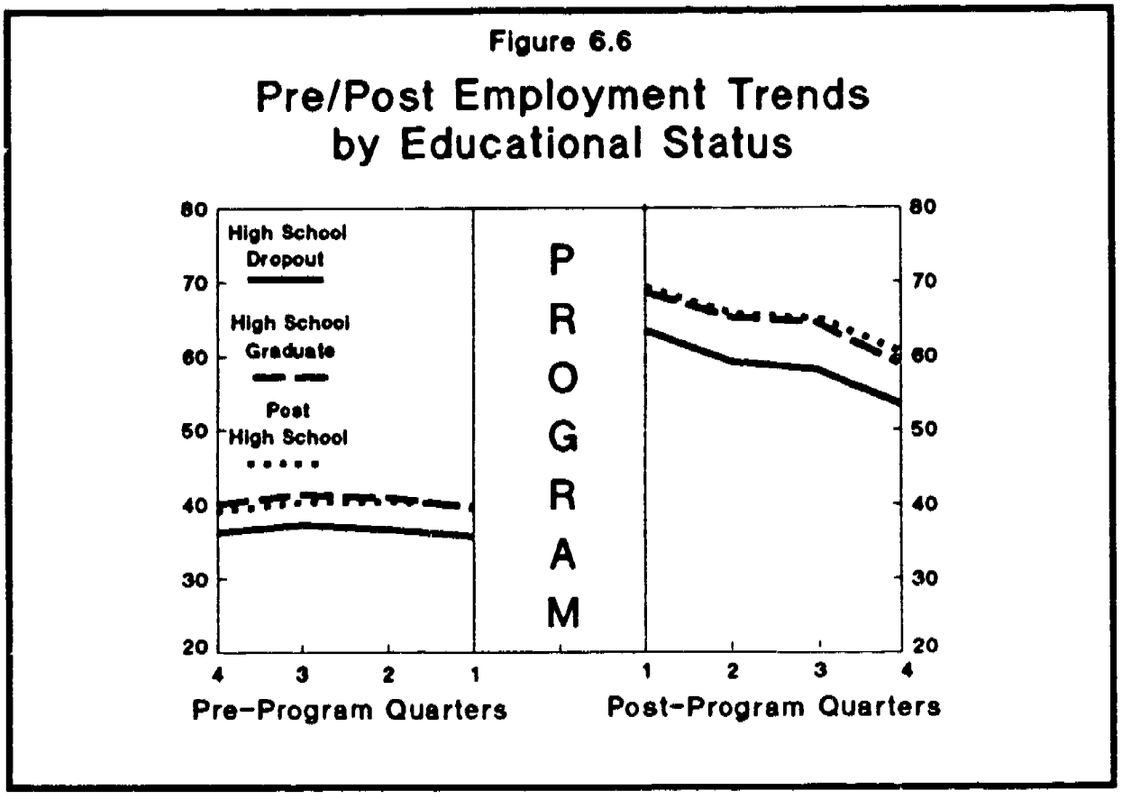
Average Earning Base on Those Employed In Quarter

the same for all groups. The average earnings for all groups increased over the course of the post-program period. In addition, the relative rankings of the groups remained the same throughout this period.

The employment rate and earnings of Hispanics were higher than expected in both the pre- and post-program periods. However, these findings are consistent with the findings of a recent study of the National Commission for Employment Policy (1990) focusing on the participation of Hispanics in JTPA programs. The study cited evidence of a strong work ethic in the Hispanic community, leading its members to accept low-wage jobs in preference to being without work. If their work ethic also prompts Hispanics to work more hours in the jobs they do obtain, it can account for the employment and earnings patterns found in the current study.

Pre- and post-program employment trends for the three groups defined on the basis of their educational status at enrollment were similar (Figure 6.6). The employment levels of high school graduates and post-high school attendees were roughly the same, but dropouts had substantially lower levels of employment in each of the pre-program and post-program quarters. Furthermore, the differences between dropouts and the other two groups were greater in the post-program period than in the pre-program period.

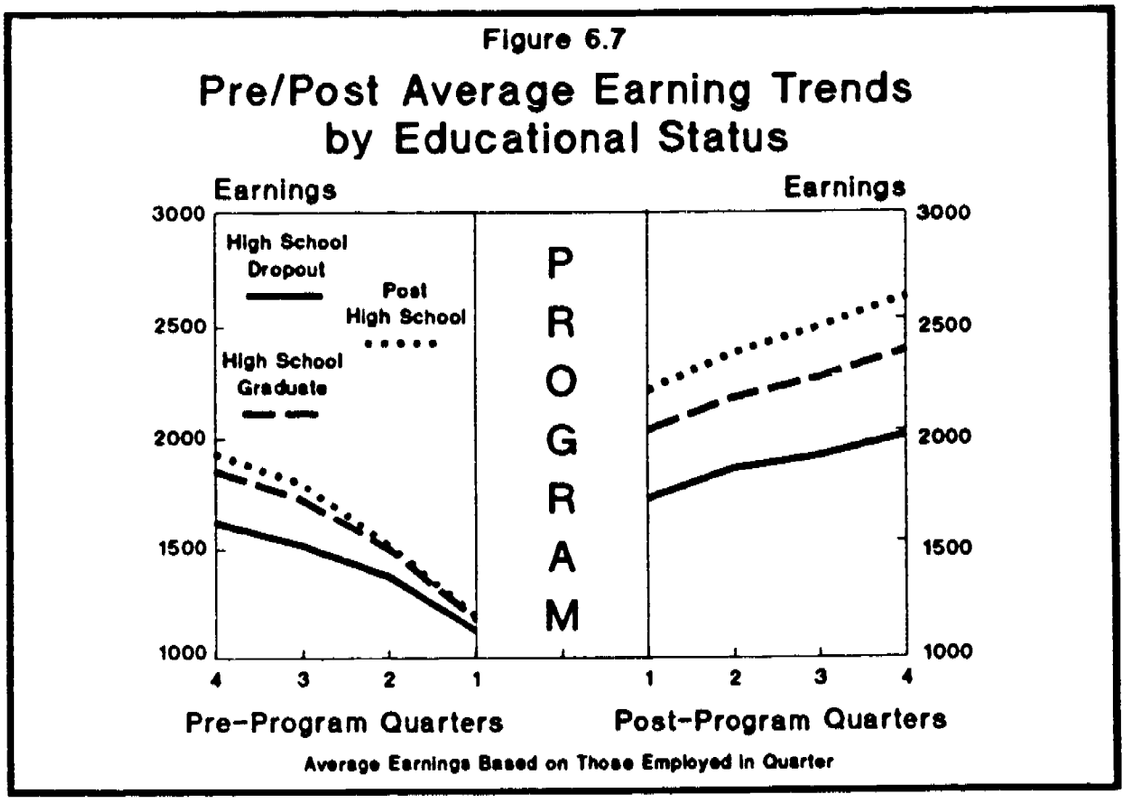
Figure 6.6



Pre- and post-program average earnings for these three groups were also similar (Figure 6.7). Earnings levels for high school graduates and post-high school attendees were about the same in the pre-program period, but some differences emerged in the post-program period. Participants with some post-high school education had

substantially higher earnings in each post-program quarter than those without post-secondary education. Dropouts had much lower earnings in each of the post-program quarters.

Figure 6.7



The final subgroup comparison focused on the welfare status of participants at enrollment. Figure 6.8 illustrates that there was a large difference in the pre-program employment levels of welfare recipients and nonrecipients. There were also differences in the post-program employment levels, but they were much smaller. There were larger differences in the average earnings of welfare recipients and nonrecipients in the pre-program period than in the post-program period (Figure 6.9).

Recipients of Aid to Families with Dependent Children (AFDC) had higher levels of employment in each of the pre-program and post-program quarters than recipients of other types of public assistance. On the other hand, AFDC recipients had lower earnings (Figure 6.9). These results are probably a function of the sex composition of these two groups. AFDC recipients are typically female; those receiving other forms of public assistance are largely male.

Activity Analysis

Access to activity data provided the clearinghouse with the opportunity to define participant groups on the basis of the types of program interventions they received. The clearinghouse translated each state's codes of these activities into a common coding scheme. Since states provided starting and ending dates for each intervention, it was possible to identify each

Figure 6.8

Pre/Post Employment Trends by Welfare Status

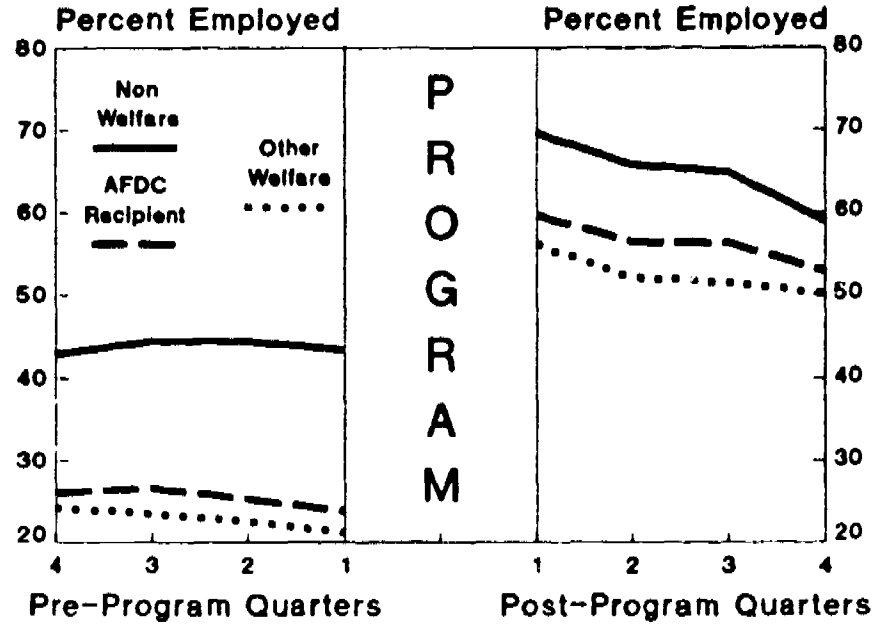
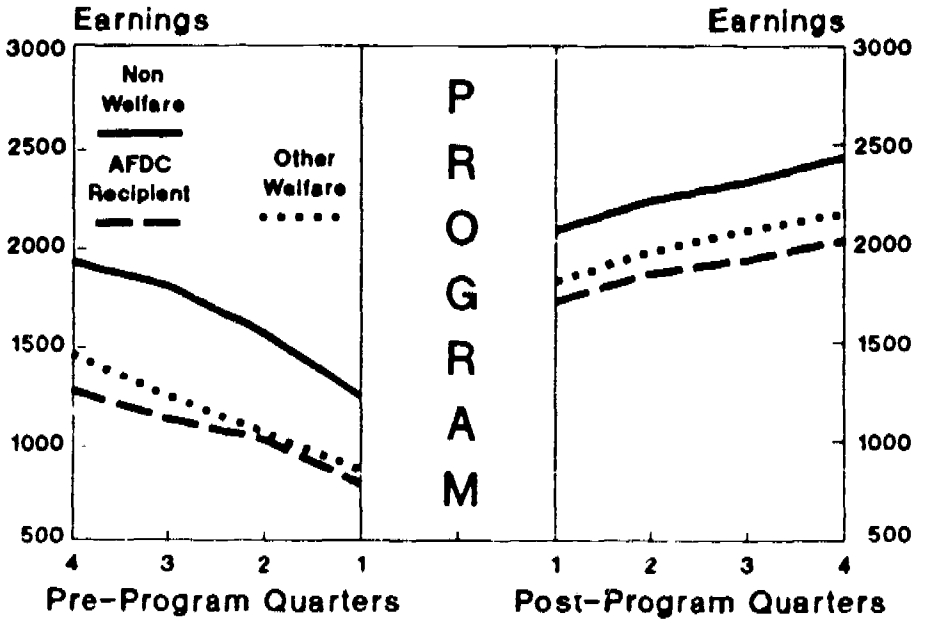


Figure 6.9

Pre/Post Average Earnings Trends by Welfare Status



Average Earnings Based on Those Employed in Quarter

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participant's sequence of activities. The activity sequence indicator plays a prominent role in the analyses presented in this section.

The indicator was designed to reflect movements across different categories of interventions. As a result, it is insensitive to movements within a particular category when those interventions are received consecutively. For example, suppose a participant was consecutively enrolled in two different forms of occupational classroom training and subsequently received job search assistance. The activity sequence indicator will ignore the fact that the participant transferred from one classroom training intervention to another and will reflect only the movement from classroom training to job search assistance. However, if job search assistance had begun before enrollment in the second classroom activity, the indicator would reflect movement across all three activities, i.e., from occupational classroom training to job search assistance and back to occupational classroom training.

No technical reason forced this design of the activity sequence indicator. It could have been constructed to reflect all interventions. However, for this report, we decided to limit the analysis to movements across different categories of interventions and to ignore movements within these categories.

Given that the indicator is based on the chronological order of the interventions, it is important to describe how we treated concurrent and overlapping activities. JTPA participants can receive different types of interventions simultaneously. We treated overlapping activities (where a new activity began before another ended) as if they occurred at two different times. Concurrent activities (where the starting dates for the two activities were the same) were more difficult because it was unclear which should appear first in the sequence. The procedure we used was to define the intervention with the earliest exit date as the first activity.

To focus attention on JTPA's major types of program interventions, we collapsed the nine categories of interventions employed in the original coding scheme to five categories. First, we eliminated the holding category from consideration because it is not a program intervention but a waiting state that the participant enters prior to receiving subsequent interventions. Second, we collapsed the classes of activities previously identified as (1) work experience, (2) employment and training services, and (3) youth activities into the "other" category. The five major classes of interventions that remained were:

- Occupational Classroom Training.
- Remedial/Basic Educational Classroom Training.
- On-the-Job Training.
- Job Search Assistance.
- Other.

All the analyses presented in this section focus on the adult Title II-A population. The section examines the experiences of a total of 100,849 participants; 3,259 were excluded because of missing data.

DISTRIBUTION OF PARTICIPANTS ACROSS PROGRAM ACTIVITIES

Table 6.1 shows the percentage of adult Title II-A participants who received one or two types of program interventions by the sequence of those interventions. Sixty-five

percent (the sum of the diagonal elements) of all adults served by the eleven states received only one type of program intervention during their stay in the program, and 24.6% (the sum of the off-diagonal elements) received two types of interventions. The remaining 10.8% received three or more different interventions.

PY86 participants received on-the-job training most often. Nearly one-third received this intervention either alone (23.7%) or in combination with another type of intervention (9.5%).

Occupational classroom training was the second most popular form of intervention, and job search assistance was third. By a large margin, the least prevalent

Table 6.1

Percent of Participants Receiving Interventions by the Sequence of Those Interventions

PY86 Adult Title II-A Terminees

First Intervention	Second Intervention: Occupational CRT	Remedial/ Basic CRT	On-the-Job Training	Job Search Assistance	Other Interventions
Occupational CRT	16.5	0.4	0.7	3.6	2.6
Remedial/ Basic CRT	0.5	2.0	0.1	0.3	0.4
On-the-Job Training	0.2	*	23.7	0.8	2.6
Job Search Assistance	0.4	*	1.6	12.1	0.3
Other Interventions	2.8	0.4	3.5	3.4	10.7

Percent receiving single intervention = 64.6
Percent receiving two interventions = 24.6
Percent receiving three or more interventions = 10.8

Note:
* = less than .1% received that mix of interventions.

intervention was educational classroom training. Only 6.2% of all participants received basic educational training during their stay in the program.

The majority of participants who received interventions defined as "other" did so in conjunction with another activity. This category of interventions includes services such as vocational counseling and labor market orientation that are designed to assist participants in other training funded under JTPA. It is perhaps surprising that these services are reported for so few participants. However, we suspect that they are underreported on state MISs.

If individual program interventions are underreported, then, implicitly, the percentage of participants receiving multiple interventions is underestimated as well. However, the percentage of participants in this study reported as receiving two or more interventions is 34.4%, much higher than previously published national estimates. An additional 10.3% received "Other" interventions. Based on a national sample of adults who left the JTPA program in the first three months of PY86, DOL estimated that 16.4% received either multiple or "other" interventions.[1]

TERMINATION OUTCOMES OF PROGRAM ACTIVITIES

The analyses presented in this section do not adjust the outcomes from the various program activities for differences in client characteristics. Thus, if one intervention is found to produce a lower outcome than another, this does not imply that the first intervention was less successful than the second. The first may have been used for a harder-to-serve group of participants.

Despite this limitation, an analysis of termination outcomes for the various sequences of interventions is a useful first step toward understanding the dynamics underlying the provision of JTPA services. Such an exploration can help define issues in need of more serious examination.

The popularity of on-the-job training is understandable given that participants placed in this activity have a higher probability of being employed at termination than participants in other activities (Table 6.2).[2] In fact, the five highest entered employment rates displayed were produced by sequences containing on-the-job training as a component. Furthermore, when on-the-job training is offered as the last intervention in a sequence of activities, the entered employment rates indicate that it is even more effective than when it is offered as the only activity.

Although job search assistance produces a relatively high entered employment rate when it is used as the sole intervention, there are mixed results when it appears in conjunction with other interventions. These results suggest that job search assistance is sometimes used as the intervention of last resort, i.e., when the initial intervention does not result in the client entering employment. This is best illustrated by the sequence in which job search assistance follows on-the-job training. The low entered employment rate that results from this sequence indicates that providing job search assistance to participants who fail to enter unsubsidized employment following on-the-job training is seldom effective.

When offered as the only intervention, classroom training activities appear to produce lower entered employment rates than either on-the-job training or job search assistance. However, these results are difficult to interpret because the entered employment rates displayed in Table 6.2 are

not adjusted for the characteristics of the participants. In other words, participants placed in classroom training may face more serious barriers to employment than those who are initially placed in on-the-job training or job search assistance. Therefore, the relative success of these activities cannot be judged through a simple comparison of entered employment rates.

When the average wage at placement is examined, a different pattern emerges. Table 6.3 indicates that the highest average wages ($5.01) are found for participants who received occupational classroom training as their only intervention. Next in order was on-the-job training followed by job search assistance and, finally, remedial and basic educational training. If the low entered employment rate for occupational classroom training can be attributed to attrition, these results imply that participants who successfully complete this form of training are likely to receive higher wages in the jobs they obtain after termination from the program than participants in other interventions.

Table 6.2

Entered Employment Rate by the Sequence of Interventions

PY86 Adult Title II-A Terminees

First Intervention	Second Intervention				
	Occupational CRT	Remedial/ Basic CRT	On-the Job Training	Job Search Assistance	Other Interventions
Occupational CRT	66.8	*	81.0	62.5	58.2
Remedial/ Basic CRT	65.9	58.2	*	*	*
On-the-Job Training	*	*	79.4	49.3	81.8
Job Search Assistance	*	*	89.5	79.1	*
Other Interventions	76.7	*	89.1	73.1	70.9

Note:
* = less than .5% received that mix of interventions.

Table 6.3

Average Wage at Placement by the Sequence of Interventions

PY86 Adult Title II-A Terminees

First Intervention	Second Intervention: Occupational CRT	Remedial/ Basic CRT	On-the Job Training	Job Search Assistance	Other Interventions
Occupational CRT	5.01	*	4.59	5.21	4.78
Remedial/ Basic CRT	4.64	4.41	*	*	*
On-the-job Training	*	*	4.88	4.96	5.04
Job Search Assistance	*	*	4.61	4.77	*
Other Interventions	4.84	*	5.01	4.85	4.80

Note:
* = les than .5% received that mix of interventions.

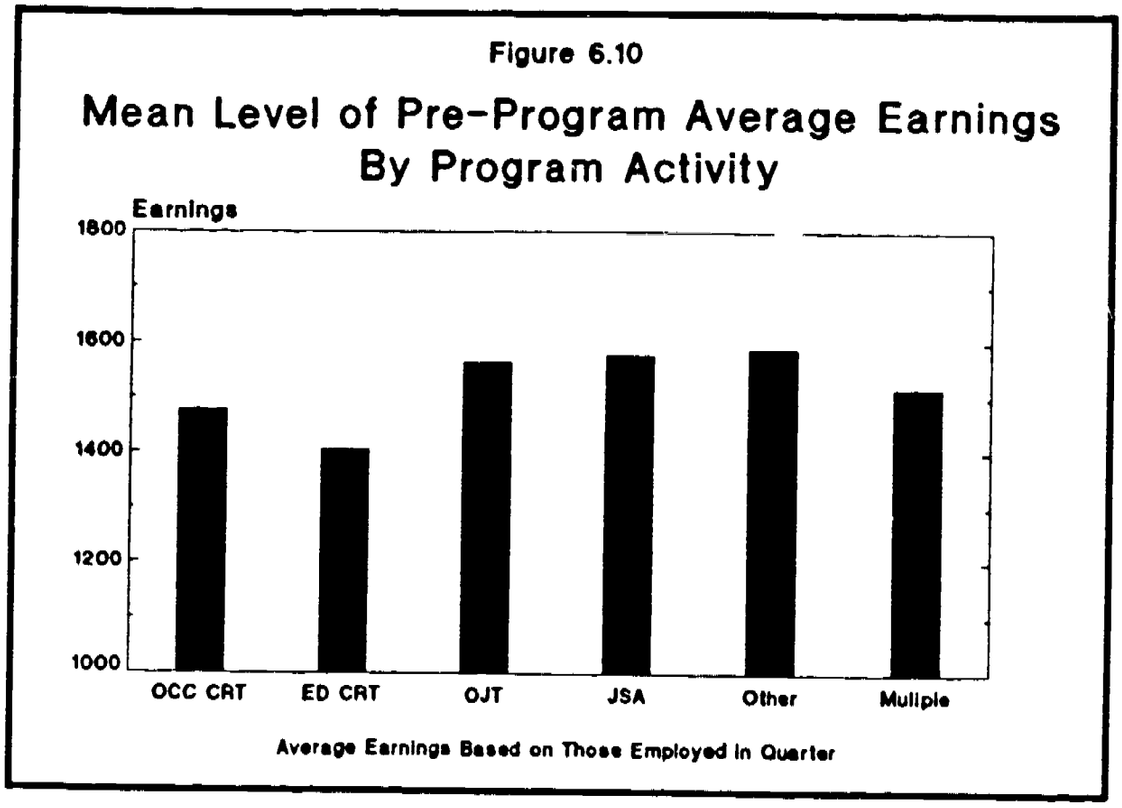
Table 6.3 also illustrates that offering job search assistance after other training can help participants find jobs that provide higher wages. This suggestion is supported by the finding that the wages for participants who received job search assistance as their second intervention in a two-intervention sequence are uniformly higher than participants who received only the first intervention. This implies that job search assistance is not always used as a last resort but also as a means of helping participants take full advantage of the skills they developed in earlier training.

PRE-PROGRAM LABOR FORCE EXPERIENCES

The suggestion that participants are assigned to activities on the basis of an assessment of need finds support when pre-program earnings are used as an indicator of this need. Although the differences in pre-program earnings among the participant groups are not large, there is evidence that participants with lower pre-program earnings tended to receive more intensive JTPA services. Figure 6.10 illustrates that participants who received classroom training as their only intervention

had lower pre-program earnings (averaged across the four quarters) than participants in other interventions. On the other hand, the participant group receiving only job search assistance had one of the highest levels of pre-program earnings reported.

Figure 6.10



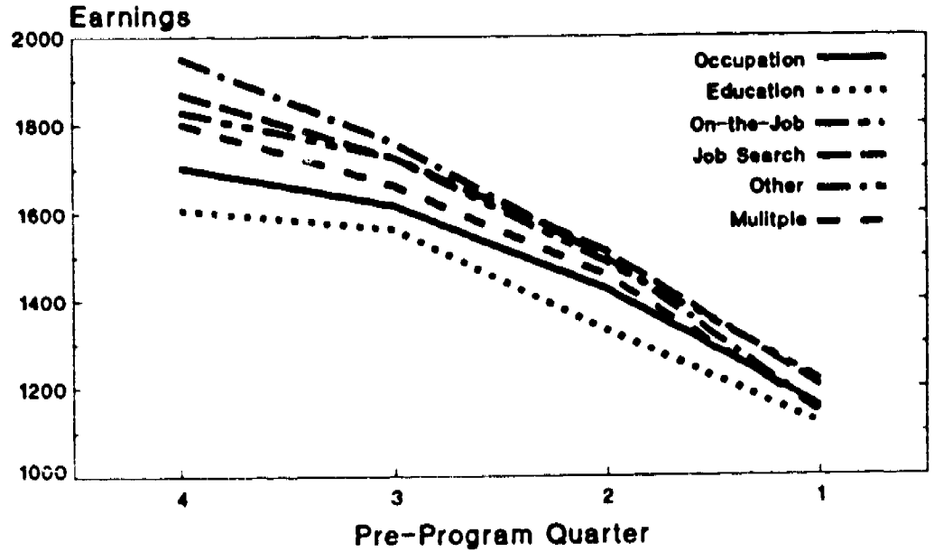
The pre-program earnings of participants identified as receiving multiple interventions reflect the range of different service strategies used with this group. Not all combinations of interventions are equally intense. For example, vocational counseling and job search assistance is a much less intense activity than remedial education and occupational classroom training. It is not surprising to find that the pre-program earnings of the group that receives this sequence occupies a middle position in the rank order. This serves as a reminder that the number of interventions received should not be confused with the intensity of service.

The quarter-to-quarter changes in the pre-program earnings patterns were similar across the different groups (Figure 6.11). For all participants, pre-program earnings declined from the fourth to the first pre-program quarter. The earnings levels of the groups converged in the quarters immediately preceding enrollment, probably because eligibility is based on earnings.

Post-program Labor Force Experiences. The variation between groups in post-program earnings is much greater than the variation in the pre-program period (Figure 6.12). Comparing the range of earnings among the groups for the pre-program and post-program periods further illustrates this point. The difference between the participant groups with the highest and lowest pre-program quarterly

Figure 6.11

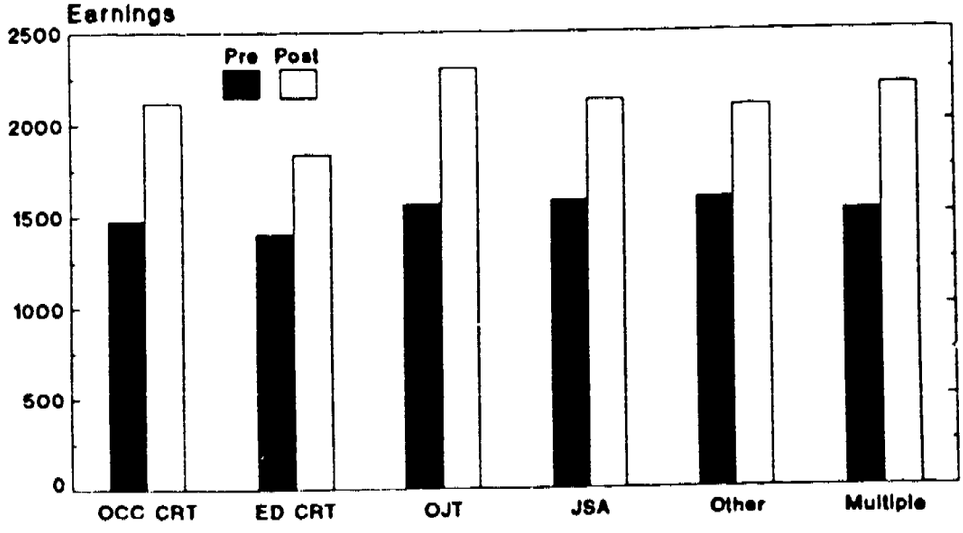
Pre-Program Quarterly Average Earnings by Program Activity



Average Earnings Based on Those Employed in Quarter

Figure 6.12

Mean Level of Pre/Post Average Earnings by Program Activity



Average Earning Base on Those Employed in Quarter

earnings is $173; the corresponding post-program difference is $468.

In comparing post-program findings, the most striking result is the relatively high earnings levels of participants who received on-the-job training as their only intervention. These participants averaged over $100 more per quarter than any other group. This result could not have been predicted based on the pre-program earnings of this group. Although the pre-program earnings of on-the-job training participants were above the average for the six groups, two groups had higher pre-program earnings than participants in on-the-job training.

At the other extreme are the relatively low post-program earnings reported for participants receiving only remedial and basic educational training. However, this finding is understandable given the relatively low pre-program earnings of this group.

The post-program performance of participants who received only job search assistance or "other" interventions was unexpected. Given their pre-program earnings levels, we anticipated that these two groups would have placed high in the rank order based on post-program earnings. However, they did not match the earnings gains made by participants in other groups. As a result, their positions in the rank order based on post-program earnings was lower than their positions based on pre-program earnings. The most dramatic decline was for the group receiving "other" interventions. This group had the highest level of pre-program earnings, but the only group with lower post-program earnings was the group that received only remedial and basic educational training.

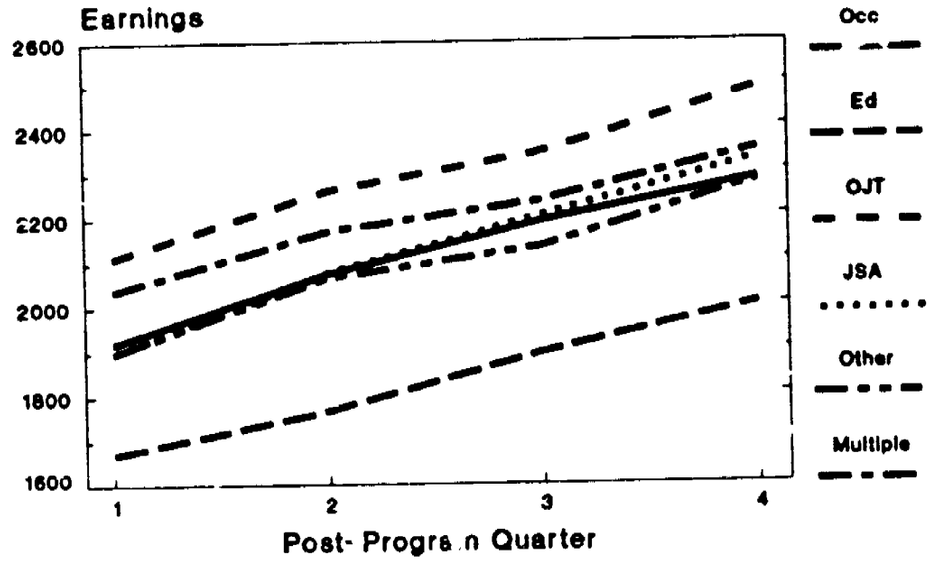
For each participant group, the average earnings of employed terminees increased from the first to the fourth post-program quarter (Figure 6.13). The increases of each group were roughly proportional. As a result, the rank ordering of the groups based on their fourth quarter earnings was very close to the order based on the first post-program quarter.

Measures that reflect the earnings of employed terminees do not account for the different levels of unemployment of the groups in the post-program period. This study calculated the percentage of terminees from each group that was employed during each of the post-program quarters and examined the quarter-to-quarter changes in these rates.

The post-program employment trends in Figure 6.14 indicate that there was a general decline in the percentage of terminees who were employed from the first to the fourth post-program quarter. However, there are some notable differences among the groups. Because employment increased in the early post-program period for the group receiving remedial and basic educational training, this was the only group that had a higher level of employment in the fourth post-program quarter than in the first. Between the third and fourth post-program quarters, employment dropped sharply among on-the-job training and occupational classroom training participants. The magnitude of these declines are similar for the two groups, but much larger than the corresponding declines for other groups. The decline in employment for the on-the-job training group and the overall increase in employment for the remedial and basic group makes it appear that the employment rates for all groups are converging. However, we would need data for additional quarters to determine

Figure 6.13

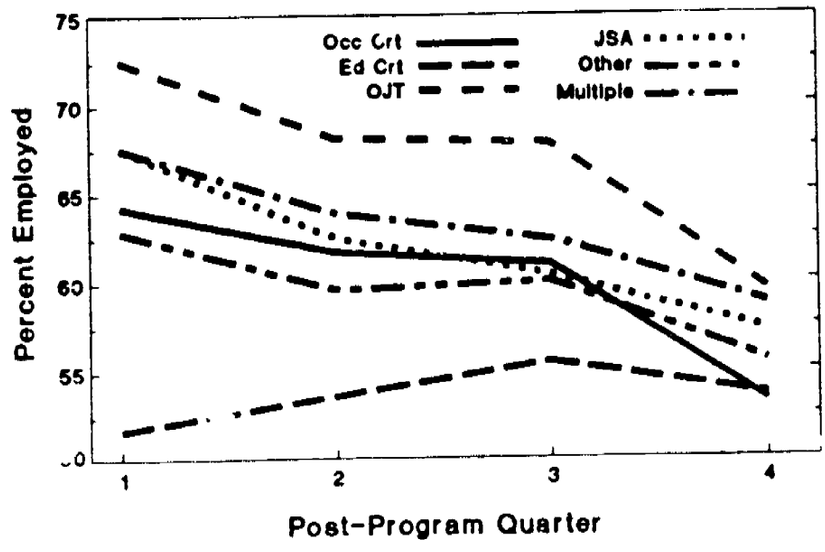
Post-Program Quarterly Average Earnings by Program Activity



Average Earnings Based on Those Employed in Quarter

Figure 6.14

Post-Program Quarterly Employment Rates by Program Activity



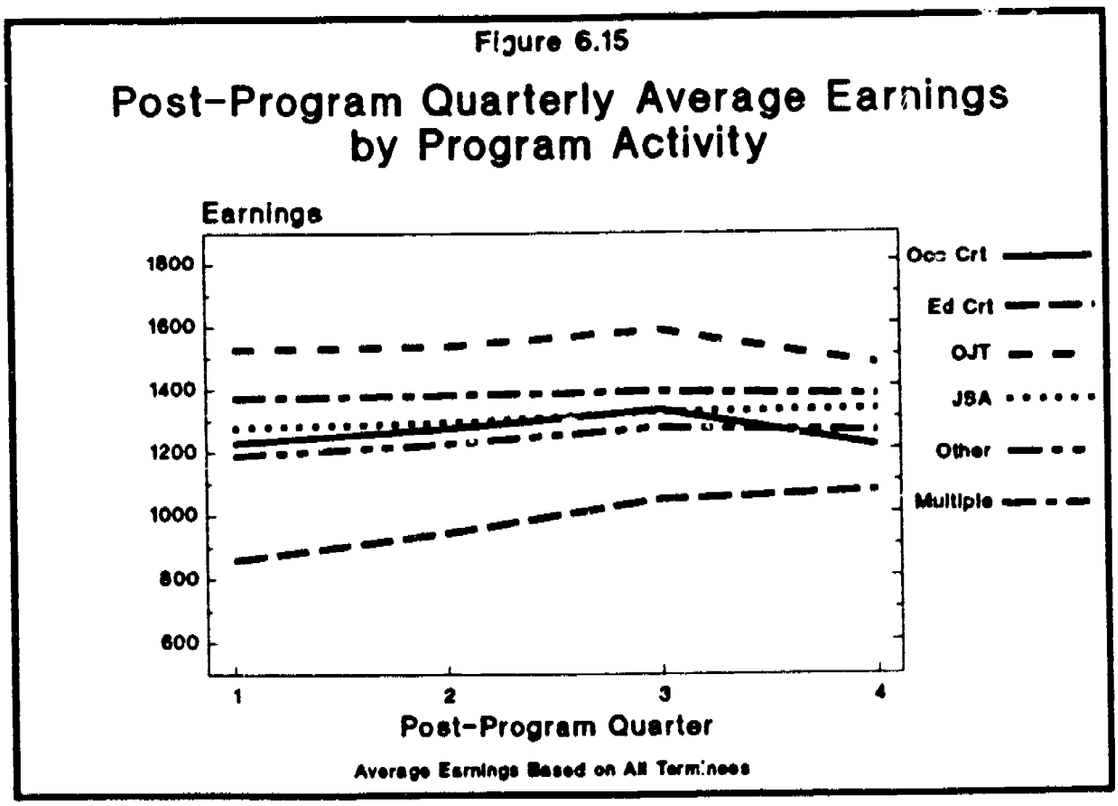
whether the convergence of these rates is real.

One way to view the earnings and employment trends in tandem is to construct an earnings measure that takes into account the zero earnings of the unemployed. In other words, this measure would use all terminees as the base for the calculation of average earnings instead of just employed terminees.

When the quarter-to-quarter changes were examined using the alternative earnings measure (Figure 6.15), not all groups were found to have a continually increasing level of earnings. The average earnings increased from the first to the third post-program quarter for all six groups, but earnings declined for four of the groups between the third and fourth post-program quarters. The most dramatic declines appeared for the on-the-job training and occupational classroom training participants. Earnings dropped for the groups receiving "other" interventions and multiple interventions, but the declines were almost imperceptible.

These results suggest that the employment declines in the four groups were sufficiently large to offset the earnings gains of those who were employed. Average earnings measured on the basis of those employed increased continually over the post-program period, but when the unemployed were included, the pattern reversed between the third and fourth quarter. However, the declines in employment of the other two groups did not have this effect. In order for this result to be obtained, the rate of decline in employment had to be large enough to offset the increasing level of earnings of those employed.

Figure 6.15



These results underscore the danger of using an average earnings measure based exclusively on those employed as an indicator of performance. Such an indicator can produce misleading results. In one case, we found that two interventions had the same level of average earnings measured on the basis of employed terminees, but one of the interventions produced a markedly lower entered employment rate. Assuming that other factors are equal, the intervention with the higher entered employment rate should be interpreted as the more effective of the two interventions. However, ignoring the zero earnings of those unemployed makes the two interventions look equally effective.

Summary

This chapter has illustrated the use of UI wage-record data to examine the pre- and post-program employment and earnings of PY86 JTPA participants across various dimensions. The findings indicate the following:

- Although the earnings of JTPA participants show a sharp decline prior to enrollment, employment levels remain fairly constant.
- The average post-program earnings of terminees increase over the course of the post-program period, but employment levels decline.
- Terminees with lower pre-program earnings and employment experiences tend to receive more intensive JTPA services.
- The differentials found in the post-program earnings of participants receiving different types of interventions tend to correspond to the differences found in their pre-program earnings.
- There is some evidence that remedial and basic education lead to increases in employment for participants which show up after a delay of a few quarters upon termination from this activity.

Analyses using the expanded data sets of Phases II and III of this project will serve to clarify and extend these preliminary findings.

Further research also should investigate whether or not the patterns found for all participants are the same within each demographic subgroup and isolate the reasons for the discrepancies. Such an analysis would increase the current level of understanding about the observed differences in performance among JTPA subgroups. Since these differences are the basis of performance standards adjustments, it would be interesting to assess what role program activities play in the determination of these adjustments.

Research should focus too on the process by which JTPA participants are assigned to different activities. Although the evidence presented in this chapter suggests that pre-program employment and earnings are important considerations, it is likely that other criteria are also used. It is possible to use the information contained in this database to identify and evaluate some of these factors.

Endnotes

1. DOL's program activity categories were collapsed to correspond to the categories used in this report. The data were obtained from the U.S. Department of Labor, 1987.

2. In Table 6.2, the entered employment rates produced by activity sequences received by less than 0.5% of all participants were suppressed in order to focus attention on the most common sequences.

Chapter 7

Use of UI Data in the JTPA Performance Standards System

One of the major features of JTPA that distinguishes it from earlier employment and training programs is its clear emphasis on program performance. The legislation stipulates that program funds are to be treated as an investment in human capital and requires JTPA programs to be evaluated on the basis of the return on this investment. The primary mechanism for evaluating the program is the JTPA performance standards system.

At the core of the performance standards system is a set of performance measures defined by the Secretary of the U.S. Department of Labor. For Program Year 1989, there were twelve such measures specifically designed to reflect the multiple goals of JTPA. The Secretary is also responsible for assigning numerical levels of performance to each measure. These levels are defined as the national performance standards and are used as benchmarks for the national performance of the JTPA system.

The JTPA legislation assigns the primary responsibility for implementing the performance standards system to the states. Although states may choose to set performance expectations for their SDAs to the levels defined by the national performance standards, they are encouraged to vary those standards. To assist states in setting performance expectations for SDAs, the Department of Labor (DOL) developed procedures, based on regression modeling techniques, for adjusting the national performance standards. These adjustments provide for factors that influence SDA performance directly but are considered beyond the effective control of the SDAs.

The performance standards adjustment models are an innovative feature of the JTPA performance standards system. They allow states to tailor the performance expectations of their SDAs to reflect the unique set of local conditions in SDA service areas. For example, performance standards models contain adjustments that lower the performance expectations of SDAs serving relatively high percentages of traditionally hard-to-serve client groups, e.g., welfare recipients, minorities, etc. In the absence of these models, each SDA would be expected to achieve the same level of performance, as defined by the national standards, regardless of the clientele it served. This would result in unreasonable performance expectations for SDAs that provide services in areas that have high concentrations of hard-to-serve groups.

UI wage-record data can play two important roles within the context of the JTPA performance standards system. First, because UI data provide information on the pre-program employment of JTPA clients, it is possible to adjust performance standards based on the varying degrees of labor force

experience found among JTPA clients. Second, performance measures based on post-program UI data can be used either to supplement or replace the current post-program measures as indicators of the long-term success of JTPA participants.

The remainder of this chapter will be devoted to illustrating the ability of UI data to fill both of these roles through examples drawn from the eleven-state database. For example, UI data will be used to develop a set of potential performance standards adjustment factors. These factors will then be tested within performance standards models to assess their effectiveness in explaining performance outcomes. UI data will also be used to define a number of potential post-program performance measures, and several of these measures will be examined in the context of a performance standards model.

Performance Standards Adjustments

Performance standards adjustment models convey strong policy messages to local program operators. The mere presence of an adjustment for a particular hard-to-serve client group signals SDAs that they will be held harmless for their service to that group. Consequently, SDAs have a greater incentive to provide service to client groups represented in the models than to other groups. The models are thus a policy tool that can help direct JTPA services to hard-to-serve client groups.

UI wage-record data can be used to define and identify client populations for which performance standards adjustments are desirable. One of the most significant barriers to employment that many JTPA participants face is their minimal level of labor force experience. This is evidenced by the important explanatory role the factor "Percent Unemployed 15 Weeks or More out of the 26 Weeks Prior to Enrollment" (UNEMPL26) plays in nearly all of the performance standards models for PY89. Although the ability of this factor to explain SDA performance outcomes appears to be well-established, it is possible that additional factors or more effective alternatives to UNEMPL26 can be developed from pre-program UI wage-record data. At the very least, such an exercise will provide assurances that UNEMPL26 captures the most influential aspects of the pre-program labor market experiences of JTPA participants.

The analysis that follows represents a preliminary attempt to identify hard-to-serve client groups through UI wage-record data. For this analysis, we examined UI data for each participant to identify the pattern of employment during the pre-program period. We then calculated four potential adjustment factors on the basis of these patterns. The factors identified the participant as (1) unemployed during the first full quarter prior to enrollment (NOWORKQ1), (2) unemployed during the two quarters prior to enrollment (NOWORKQ2), (3) unemployed during the three quarters prior to enrollment (NOWORKQ3), or (4) unemployed during all four quarters prior to enrollment (NOWORKQ4). The four groups of participants identified by these factors are not mutually exclusive. For example, participants who were unemployed during all four pre-program quarters would, by definition, be members of all four groups. These four factors form a hierarchy of decreasing labor force attachment.

The major problem with these UI-based factors is that they cannot account for the possibility that a participant became

employed during the time lag between the start date for the quarter of JTPA enrollment and the actual date of enrollment. This can represent a substantial period, for example, when a participant enrolls during the last week of a fiscal quarter. Although it would be possible to examine the UI data to determine whether the participant was employed during the quarter of enrollment, there would be problems in interpreting the information. In particular, it would be impossible to determine whether UI wages reported for this quarter were the result of a job held prior to enrollment, after enrollment, or both.

This drawback to using UI-based factors would be eliminated if supplemental information collected by the states could be used to determine whether a participant was employed during this time period. For example, either the date of last employment or the number of weeks unemployed prior to enrollment could be used to fill this information gap. In the absence of this information, adjustment factors based solely on UI data will remain imperfect measures of pre-program employment history of JTPA clients.

This imperfection in the UI-based pre-program employment measures is not a major liability because the level of bias resulting from this measurement problem is likely to be small. It is doubtful that a substantial number of JTPA participants become employed in the period of time for which the UI-based factors do not account. Furthermore, the impact of long-term unemployment that these factors reflect is unlikely to be substantially diminished by the recent employment of a small percentage of participants. Given the exploratory nature of this study, these comments argue that it is unnecessary to introduce procedures to correct this problem with the UI-based measures prior to examining their use as adjustment factors in performance standards models.

To examine the ability of the UI-based adjustment factors to explain JTPA outcomes, we developed performance standards models for two of the adult Title II-A performance measures, the adult entered employment rate and the adult average wage at placement. Since the number of SDAs represented on the database was insufficient to support the approach DOL used to construct the national models, we used an alternative methodology, the individual-level performance standards modeling approach, currently being used in Illinois and explored by other states.

The individual-level performance standards modeling approach differs from the SDA-based approach DOL uses in that it focuses on the relationship between the factors and performance at the individual level rather than the SDA level. The two approaches provide different levels of adjustments and allow different interpretations of those adjustments (see Trott et al., 1987, for details). However, since the relationships found at the individual level are the primary source of the relationships uncovered at the SDA level, the use of this alternative methodology is not expected to inhibit the ability to draw conclusions about the effectiveness of UI-based adjustment factors. If UI-based factors are found to be powerful predictors of performance at the individual level, they should also be effective in predicting performance at the SDA level.

The procedures used to examine the impact of using UI-based adjustment factors in performance standards models involved several steps. First, we chose a set of explanatory factors to form a base model that would serve as a benchmark for

comparison. This base model, which we used for both performance measures, included six factors reflecting an array of client characteristics plus two county-based economic factors.[1] These eight factors are listed in Table 7.1, which supplies descriptive statistics for the factors used in the models as well as the performance measures.

We chose the explanatory factors solely on the basis of their past performance as adjustment factors. In other words, we made no attempt to examine all the potential factors contained in the eleven-state database in an effort to find the best set of factors. This task was clearly beyond the scope of this analysis where the goal is merely to demonstrate the use of UI-based factors.

The next step in this process was to calculate the factor weights (regression coefficients) using only the factors in the

Table 7.1

SDA-Level Statistics for the Variables Used in the Entered Employment Rate and Average Wage at Placement Models*

Factor	Mean	Minimum Value	Maximum Value	Standard Deviation
Female	55.9	36.9	81.7	7.7
Black	24.1	0	90.1	22.9
Hispanic	3.9	0	41.7	5.9
Dropout	26.0	7.8	54.8	7.8
Welfare Recipient	22.8	7.8	51.1	9.6
Unemployed 15 of 26 Weeks	45.9	1.0	79.3	21.3
County Employment Rate	7.0	2.3	14.6	2.2
County Average Wage	17.2	11.4	25.4	2.8
No UI Wages for 1 Quarter before Enrollment	60.7	43.6	77.7	6.6
No UI Wages for 2 Quarters before Enrollment	49.3	31.3	69.2	7.0
No UI Wages for 3 Quarters before Enrollment	42.7	24.9	62.1	7.1
No UI Wages for 4 Quarters before Enrollment	38.6	23.2	57.8	6.8
Adult Entered Employment Rate	75.9	55.2	94.2	8.5
Adult Average Wage at Placement	4.86	3.92	6.52	.45

* Utah SDAs are not represented in the figures.

base model. After we obtained these weights, we introduced each UI-based factor independently into the model so that there would be only one such factor in the model at any given time. As factor entered the model, we re-estimated it to obtain a new set of factor weights. The result of this process was five alternative models for each of the two performance measures. Table 7.2 shows the five models for the adult entered employment rate and Table 7.3 shows the models for the adult average wage at placement.

The most surprising finding from this analysis was the poor performance of the UNEMPL26 factor in the base models for both performance measures. Although we anticipated that this factor would lose some of its explanatory power in the presence of

Table 7.2

Comparison of UI-Based Pre-Program Employment Factors
Adult Entered Employment Rate Model

Factor	Base Model	Model 1	Model 2	Model 3	Model 4
Female	-0.026	-0.027	-0.026	-0.025	-0.026
Black	-0.046	-0.047	-0.047	-0.047	-0.047
Hispanic	0.028	0.028	0.029	0.029	0.030
Dropout	-0.046	-0.045	-0.045	-0.044	-0.044
Welfare Recipient	-0.113	-0.103	-0.102	-0.102	-0.102
Unemployed 15 of 26 Weeks	*-0.001	0.012	0.009	0.008	0.007
County Employment Rate	-0.936	-0.898	-0.896	-0.894	-0.900
County Average Wage	-0.776	-0.785	-0.781	-0.781	-0.778
No UI Wages for 1 Quarter before Enrollment		-0.056			
No UI Wages for 2 Quarters before Enrollment			-0.055		
No UI Wages for 3 Quarters before Enrollment				-0.060	
No UI Wages for 4 Quarters before Enrollment					-0.062
R-Square	.03	.03	.03	.03	.04
r**	.51	.52	.52	.52	.52
N for all Models = 99074					

* Not significant at alpha = .01
** Pearson correlation between the model-derived SDA performance expectation and actual performance. N = 118

Table 7.3

Comparison of UI-Based Pre-Program Employment Factors
Adult Average Wage at Placement Model

Factor	Base Model	Model 1	Model 2	Model 3	Model 4
Female	-.0072	-.0072	-.0072	-.0072	-.0072
Black	-.0034	-.0035	-.0035	-.0035	-.0035
Hispanic	-.0022	-.0022	-.0022	-.0021	-.0021
Dropout	-.0049	-.0049	-.0049	-.0049	-.0049
Welfare Recipient	-.0010	-.0008	-.0007	-.0007	-.0008
Unemployed 15 of 26 Weeks	*-.0000	*.0003	*.0003	*.0003	*.0002
County Employment Rate	.0133	.0137	.0137	.0139	.0136
County Average Wage	.0709	.0706	.0706	.0706	.0707
No UI Wages for 1 Quarter before Enrollment		-.0012			
No UI Wages for 2 Quarters before Enrollment			-.0017		
No UI Wages for 3 Quarters before Enrollment				-.0018	
No UI Wages for 4 Quarters before Enrollment					-.0017
R-Square	.08	.08	.08	.08	.08
r**	.71	.72	.72	.72	.72
N for all Models = 99074					

* Not significant at alpha = .01
** Pearson correlation between the model-derived SDA performance expectation and actual performance. N = 118

the UI-based factors, we did not expect it to be statistically insignificant (alpha = .01) in both of the base models. This result indicates that JTPA participants who were unemployed for 15 or more weeks of the 26 weeks prior to their enrollment in the program had program outcomes that were similar to those of other participants.

The mystery surrounding the poor performance of UNEMPL26 deepened once we introduced UI-based factors into the adult entered employment rate model. In the presence of UI-based factors, UNEMPL26 passed the test of statistical significance, but its relationship to the entered employment rate was counterintuitive. One would expect that participants who were unemployed 15 or more weeks of the 26 weeks prior to enrollment would be less likely than others to be employed at termination. However,

when UI-based factors were placed in the model, the positive sign of factor weight for UNEMPL26 indicated that they were more likely to be employed.

An explanation of the effect of the UI-based factors on UNEMPL26 is not easy to find. These results may be peculiar to the client population of the eleven states participating in this project. Unfortunately, the data needed to test this hypothesis do not exist, i.e., a national sample of JTPA participants with UI wage records attached. Until this mystery is solved, the reliability of UNEMPL26 as an adjustment factor in these models remains open to question.

In contrast to UNEMPL26, the UI-based factors performed exactly as expected. In the models for both performance measures, NOWORKQ1 had a strong negative relationship with the performance outcome under examination. This indicates that participants who were unemployed during the first full quarter prior to enrollment were less likely to be employed at termination and had lower wages when they were employed. Furthermore, each time we replaced a UI-based factor with a factor that considered an additional quarter of unemployment, the magnitude of the weights tended to increase. This can be seen in Tables 7.2 and 7.3, which show the change in the UI-based factor weights as the criterion for unemployment becomes more stringent, i.e., from NOWORKQ1 to NOWORKQ4. The interpretation of the changes is that the longer participants were absent from the work force, the harder they were to serve.

Given that each of the UI-based factors was statistically significant and their relationship with the outcome measure was in the expected direction, the next step was to determine the level of success of each factor in improving the ability of the model to predict SDA performance. To assess this ability, we calculated SDA performance expectations on the basis of the factor weights found in each model and correlated these expectations with actual SDA performance.[2] If including the UI-based factors in the base model substantially improved the ability to predict SDA performance, the correlation between the SDA expectations and actual performance should be higher when the UI-based factors are used to derive the expectations than when they are not.

The results of this analysis suggest that the UI-based factors were only marginally successful in improving the ability of the model to predict SDA performance. Although SDA expectations derived from models including the UI-based factors were more highly correlated with actual performance than the SDA expectations produced by the base model, the improvements were almost negligible. Further analysis revealed that most of the explanatory factors could be removed from the models without causing severe loss of explanatory power. Table 7.4 shows the correlations that emerged each time we excluded a single factor from the base model. In the case of the entered employment rate model, only three factors (the indicator of welfare status and the two local economic factors) produced a substantial drop in the correlation once they were removed from the model. For the adult average wage at placement model, only the exclusion of the area average wage factor resulted in a substantially lower correlation.[3]

Using UI-based pre-program unemployment factors in the performance standards models is a matter of debate. On the one hand, it can be argued that since the factors do not appreciably increase the ability of the models to predict SDA performance, they should not be included in

Table 7.4

Pearson Correlations Between Model Produced SDA Expectation and Actual SDA Performance After Excluding Factors

Factor Excluded from Base Model	Adult Entered Employment Rate Model	Adult Average Wage at Placement Model
Female	.52	.71
Black	.50	.63
Hispanic	.52	.71
Dropout	.51	.67
Welfare Recipient	.45	.71
Unemployed 15 of 26 Weeks	.51	.71
County Employment Rate	.43	.72
County Average Wage	.46	.50
Base Model	.51	.71

N = 118

the models. Those who view the models from a statistical perspective and focus on the use of the models to predict SDA performance will probably take this position. An alternative perspective considers the role of the models as a policy tool, i.e., their ability to direct attention toward hard-to-serve client groups. Given that UI-based factors can identify and provide adjustments for hard-to-serve client populations, those with this perspective will argue that the factors should be included in the models despite their low explanatory power.

Another issue in this debate focuses on the concern for equity in the performance standards system. Although UI-based unemployment factors may not improve the overall ability of the models to predict SDA performance, they can still affect the interpretation of how particular SDAs perform. In fact, the use of these factors can have a substantial impact on the performance expectations of those SDAs that serve a relatively high or low percentage of the long-term unemployed. For example, an SDA that was previously designated as a poor performer may not be interpreted as such after its performance expectations are adjusted on the basis of its level of service to the long-term unemployed. This reinterpretation may happen in only a few SDAs, but UI-based pre-program unemployment factors can nevertheless promote a significant degree of equity in the assessment process.

Developing pre-program earnings factors is much more complex than constructing pre-program employment factors. A pre-program earnings factor should reflect the stock of human capital that participants bring into the program. However, it is difficult to identify a single pre-program quarter where the earnings are an adequate

measure of the stock of each participant. The well-documented pre-program earnings dip among many JTPA participants illustrates this problem. Barnow (1987) notes that the decline in earnings for the quarters immediately preceding program participation is either a transitory phenomenon or the result of a permanent decline in human capital. If the dip is a transitory phenomenon, then the pre-program earnings factor should be based on wages received during a more stable period in the participant's employment history. This argues that UI wages for at least the third or fourth quarter prior to enrollment should be used as the indicator for a participant's stock in human capital. On the other hand, if the dip indicates a permanent decline in human capital, the factor should be based on wages received in the period immediately prior to program participation.

The unsettling aspect of this problem is that the decline in pre-program earnings is transitory for some JTPA participants and permanent for others. This is especially true in the Title III program since the skills of some dislocated workers are still in demand in the labor market, but the skills of others are devalued or obsolete. The ideal solution to this problem is to identify the decline as either transitory or permanent and adjust the calculation of the factor accordingly. However, it is extremely difficult to make this identification because both types of decline look exactly the same. This poses a major obstacle to developing performance standards adjustment factors based on pre-program earnings.

There are also technical issues that must be addressed in constructing a UI-based pre-program earnings factor regardless of how this conceptual issue is resolved. For example, severance pay and other lump-sum payments will inflate the wages reported in the quarter that a participant terminates from a job. As a result, complex decision rules must be developed and invoked if the pre-program earnings factor is adequately to measure the stock of human capital that participants bring into the program. A related issue is whether zero earnings should be used in the calculation of the factor. For example, suppose the decision was made that wages for the third full quarter prior to enrollment were the appropriate focus for this factor. The next issue that must be addressed is whether the factor should represent the average earnings for all participants, the employed and the unemployed.

Given the complex issues that must be resolved prior to developing a UI-based pre-program earnings measure, we made no attempt to construct such a measure for this report. However, the near certainty that pre-program earnings factors will be effective, if not the best, predictors of program outcomes suggests that a thorough examination of these issues should be given a high priority in future research.

Performance Standards Measures

The second role UI wage-record data can play in the performance standards system is in the development of post-program performance measures. This section will consider two types of UI-based post-program measures: (1) earnings measures based solely on UI wage-record data, and (2) employment measures, including employment retention measures developed from both termination data and UI-based data. Many of the statistical analyses will focus at the individual level, and we will formulate and examine the measures at this level.

A key consideration in the design of post-program performance standards is the length of the post-program period. States use the national performance standards to set the performance expectations for their SDAs. These expectations are then used to judge the actual performance of SDAs for the purpose of awarding incentive grants and issuing sanctions. Studies indicate that the longer the post-program period, the more likely the corresponding measures will reflect the net impact of the program. However, there are difficulties in administering a performance management system when the point of assessment is too far removed from the provision of services. If the post-program period is too long, incentive grants to SDAs may be based on a level of performance that has since deteriorated, or sanctions may be imposed after services have improved. From a program management prospective, it is desirable to minimize the length of the post-program period.

The importance of these management issues can be seen in the decisions that were made in the development of the current post-program performance management system. Despite the fact that 26-week post-program measures were more highly correlated with net impact benchmarks, the decision was made to use a 13-week post-program period (Zornitsky, Bloom, Schneider, and Sharick, 1985). This decision was based, in part, on the desire to minimize the time lag between the period of actual performance and the beginning of the assessment process. In other words, slightly less effective indicators of long-term impacts were selected in order to facilitate the implementation of the measures.

Post-program performance data must not reflect employment while a participant was in the program. Therefore, the only UI-based post-program measures that can be produced in a time frame comparable to that of the current measures are those that focus on information reported for the quarter after the quarter of termination. Since most states indicate a reporting lag of one quarter for their UI data, it will take at least six months from the close of a program year before one full quarter of post-program data is available for each participant who terminated during that program year. This time lag is only three months longer than the time it takes to generate survey data. However, for each subsequent post-program quarter, this time lag must be extended by three months. These added delays will push the corresponding assessments farther and farther away from the provision of services. Therefore, UI-based post-program measures focusing on the first full post-program quarter should be viewed as the primary alternative to the current survey based measures.

EARNINGS MEASURES

Post-program earnings measures based on UI data are calculated with a longer measurement interval than those based on survey data. Because the survey-based measure focuses on earnings during the thirteenth week of the post-program period, it requires participants to be employed only during that week. Information is lost for participants who had earnings at some point during the post-program period, but not during the thirteenth week. Furthermore, the survey-based measure does not reflect earnings that participants had in any other week, even if they had earnings in the thirteenth week. Other measures must be used to reflect the duration of employment over the post-program period.

The interval used to calculate post-program earnings measures based on UI data reflects earnings over the entire post-program quarter. The longer interval

thus means that the measure gives a truer picture of the post-program earnings of participants. The measure also provides a better picture of the duration of employment because the level of earnings in a quarter is influenced by the length of time participants were employed in the quarter. This feature can be further enhanced if UI-based measures include the zero earnings of those who were not employed in the post-program quarter.

Studies focusing on the relative validity of various post-program measures clearly demonstrate the importance of capturing the duration of employment. For example, Bloom and McLaughlin (1982) noted that earnings gains among job training participants were primarily a function of the length of time that the participants worked in the post-program period, not the hourly wage rate. The validation tests of Zornitsky et al. (1985) supported this conclusion. The measures that correlated most highly with the validation benchmarks were those that reflected the amount of time worked in the post-program period.

Although it can be argued that the duration of employment should be measured independently of earnings because it is conceptually distinct, there are advantages to capturing it with an earnings measure. Combining the two reduces the number of performance measures and thus streamlines the performance standards system. States and SDAs are likely to find this option attractive since it will simplify program management.

To illustrate the impact of the duration of employment on the interpretation of the earnings data, we constructed two sets of post-program earnings measures based on the total UI wages participants received during a given post-program quarter. The first set excluded nonmatched participants from the calculation of the measures, thus reflecting the average earnings only of those who were employed during a given post-program quarter. The second set included nonmatched participants in the calculation by assuming zero earnings for those participants. The second set thus provided the average earnings of all terminees in a given post-program quarter, not just those who were employed.

Table 7.5 compares the results. The different treatments of nonmatched participants had a dramatic impact on the information conveyed by the measures. The measures that include the unemployed participants depict a substantially lower level of earnings than those based solely on the earnings of employed participants. This result should be expected. The two measures are calculated using the same level of total earnings but a different population base, i.e., employed terminees versus total terminees.

The two sets of measures produce different earnings patterns. The set that includes only employed participants shows average earnings increasing over time. The set that includes the unemployed as well as the employed show average earnings declining in the third and fourth post-program quarters. Post-program employment patterns explain this apparent contradiction. The number of employed participants consistently declines over the course of the post-program period. For example, the percentage of participants who were ever employed during the post-program period declined from a high of 67.1% during the first full quarter to a low of 57.4% for the fourth. Over half of the decrease occurred between the third and fourth quarters. Despite the fact that those who were employed in later quarters received higher wages, the declining level of employment

Table 7.5

Comparison of Alternative Average Earnings Measures

Post-Program Quarter	Average Earnings Based on	
	Employed Terminees	All Terminees
First	1993	655
Second	2143	786
Third	2231	835
Fourth	2350	1003

N = 99074

depressed the level of average earnings when it was measured for all participants.

The two measures are complementary rather than contradictory. Each provides a perspective on the post-program earnings of JTPA participants that is not apparent from the other. The two together provide a better understanding of the dynamics underlying the earnings of participants.

Past studies have consistently found that earnings measures based on all participants indicate long-term program impacts better than measures that focus exclusively on employed participants. The net impact benchmarks used in these studies are based on the experience of all participants. Since earnings measures confined to the experiences of employed participants cannot capture the impacts of the program for those who are unemployed in the post-program period, they are relatively poor indicators of these benchmarks. In contrast, earnings measures based on all participants are typically the best indicators of long-term program impacts.

In order to assess how adjustment factors react to post-program earnings indicators measured at different points in the post-program period, we examined models for the earnings measures using all participants as the population base. For this analysis, we excluded the two economic factors from the models because of the conceptual problems involved in using economic conditions measured at one time point to explain outcomes measured at different time points.

The results of this analysis reveal that the effects of client characteristics change as the focus shifts from the first to the fourth post-program quarter (Table 7.6). For example, the negative weights for females, blacks, and dropouts tend to increase, but the positive weight for Hispanics and the negative weight for welfare recipients tend to decrease. The most interesting change is the decline in the weight for the welfare factor. Although the earnings difference between welfare recipients and nonrecipients remains statistically significant in all quarters, the decline in the weight of the factor indicates that there is less of a difference in the later post-program quarters.

Table 7.6

Comparison of Models for Various UI-Based Post-Program Average Earnings Measures

Average Earnings Based on All Terminiees

Factor	Post-Program Quarter			
	1	2	3	4
Female	-3.08	-3.14	-3.26	-3.55
Black	-1.66	-1.66	-1.70	-2.05
Hispanic	1.74	2.06	1.63	0.85
Dropout	-3.29	-3.74	-3.82	-3.82
Welfare Recipient	-1.97	-1.85	-1.83	-1.33
Unemployed 15 of 26 Weeks	-0.38	*-0.25	*-0.19	0.87
No UI Wages for 1 Quarter before Enrollment	-3.93	-4.28	-4.37	-4.22
R-Square	.05	.05	.05	.04
r**	.51	.42	.42	.41
N for all Models = 99074				

* Not significant at alpha = .01
** Pearson correlation between the model-derived SDA performance expecta .n and actual performance. N = 118

The weights for the pre-program unemployment factors also change, but not in the same direction. The weights for the UI-based measure tend to become more negative (the expected direction). The MIS-based measure has a negative weight in the first full post-program quarter and a positive weight in the fourth quarter, both of which are statistically significant

Despite these changes, the relative effects of the factors within each of the models is remarkably similar. In other words, if the factors are ordered on the basis of the direction and magnitude of their weights, the resulting rankings of the factors are nearly identical across the models. This indicates that the changes in weights did not have a major impact on the relative importance of the factors in explaining post-program earnings measured at different time points.

To examine the ability of this set of factors to explain post-program outcomes, we used the four sets of factor weights to produce SDA post-program performance expectations for each of the post-program quarters. We then correlated these expectations with summary measures reflecting actual performance at the SDA level. These correlations indicate the explanatory power of the models at the SDA level.

The ability of this set of adjustment factors to predict post-program outcomes declines sharply after the first post-program quarter.

Although the correlation between the model-derived expectations derived from the model and the actual outcomes for the first post-program quarter was .51, the correlation for the second quarter declined to .42 and stabilized at that level in subsequent quarters. This suggests that the program outcomes are less predictable when they are measured at later stages of the post-program period.

EMPLOYMENT MEASURES

The UI wage record data can also be used to develop a variety of post-program employment measures, each providing a different perspective on the post-program experiences of JTPA participants. The sections that follow describe a number of these measures and discuss their major advantages and disadvantages. This discussion illustrates the wide range of options for constructing UI-based post-program employment measures.

Quarterly Employment Rates. The first set of potential measures are the easiest to understand and construct. These rates reflect the percentage of terminees who worked in UI-covered jobs during a given post-program period. The number of terminees employed during the post-program period is divided by the total number of terminees:

$$\frac{\text{\# Terminees Employed During Post-Program Period}}{\text{Total Terminees}}$$

The post-program period used in these measures can be defined using one or more quarters of post-program data.

The major disadvantage of these measures is that participants employed for a short time have the same impact on the employment rate as those employed for a longer time. Since the only criterion is nonzero UI wages, participants who are employed for only one day over the 13-week quarter will be included in the calculation of the rate. Thus, these measures are not very effective indicators of the long-term success of participants.

Quarterly Employment Rates Constrained by a Minimal Earnings Expectation. These rates are constructed in a similar manner, but they include an additional criterion to ensure that employment during the quarter reflects some minimal duration. The criterion is a predefined earnings threshold, which could be set in a variety of ways. For example, it could be set to correspond to the earnings level that would result from 20 hours of employment at a minimum wage job for each week of the quarter. To calculate the rate, the number of terminees employed during quarter i with total wages greater than the minimal earnings constraint is divided by the total number of terminees. These rates are more effective indicators of post-program performance because they reflect the percentage of participants with meaningful levels of employment in the post-program period.

The major disadvantage of these rates is that setting the minimal earnings expectation is an arbitrary process that can be a source of considerable debate. Since there are no guidelines available for determining the earnings expectation, a set of criteria will have to be developed to assess the various alternatives. The time involved will delay the implementation of the measures.

Employment Retention Rates. These measures are designed to determine the success of JTPA participants in retaining employment in the post-program period. There are two major options for calculating these rates. The first option looks at the number of terminees employed at

termination and during a given post-program period as a percentage of the number of terminees employed at termination. The second option looks at the number of terminees employed at termination and during a given post-program period as a percentage of all terminees. The two options are expressed in the following equations:

Option 1

$$\frac{\text{\# Terminees Employed at Termination and during the Post-Program Period}}{\text{\# Terminees Employed at Termination}}$$

Option 2

$$\frac{\text{\# Terminees Employed at Termination and during the Post-Program Period}}{\text{Total Terminees}}$$

The post-program period can be defined as including one to four quarters. If more than one quarter is used, the rates can incorporate a more stringent criterion of employment. For example, the definition of a two-quarter period requires that the participant be employed in both quarters.

Retention rates as a performance measure have a major advantage. They correspond more closely with the intention of the JTPA legislation, which identifies "retention in unsubsidized employment" as an appropriate measure of the performance of JTPA programs. Neither the quarterly employment rates nor the current employment measures based on survey data address retention. None impose the requirement that the terminee be employed at the time of termination from the program.

On the other hand, retention rate measures fail to capture the duration of employment in the post-program period. Terminees employed for only one day will have the same impact on the retention rate as those who are employed for the entire period.

A second disadvantage of these measures is that they do not capture the employment of participants who gained employment after termination. This could be a serious problem because some interventions may have a delayed effect. For example, this study found that participants receiving remedial and basic educational training have higher employment rates in later post-program quarters than in the first. If this is due to the delayed effects of these interventions, it can be argued that retention rates are biased against them.

Employment Retention Rates Constrained by a Minimal Earnings Expectation. These performance measures have all the advantages of the unconstrained retention measures and the inclusion of a minimal earnings expectation to capture employment duration. However, they still ignore the possibility of the delayed effects of program interventions and the problems associated with defining the minimal earnings expectation.

Job Retention Rates. Job retention rates focus on whether participants retain the same job they obtained at placement. These measures are possible because UI wage records contain an employer identification number. There are two ways these rates can be calculated:

Option 1

$$\frac{\text{\# Terminees Employed by the Employer at Termination and during the Post-Program Period}}{\text{\# Terminees Employed at Termination}}$$

Option 2

$$\frac{\text{\# Terminees Employed by the Employer at Termination during the Post-Program Period}}{\text{Total Terminees}}$$

Job retention rates capture the quality of job placements. The implicit assumption is that if the program places participants into meaningful jobs, they are likely to retain these jobs over the post-program period. Thus, job retention rates measure the quality of the placements more directly than employment retention rates.

A number of technical barriers make it difficult to implement job retention measures. For example, there is the problem of determining the employer identification number of the employer at termination. States may not record this information, or they may not record it accurately. Furthermore, since employers are permitted to change their identification numbers under certain conditions, it can sometimes only appear that the terminee changed jobs when in fact, the employer changed numbers.

In addition, there are conceptual concerns with using job retention measures. Such measures assume that terminees moved from the job in which they were placed at termination because of the poor quality of the job. However, the job may have provided the opportunity for advancement. Movement could thus be perceived as positive.

Cumulative Employment Rates. Cumulative employment rates attempt to capture the advantages of employment retention measures and, at the same time, provide credit for terminees who obtain employment after termination. These rates are calculated in two steps. The first step is to determine the number of terminees who were employed at termination and for each post-program quarter and to divide the sum by the number of observation periods. The result is the average number of employed terminees per period. In the second step, this average is divided by the total number of terminees. Suppose the rate is based on two quarters of post-program employment. The rate would be calculated as follows:

$$\frac{(\#\ \text{Terminees Employed at Termination} + \#\ \text{Terminees Employed in the First Post-Program Quarter} + \#\ \text{Terminees Employed in the Second Post-Program Quarter}) / 3}{\text{Total Terminees}}$$

This rate will range from 0 to 1. A value of 1 indicates that all participants were employed at termination and at each post-program quarter. A minimal earnings expectation can be applied to strengthen the ability of the measure to capture employment duration.

The cumulative employment rate provides credit for employment at termination and at each stage in the post-program period without requiring that the terminee be employed at termination. Although it is not strictly an employment retention measure, the value of the rate will increase in relation to the percentage of participants who retain their employment. However, the rate is also influenced by increases in the number of terminees who gain employment after termination.

The major disadvantage of this measure is that it is difficult to explain and represents a departure from the way performance has traditionally been measured. If it is employed as a standard, substantial technical assistance may be required in order to familiarize states and SDAs with its properties so that they will feel comfortable with its use in the performance management system.

A second disadvantage is that the measure assumes that employment gained after termination is a function of program interventions. This may be true for some interventions, but it may not be true for others. As a result, the measure may

inappropriately reward some SDAs on the basis of performance levels that were not a product of program interventions.

The above examples indicate some of the options that can be explored with UI wage record data. The issues that remain to be addressed are the policy implications of these choices. Although this cursory examination of the UI-based measures has exposed some of these implications, a more focused analysis needs to be performed. Such an analysis will benefit from the observations and comments of program agents operating at various levels of the JTPA system.

Summary

The evidence presented in this chapter illustrates that UI wage-record data can play two important roles in the context of the JTPA performance standard system. First, it can be used to identify groups of participants with limited employment experience so that performance standards can be adjusted on the basis of the level of service to these hard-to-serve client groups. SDAs that target services to these groups will find such adjustments a welcome addition to the current models.

UI wage-record data can also be used to develop potential performance standards measures. Such measures will correspond more closely to the intent of the JTPA legislation than the current measures based on survey data. Furthermore, evidence from past studies suggests that these UI based measures will be more powerful indicators of long-term program impacts.

Endnotes

1. The use of the county-based economic indicators resulted in the exclusion of one state from the analytical database. This state, Utah, did not supply the clearinghouse with data identifying the county of residence for its participants.

2. SDA performance expectations were calculated by applying the same procedures used in conjunction with DOL performance standards models. For a description of how this is accomplished using factor weights derived from individual level data, see Baj and Trott, 1988.

3. It may surprise some that the exclusion of the factor relating to the gender of the participant did not significantly decrease the correlation for the average wage at placement given the strong effect of this factor in the base model. Although the results are not provided, we found that the effects of this factor were largely transmitted though other factors in the model, most notably welfare status.

Chapter 8

Summary of Major Findings and Implications

This report has conveyed the results of the first phase of a feasibility and demonstration project. The task has been to bring together JTPA terminee records with UI wage records and assess the potential for using UI wage records to monitor the pre- and post-employment and earnings experiences of JTPA participants. Subsequent phases of this project will increase the number of states and add data on terminees from Program Years 1987 and 1988. Analyses on these expanded data sets should serve to clarify and extend the findings summarized below.

Major Findings

THE UNEMPLOYMENT INSURANCE WAGE-RECORD DATA COLLECTION SYSTEM

The UI system had its beginnings in the Federal Unemployment Tax Act (FUTA) of 1937. The implementation of FUTA was influenced by the federal offer of an offset or credit against the tax for states meeting federal standards of implementation. The Deficit Reduction Act of 1984 increased the level of uniformity among state systems for collecting UI data. Before the legislation, some states had adopted a wage request approach to operate their UI systems. Employers in these states submitted wage information only when an unemployment insurance claim had to be processed. As of September 30, 1988, employers in all states were required to submit quarterly wage reports. The Deficit Reduction Act has thus served to eliminate the wage request option for states.

Technical discussions of the potential use of UI wage records for longitudinal analysis typically center on four topics: coverage, accuracy, timeliness, and confidentially. Virtually all for-profit, private-sector businesses are liable for UI taxes. Therefore, they are covered by state UI systems. Although states use different payroll and employment thresholds, all must meet FUTA standards to remain eligible for the federal tax credit. Over 90 percent of all employment is covered and reported to the UI system.

There are several reasons to expect a high degree of accuracy for all data elements contained in state UI files. Accuracy is especially high for earnings reports and is improving. However, there is a problem with using UI information to determine the location (county) of employment because of the reporting practices of multiestablishment firms operating in a state. Furthermore, these practices are not uniform among the states.

Tax liable employers must report covered workers and their earnings to the state within 30 days of the end of each quarter. Although late reporting occurs, the incidence is typically low because it is subject to penalty and interest charges. Small businesses are more likely to report late than large businesses. However, this situation is expected to improve as more

small businesses adopt electronic reporting procedures.

Use of UI wage records for evaluation purposes must satisfy concerns for confidentiality. State unemployment statutes contain a confidentiality provision protecting the anonymity of individual employees and reporting employers. Release of UI wage-records normally involves an agreement between the state employment security agency and the receiving party. The agreement assures that the integrity of the information will be maintained and that employees and employers will not be identified. Additionally, many procedures to encrypt wage records exist so that individual social security numbers and employer identification numbers are not revealed. Many examples exist in which third-party users have maintained the integrity of the wage-record information. This project involving 11 states is but one example of cooperation among state agencies and successful release of UI records without violations of confidentiality.

The major findings of this examination of the UI wage-record reporting system are summarized as follows:

- Virtually all jobs that most observers would consider appropriate targets for JTPA terminee placement are covered by the UI reporting system.
- Nearly all of these UI covered jobs offer money wages, commissions, and bonus forms of compensation, which are subject to accurate reporting practices.
- The incidence of late reporting is low and expected to improve as more businesses adopt electronic reporting procedures.
- State laws and administrative regulations need not act as a barrier to the responsible use of the wage-record data in full compliance with the spirit and case law of state privacy requirements.

THE UNEMPLOYMENT INSURANCE WAGE-RECORD SYSTEM AS AN ASSESSMENT TOOL

Because each UI quarterly wage record contains information from a single employer for a single employee, the system allows program evaluators a great deal of flexibility. When JTPA records are merged with UI wage records, post-JTPA program earnings histories can be examined by participant characteristics (e.g., age, sex, race), types of program interventions (e.g., basic educational training, on-the-job training), service provider, geography (county of residence, SDA, state), industry of pre-program employment, industry of post-program employment, or any combination of the above.

Perhaps the greatest value in linking the JTPA and UI records lies in the opportunity to focus analyses at the individual level. Individual-level analyses provide insights into the labor-force experiences of JTPA participants that simply cannot be obtained from summary data such as the data currently collected through the JTPA annual status report. Furthermore, these analyses can be conducted without jeopardizing the confidentiality of clients or businesses.

Another distinct advantage of quarterly UI wage records as an assessment tool is that they permit the tracking of post-program experiences well beyond the current thirteenth-week post-program period. By continually appending additional quarters of wage information to client records, one

can follow the progress of JTPA terminees for several years, if desired. The use of the UI wage records could also substantially expand the pre-program information base on JTPA clients without imposing the burden of collecting additional data on local program operators.

The UI wage-record data are an excellent resource for studies concerned with assessing the net impact of JTPA and other employment and training programs. Since UI data can be obtained both for program participants and members of the comparison (or control) group, the employment and earnings outcomes of the two groups can be defined and measured consistently. Finally, UI wage-record data are an extremely cost-effective alternative to other sources of post-program information.

This review of features of the UI wage record system as an assessment tool revealed the following:

- The use of UI wage-record data would enable detailed analyses of the long-term employment and earnings patterns of JTPA terminees.
- UI wage-record data offer great promise as a resource for studies designed to measure the net impact of employment and training programs.
- UI wage-record data are a more cost-effective means for obtaining post-program employment and earnings information than surveys of participants.

The Development of the 11-State Database

One of the major activities of the first phase of this project involved the construction of a database containing longitudinal UI wage-record data and JTPA program data for the 11 states participating in the project. The effort required each state to negotiate agreements for the exchange of data within the state and with the Commission. Each state also had to match the JTPA and UI files and produce a set of standard tables. The clearinghouse was required to establish data transfer conventions for all states to follow, compile state files, check them against the standard tables the states produced, and merge the state files into a single file. Each of these steps was accomplished in a timely and efficient manner. Most of the problems were encountered in processing the JTPA files rather than the UI files. However, these problems were minor and, once identified, were quickly corrected.

The project paid particular attention to the activity or intervention records maintained in the state JTPA management information systems. Activity data were particularly prone to coding errors, and there is the suspicion that SDAs tend to underreport this information.

The experience of constructing the 11-state database of matched UI wage records and JTPA terminee and program intervention records is summarized as follows:

- The technical problems of matching records from the two data systems are reasonably minor and easily overcome.

- If a state resolves to use the UI wage-record information as an assessment tool, necessary agreements and procedures for exchanging data can be established and executed.

- There are a number of specific issues regarding the accuracy and reliability of program activity data.

COMPARISON BETWEEN UI WAGE-RECORD DATA AND THE POST-PROGRAM DATA OBTAINED FROM SURVEYING JTPA PARTICIPANTS

The database constructed by this project provided an opportunity to assess some of the issues of data quality surrounding the post-program survey. First, the study examined response rates by subgroups using the individual-level data from the JTPA records. Certain subgroups of the JTPA population had lower response rates even after we controlled for the effects of employment status at termination. In particular, males, minorities, high school dropouts, and welfare recipients had significantly lower response rates to the survey. This evidence suggests that the level of service an SDA provides to these groups influences the response rates it achieves on the post-program survey.

The project's database also provided the first large-scale opportunity to examine the issue of nonresponse bias and its impact on the estimates of program performance. We found that the post-program employment experiences of survey respondents and nonrespondents were distinctly different. In particular, respondents had higher post-program employment rates than nonrespondents, suggesting that the survey estimates of post-program employment are inflated. Further analysis revealed the source of this bias. It was determined that the current nonresponse adjustment procedures were ineffective in combatting this problem.

Overall, there was a fairly high degree of correspondence between the employment information obtained from respondents to the survey and their UI records. Efforts were made to identify the source of the discrepancies between the two data sources. Although data limitations inhibited this analysis, the evidence suggests that two explanations are likely to account for the majority of these mismatches, namely, out-of-state employment and noncovered employment, e.g., self-employment. In both cases, the problems associated with these coverage issues can be adequately addressed through a variety of remedial measures.

The relative costs of the two data collection options were examined. The study estimated that if each state in the nation implemented a UI-based data collection system, the total start-up cost would be less than one-half of the current cost of collecting post-program survey data. Furthermore, the ongoing costs would be less than one-fifth the cost of participant contact. This would result in a saving of over two million dollars each year.

Another factor to consider in this comparison is the quantity of data purchased with these funds. The post-program survey principally offers one week's worth of employment and earnings information on a sample of one year's terminees. In contrast, UI data provides multiple quarters of pre- and post-program data for the universe of those terminated from the program in a given year plus additional post-program information for terminees from previous years.

Finally, survey costs can be expected to increase over time. Since survey research is labor intensive, the cost of conducting surveys is linked to the prevailing wage rate. As a result, costs are likely to increase in the future with the rise in the minimum wage. In contrast, the costs involved in using UI wage-record data depend on technology. As a result, they should remain reasonably stable and may even decline in response to future advancements in data processing technologies.

The major findings of this comparison of the two data sources are as follows:

- There is evidence of nonresponse bias in the 13-week post-program survey data that inflates the estimates of post-program performance.
- Although there are coverage issues surrounding the use of UI wage-record data, they are unlikely to pose insurmountable barriers to the confident use of this data for performance assessment.
- The cost of using UI wage-record data can be expected to be much lower than current survey costs and may actually decline.

SUBGROUP AND ACTIVITY ANALYSES USING UI WAGE-RECORD DATA

The project performed several analyses to demonstrate the different ways UI wage-record data can be used to examine the employment and earnings experiences of JTPA participants. The first set of analyses explored the pre-and post-program employment and earnings trends of various demographic subgroups in the JTPA population. The second set of analyses considered the experiences of participants grouped on the basis of the type of interventions they received during their tenure in the JTPA program. We examined the distribution of participants across various sequences of program activities and then looked at the termination outcomes for those sequences. Finally, we examined the pre-and post-program employment and earnings of participants placed into the most common JTPA interventions.

Although our analyses should be viewed as exploratory, the findings provide some insights into the JTPA program. The major findings in these analyses include the following:

- Although the earnings of JTPA participants show a sharp decline prior to enrollment, employment levels remain fairly constant.
- The average post-program earnings of terminees increase over the course of the post-program period, but employment levels decline.
- Terminees with lower pre-program earnings and employment experiences tend to receive more intensive JTPA services.
- The differentials found in the post-program earnings of participants receiving different types of intervention tend to correspond to the differences found in their pre-program earnings.
- There is some evidence that remedial and basic education lead to increases in employment for participants which show up after a delay of a few quarters upon termination from this activity.

The Role of UI Wage-Record Data in the Context of the Performance Standards System

UI wage-record data can play two important roles in the context of the JTPA performance standards system. The first role is to define groups of participants with limited employment experience. Once these groups are identified, efforts can be made to provide performance standards adjustments to SDAs based on their levels of service to these groups. The evidence indicates that such groups can be defined and that performance standards adjustments are warranted.

UI wage-record data can also be used to develop a variety of post-program performance measures. We examined a number of candidate measures in this study. Of special note is that UI wage-record data can be used to capture the level of post-program employment retention among JTPA participants.

The major findings to date concerning the possible role of UI wage-record data in the performance standards system can be summarized as follows:

- The preliminary evidence indicates that pre-program UI information can effectively be used to isolate hard-to-serve client groups and provide performance standards adjustments to SDAs for serving these populations.
- The time lag involved in gaining access to UI wage-record data is not viewed as a major barrier to the use of this information in the performance standards system.
- UI information can be used to design a variety of post- program performance measures which more adequately reflect the goals of the Job Training Partnership Act than the current survey-based measures, e.g., long-term earnings and employment retention.

Implications for the JTPA System

The findings of the first phase of this project indicate that JTPA and any other program whose goal is to increase the employment and earnings of participants can use UI wage record data with confidence. Obtaining post-program information from state UI systems is not only a viable option but far more cost-effective than the current practice of gathering this information through contact with participants. Furthermore, UI data is of higher quality than corresponding survey-based information on all of the criteria we considered. In short, UI wage record data can be used to develop an extremely flexible, longitudinal database representing virtually all JTPA participants, which will greatly enhance the ability of the Congress to evaluate the performance of the program.

These findings lead to the conclusion that further steps should be taken to facilitate the movement of JTPA towards a post-program assessment system based on UI data. The rest of this chapter is devoted to exploring the major implications that such a change would impose on the JTPA system. This change would affect all levels of the program, i.e., federal, state, and local. As a result, it is necessary to examine the implications at each of these levels.

FEDERAL LEVEL

One of the major implications of moving to a post-program assessment system based on UI data is the need to create new performance measures. The fact that UI information can be used to track individuals for multiple quarters after program participation offers a great deal of flexibility in designing these measures. This was illustrated in Chapter 7 where we proposed a number of potential UI-based post-program employment and earnings measures.

Of particular importance is the potential for developing more effective measures to capture the long-term employment and earnings experiences of JTPA participants. Employment retention among JTPA participants is a growing concern of Congress as evidenced by a recently proposed amendment which calls for standards based on "retention for more than 6 months in unsubsidized employment." Although it would be difficult to collect accurate and reliable data for an employment retention standard in a six-month survey of participants, UI wage records data can easily and confidently be used to develop and implement such a standard.

The introduction of new performance measures is not unprecedented in JTPA. In fact, only one of the six core performance measures proposed by DOL for use in PY90 is a holdover from the original seven performance measures. These changes reflect DOL's ongoing efforts to improve the JTPA performance standards system. Each year, these efforts are aided by the advice and comments DOL receives from its various technical workgroups. These workgroups, composed of employment and training professionals from all levels in the JTPA system, can be instrumental in the development and selection of post-program performance measures based on UI data.

A second implication of moving to an assessment system based on UI data is the need to develop a transitional strategy to allow states enough time to adjust to the new measures. One option is to adopt the strategy used to introduce the post-program performance measures based on survey data. This strategy allowed each state to select from a menu of alternative performance standards. This menu approach proved to be very effective then, and there is no reason to believe that it would be less effective now.

Regardless of the particular strategy employed, there should be some flexibility to allow states that are currently in a position to adopt performance measures based on UI data to exercise this option. Assuming the eventual use of such measures throughout the system, it seems incongruous to prevent a state from immediately adopting performance measures based on UI data if they have the current capacity to do so.

If a state decides to adopt performance measures based on UI data, the state should not be required to collect survey data. The sole purpose of the surveys is to obtain data needed to assess the post-program performance of SDAs. States electing to use UI-based measures should not be compelled to incur the cost of conducting the survey. Depending on how the post-program survey is being funded, this cost saving can accrue to either the state or the SDAs.

A final implication concerns the problem associated with the time lag with gaining access to UI information. DOL confronted this issue before in the movement from termination-based performance measures to the current post-program measures. The solution was to begin the performance

measurement period in the last quarter of the program year under evaluation. The same approach can be used to accommodate the greater time lag imposed by using UI wage record information.

STATE LEVEL

The first, and most obvious, implication of moving to a UI-based assessment system for a state is that the agency administering JTPA will need to obtain UI wage record data. Many state JTPA agencies, including those participating in this project, have already developed procedures to gain access to this information. However, a number of other states will need to forge data exchange agreements to obtain the UI data. A state's ability to accomplish this task is likely to depend on the current level of integration and coordination between their JTPA and UI systems. In those states where the level of contact has been low, the process of developing these agreements may foster closer working ties between the two systems.

A state will also need to decide how to address the issue of out-of-state employment. There are a number of solutions. A state may decide to rely on a statistical adjustment procedure. Alternatively, it may conduct a supplemental post-program survey for those terminees who were placed in out-of-state employment. A state may also decide to develop cross-state data sharing agreements with neighboring states. It is worthy to note that there is an increasing interest in developing a national archive for UI data. If such an archive is developed, the coverage issue surrounding out-of-state employment will become moot.

Once access to UI data is obtained, states will confront the technical problem of incorporating UI information into their current JTPA management information systems (MIS). The level of difficulty a state experiences will largely depend on the current structur of its MIS, especially the way data are received and stored. Furthermore, given the sheer quantity of information that can be obtained from state UI data systems, decisions must be made with respect to the capacity of the state JTPA MIS. For example, states will need to decide how long they wish to track the progress of JTPA terminees given the limits of their MIS to store information.

The movement to a post-program assessment system based on UI data will also induce states to re-examine their incentive policies. As in the past, incentive policies will have to change to account for new measures. Given the possibility of a longer time lag between the period of performance and the measurement of performance, states may also wish to modify the procedures they use to distribute incentive funds and technical assistance money.

SDA LEVEL

For many SDAs, DOL's change in PY90 to a system that bases adult and welfare performance standards solely on post-program survey data has created a difficult management environment. In the past, SDAs have used the performance measures to monitor the performance of their service providers. However, this management tool loses effectiveness when performance measures are limited to post-program survey data. In the majority of states, post-program data is collected from only a sample of the SDA's former participants. Consequently, only a very small number of terminees served by a given subcontractor are likely to be selected for post-program follow-up. The number of clients sampled from each subcontractor is

unlikely to be sufficient to permit confident evaluations of subcontractor performance. This problem is especially acute in large urban SDAs that have an extensive network of providers to monitor.

The movement to an assessment system based on UI data would return this management tool to SDAs. Through the UI system, post-program information can be obtained for virtually all of an SDA's terminees. An SDA would be able to use this information to assess the performance of subcontractors on the same measures the state uses to assess the SDA's performance. The results of these assessments could then be used as a basis for future contract negotiations.

Final Implications

The use of the UI wage record data as an evaluation tool has implications beyond the JTPA program. Increasingly, Congress has turned to the use of performance measures to insure greater accountability in federally funded programs and to monitor their performance. Recent national welfare and vocational education legislation are just two examples of this trend. In addition, the effort to improve the current levels of coordination and cooperation among these programs is likely to produce higher levels of co-enrollment in the future. These two factors, performance measures and co-enrollment, argue for a common framework to measure labor force outcomes of employment and training programs.

Methods of collecting data based on surveys are ill-suited to establishing such a framework. They require extraordinary efforts to impose some consistency among the various survey efforts and to avoid duplication of effort. Furthermore, each program may wish to examine the progress of former clients using different post-program time frames. This would diminish the effectiveness of any coordination effort, and many clients who are co-enrolled will likely face the prospect of being the subject of multiple surveys.

On the other hand, a coordinated UI data collection effort, providing consistent and reliable data for all programs, is a distinct possibility. Such an effort will allow each program to choose its own post-program measurement period and still benefit from a cost-sharing approach. As federal funds become increasingly scarce, greater efforts should be made to promote the use of the inexpensive and high quality information waiting to be accessed on state UI data systems.

Concluding Comments

Whether to utilize the UI wage record system as a basis for monitoring and evaluating publicly financed employment and training programs is a strategic decision. In this decision, there are four major issues of concern. The first and most basic issue is that of technical feasibility. This project has demonstrated that there are no insurmountable technical barriers to the use of UI wage record data as an evaluation tool. Furthermore, the evidence indicates that the UI system can provide extremely accurate and reliable information on the long-term labor force experiences of program participants. It can also be the source of much needed pre-program information.

The second major issue concerns the costs of obtaining the information. An analysis of this issue revealed that the UI approach to post-program data collection is far more cost-effective than the survey based methods. This permits more information to

be gathered at a much lower cost and substantially increases the range of evaluative issues that can be addressed.

The third major concern focuses on organizational and procedural issues. This study has shown that the extent of the problems posed by these issues will vary from state to state. However, they do not pose insurmountable barriers to the adoption of the proposed data collection approach. Clear signals from the Congress regarding the use of UI wage records for the purpose of program evaluation would significantly ameliorate remaining concerns at the state level and facilitate the necessary data exchange agreements.

Finally, there is the issue of the political will required to initialize and implement the proposed change. Often there is a resistance to change, and nothing short of a congressional directive will permit these changes to occur. We hope that our arguments for the use of UI wage record data as an evaluation tool will lead to greater support for this approach.

Appendix A

Source: United States Department of Labor, Employment and Training Administration., Unemployment Insurance Service. Comparision of State Unemployment Insurance Laws (1989). 1990: 725-457/20645. Washington, D.C.: GPO.

Table 100.--Definition of Employer

State	Agricultural	Domestic	Nonprofit Organization	All other Employers--one employee	
	10 employees in 20 weeks or $20,000 in a CQ unless otherwise specified (8 States)	$1,000 in a CQ unless otherwise specified (6 States)	One or more[2] (21 States)	Minimum period of time or payroll	Alternative conditions[3]
(1)	(2)	(3)	(4)	(5)	(6)
Ala.	. . . . .	. . . .	. . . . .	20 weeks	. . . . .
Alaska	. . . . .	. . . .	. . . . .	Any time	. . . . .
Ariz. [5]	. . . . .	. . . .	. . . . .	20 weeks	. . . . .
Ark.	. . . . .	[1]	X	10 days	None
Calif.	1 at anytime and wages in excess of $100 in a CQ[1]	. . . .	X	Over $100 in qtr.	. . . . .
Colo. [5]	. . . . .	. . . . .	. . . . .	Any time	. . . . .
Conn.	. . . . .	. . . . .	X	20 weeks	. . . . .
Del.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
D.C.	1 at anytime	$500 in CQ	X	Any time	. . . . .
Fla. [5]	5 in 20 wks or $10,000 in a CQ	. . . . .	. . . . .	20 weeks	. . . . .
Ga.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Hawaii	. . . . .	$225 in CQ to one employee	X	Any time	. . . . .
Idaho [5]	. . . . .	. . . . .	X	20 weeks	$300 in qtr.
Ill.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Ind.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Iowa	. . . . .	. . . . .	X	20 weeks	. . . . .
Kans.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Ky.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
La.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Maine	[1][4]	[1]	. . . . .	20 weeks	. . . . .

(Table continued on next page

Table 100.--Definition of Employer (Continued)

State	Agricultural	Domestic	Nonprofit Organization	All other Employers--one employee	
	10 employees in 20 weeks or $20,000 in a CQ unless otherwise specified (8 States)	$1,000 in a CQ unless otherwise specified (6 States)	One or more[2] (21 States)	Minimum period of time or payroll	Alternative conditions[3]
(1)	(2)	(3)	(4)	(5)	(6)
Md.	. . . . .	. . . . .	X	Any time	. . . . .
Mass.	. . . . .	. . . . .	X	13 weeks	. . . . .
Mich.	. . . . .	. . . . .	X	20 weeks	$1,000 in CY
Minn. [4]	4 in 20 wks. or $20,000 in a CQ[1]	[1]	X	20 weeks	. . . . .
Miss.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Mo.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Mont.	. . . . .	. . . . .	X	Over $1,000 in yr.	. . . . .
Nebr.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Nev.	. . . . .	. . . . .	. . . . .	$225 in qtr.	. . . . .
N.H.	[6]	[6]	X	20 weeks	. . . . .
N.J.	. . . . .	. . . . .	X	$1,000 in yr.	. . . . .
N. Mex.	. . . . .	. . . . .	X	20 weeks	$450 in qtr.
N.Y.	. . . . .	$500 in CQ	. . . . .	$300 in qtr.	. . . . .
N.C. [5]	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
N. Dak.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Ohio	. . . . .	$1,000 per individual or $1,500 for 2 or more	. . . . .	20 weeks	. . . . .
Okla.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Oreg. [5]	. . . . .	. . . . .	X	18 weeks	$225 in qtr.
Pa.	. . . . .	. . . . .	X	Any time	. . . . .
P.R.	1 or more at any time	X	X	Any time	. . . . .
R.I.	1 or more at any time	. . . . .	X	Any time	. . . . .

(Table continued on next page)

Table 100.--Definition of Employer (Continued)

State	Agricultural	Domestic	Nonprofit Organization	All other Employers--one employee	
	10 employees in 20 weeks or 20,000 in a CQ unless otherwise specified (8 States)	$1,000 in a CQ unless otherwise specified (6 States)	One or more[2/] (21 States)	Minimum period of time or payroll	Alternative conditions[3/]
(1)	(2)	(3)	(4)	(5)	(6)
S.C.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
S. Dak.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Tenn.[5/]	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Tex.	3 in 20 wks. or $6,250 in a CQ	. . . . .	. . . . .	20 weeks	. . . . .
Utah	. . . . .	. . . . .	. . . . .	$140 in qtr.	. . . . .
Vt.[5/]	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Va.[5/]	[1/]	. . . . .	. . . . .	20 weeks	. . . . .
V.I.	1 or more at any time	$500 in CQ	X	Any time	. . . . .
Wash.	[1/]	[1/]	X	Any time	. . . . .
W. Va.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Wis.	. . . . .	. . . . .	. . . . .	20 weeks	. . . . .
Wyo. [5/]	. . . . .	. . . . .	. . . . .	Over $500 in yr.	. . . . .

[1/] Includes other than cash remuneration.

[2/] All other States cover nonprofit organizations that employ 4 or more in 20 weeks as required by Federal law.

[3/] Or a quarterly payroll of $1,500, unless otherwise specified.

[4/] Agricultural labor performed by an individual 16 yrs. of age or younger is excluded from agricultural coverage unless the employer is covered under the Federal law, Minn.; agricultural labor performed by an alien in the harvesting of apples is excluded from agricultural coverage, Maine.

[5/] States noted exclude alien agricultural workers until January 1, 1993.

[6/] Coverage on elective basis only, N.H..

COVERAGE

TABLE 101.--State Coverage Resulting from Changes in Federal Laws

State	Employer includes any employing unit		Employment includes any service	
	Liable for any Federal tax	Required to be covered under any Federal law	Liable for any Federal tax	Required to be covered under Federal law
(1)	(2)	(3)	(4)	(5)
Ala.	X	X	X	X
Alaska	1/	X	X	X
Ariz.	X	X	X	X
Ark.	X	X	X	X
Calif.	. . . . .	. . . . .	. . . . .	. . . . .
Colo.	X	X	X	X
Conn.	X	X	X	X
Del.	X	X	X	X
D.C.	1/	. . . . .	X	X
Fla.	X	X	X	X
Ga.	X 2/	X 2/	X 3/	. . . . .
Hawaii	1/	. . . . .	X	X
Idaho	. . . . .	. . . . .	X	X
Ill.	X	X	X	X
Ind.	X	X	X	. . . . .
Iowa	X	X	X	X
Kans.	X	X	X	X
Ky.	X	X	X	X
La.	X	X	X	X
Maine	X	X	X	X
Md.	X	X	. . . . .	. . . . .
Mass.	X 4/	. . . . .	. . . . .	. . . . .
Mich.	X	. . . . .	X 4/	X 4/
Minn.	X	X	X	X
Miss.	. . . . .	. . . . .	X	X
Mo.	X	X	X	X
Mont.	X	X	. . . . .	. . . . .
Nebr.	X	X	X	X
Nev.	X	. . . . .	X	X
N.H.	X 5/	. . . . .	X 5/	. . . . .
N.J.	X	X	. . . . .	X
N.Mex.	X	X	X	X
N.Y.	. . . . .	. . . . .	. . . . .	. . . . .
N.C.	X	X	X	X
N.Dak.	X	X	X	X
Ohio	X	X	X	X
Okla.	X	X	X	X
Oreg.	. . . . .	. . . . .	X	X
Pa.	1/	. . . . .	X	X
P.R.	X	X	X	. . . . .
R.I.	X	X	X	X
S.C.	. . . . .	. . . . .	. . . . .	. . . . .

(Table continued on next page)

COVERAGE

TABLE 101.--State Coverage Resulting from Changes in Federal Laws (Cont.)

State	Employer includes any employing unit		Employment includes any service	
	Liable for any Federal tax	Required to be covered under any Federal law	Liable for any Federal tax	Required to be covered under Federal law
(1)	(2)	(3)	(4)	(5)
S.Dak.	. . . . .	. . . . .	X	X
Tenn.	X	. . . . .	X	X
Tex.	X	X	. . . . .	. . . . .
Utah	X	X	X	X
Vt.	X	X	X	X
Va.	X	X	X	X
V.I.	1/	. . . . .	X	X
Wash.	X	X	. . . . .	. . . . .
W.Va.	X	. . . . .	X4/	X
Wis.	X	X	X	. . . . .
Wyo.	X	X	X	X

1/No such provision; none needed since State law covers employers of one or more workers at any time.

2/Law states that nothing shall be construed to require identical coverage to the FUTA.

3/Remuneration for services performed in the State and subject to the FUTA defined as wages for employment.

4/Not applicable to classes of employers whose inclusion would adversely affect efficient administration or impair fund Mass.; to service performed by a student in a work-study program, or part-time service by a minor student, or by a member of a band or orchestra Mich.; or to agricultural labor and domestic service W.Va..

5/Elective coverage under State law for agricultural and domestic services and employers, N.H..

COVERAGE

Table 102.--Coverage as Determined by Employer-Employee Relationship

State	Services considered employment unless-			Other provisions
	Workers are free from control over performance	Service is outside regular course or place of employer's business	Worker is customarily in an independent business	
(1)	(2)	(3)	(4)	(5)
Ala.	. . . . .	. . . . .	. . . . .	Master-servant.
Alaska	X	and X	and X	. . . . .
Ariz.	. . . . .	. . . . .	. . . . .	Service of employee.1/
Ark.	X	and X	and X	. . . . .
Calif.	. . . . .	. . . . .	. . . . .	Contract of hire.2/
Colo.	X	. . . . .	and X	. . . . .
Conn.	X	and X	and X	. . . . .
Del.	X	and X	and X	. . . . .
D.C.	. . . . .	. . . . .	. . . . .	Contract of hire and master-servant.2/3/
Fla.	. . . . .	. . . . .	. . . . .	Service of employee.1/
Ga	X	and X	and X	. . . . .
Hawaii	X	and X	and X	. . . . .
Idaho	X	. . . . .	and X	. . . . .
Ill.	X	and X	and X	. . . . .
Ind.	X	and X	and X	. . . . .
Iowa	X	. . . . .	. . . . .	Contract of hire.2/
Kans.	X	and X	. . . . .	. . . . .
Ky.	. . . . .	. . . . .	. . . . .	Master-servant.4/
La.	X	and X	and X	. . . . .
Maine	X	and X	and X	. . . . .
Md.	X	and X	and X	. . . . .
Mass.	X	and X	and X	. . . . .
Mich.	X	. . . . .	. . . . .	Contract of hire.2/
Minn.	. . . . .	. . . . .	X	Master-servant.
Miss.	X	. . . . .	. . . . .	Master-servant.
Mo.	X	and X	and X	. . . . .
Mont.	X	. . . . .	and X	. . . . .
Nebr.	X	and X	and X	. . . . .
Nev.	X	and X	and X	. . . . .
N.H.	X	and X	and X	. . . . .
N.J.	X	and X	and X	. . . . .
N.Mex.	X	and X	and X	. . . . .
N.Y.	. . . . .	. . . . .	. . . . .	Contract of hire.2/
N.C.	. . . . .	. . . . .	. . . . .	Contract of hire creating employee relationship.
N.Dak.	X	and X	and X	Contract of hire.
Ohio	X	and X	and X	. . . . .

(Table continued on next page)

COVERAGE

Table 102.--Coverage as Determined by Employer-Employee Relationship (Continued)

State	Services considered employment unless-			Other provisions
	Workers are free from control over performance	Service is outside regular course or place of employer's business	Worker is customarily in an independent business	
(1)	(2)	(3)	(4)	(5)
Okla.	. . . . .	. . . . .	. . . . .	Master-servant.
Oreg.	X	. . . . .	and X	. . . . .
Pa.	X	. . . . .	and X	. . . . .
P.R.	X	and X	and X	. . . . .
R.I.	X	and X	and X	. . . . .
S.C.	. . . . .	. . . . .	. . . . .	Contract of hire.[2/]
S.Dak.	X	. . . . .	and X	. . . . .
Tenn.	X	and X	and X	. . . . .
Tex.	X	. . . . .	. . . . .	Contract of hire.[2/]
Utah	X	. . . . .	and X	. . . . .
Vt.	X	and X	and X	. . . . .
Va.	X	and X	and X	. . . . .
V.I.	X	and X	and X	. . . . .
Wash.	X	and X	and X	. . . . .
W.Va.	X	and X	and X	. . . . .
Wis.	X	. . . . .	and X	. . . . .
Wyo.	X	and X	and X	. . . . .

[1/] Service performed by an employee for the person or employing unit employing him.
[2/] Service under any contract of hire, written or oral, express or implied.
[3/] By regulation.
[4/] By judicial interpretation.

COVERAGE

Table 103.--Significant Miscellaneous Employment Exclusions[1/]

State	Agents on commission		Casual labor not in course of employer's business	Part-time service for nonprofit organizations exempt from Federal income tax[2/]	Student nurses and interns in employ of a hospital	Students working for schools[3/] [9/] [10/]
	Insurance	Real estate				
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ala.	X	X	X	X	X	X
Alaska	X	X	X	X[2/]	. . . . .	X
Ariz.	X	X	X	X	X	X
Ark.	X	X	X	X	X	X
Calif.	. . .	X	X	X	X	X
Colo.	X	X	X	X	. . . . .	X
Conn.	X	X	X	X	X	X
Del.	X	X	. . . .	. . . . .	. . . . .	X
D.C.	X	. . .	X	X	X	X[4/]
Fla.	X	X	X	X	X	X
Ga.	X	X	X	X	X	X[4/]
Hawaii	X	X	X	X	X	X
Idaho	X	X	. . . .	. . . . .	X	X
Ill.	X	X	. . . .	X	X	X
Ind.	X	. . .	X	X	X	X
Iowa	. . .	X	. . . .	. . . . .	. . . . .	X
Kans.	X	X	. . . .	X	. . . . .	X
Ky.	X	X[6/]	X	X	X	X
La.	X	X	X	X	X	X
Maine	X	X	. . . .	X[2/]	X	X
Md.	X	[7/]	X	X	X	X
Mass.	X	X	X	X	X	X
Mich.	X	X	. . . .	X	. . . . .	X
Minn.	X	X	X	X	X	X
Miss.	X	. . .	X	X	X	X
Mo.	X	X	. . . .	. . . . .	. . . . .	X[5/]
Mont.	X	X	. . . .	. . . . .	. . . . .	X
Nebr.	X	X	X	X	X	X
Nev.	. . .	X	. . . .	. . . . .	. . . . .	X
N.H.	X	X	X	X	X	X
N.J.	X	X	. . . .	. . . . .	X	X
N.Mex.	X	X	. . . .	. . . . .	. . . . .	X
N.Y.	. . .	X	. . . .	. . . . .	. . . . .	X
N.C.	X	X	X	X	. . . . .	X
N.Dak.	X	X	X	X	X	X
Ohio	X	. . .	X	X	X	X
Okla.	X	X	. . . .	. . . . .	X	X
Oreg.	X	X	X	. . . . .	X	X
Pa.	X	X	X	X	X	X
P.R.	. . .	X	X	. . . . .	. . . . .	X

(Table continued on next page)

COVERAGE

Table 103.--Significant Miscellaneous Employment Exclusions[1/] (Continued)

State	Agents on commission: Insurance	Agents on commission: Real estate	Casual labor not in course of employer's business	Part-time service for nonprofit organizations exempt from Federal income tax[2/]	Student nurses and interns in employ of a hospital	Students working for schools[3/] [9/] [10/]
(1)	(2)	(3)	(4)	(5)	(6)	(7)
R.I.	X[8/]	X	X	X	. . . . .	X
S.C.	X	X	X	X	X	X
S.Dak.	X	. . .	. . . .	X	X	X[4/]
Tenn.	X	X	. . . .	. . . . .	. . . . .	X
Tex.	X	. . .	. . . .	. . . . .	X	X
Utah	X	X	X	X	. . . . .	X
Vt.	X	X	X	X	. . . . .	X
Va.	X	X	X	X	X	X
V.I.	. . .	. . .	X	. . . . .	. . . . .	X
Wash.	X	X	X	. . . . .	. . . . .	X
W.Va.	X	. . .	. . . .	. . . . .	. . . . .	X
Wis.	X	X	. . . .	X	X	X
Wyo.	. . .	X	. . . .	. . . . .	. . . . .	X

[1/] For the major employment exclusions, see text, sec. 125.

[2/] If the remuneration does not exceed $45 per calendar quarter (or is less than $50, in accordance with 1950 amendment to FUTA); in Alaska, $250; Maine, $150.

[3/] Service in employ of school, college, or university by a student regularly enrolled at such institution.

[4/] In States noted, law contains broad exclusion of services performed by students in the employ of an organization exempt from Federal income tax. D.C. also has a provision excluding services performed by a student in the employ of an organization exempt from Federal income tax and the remuneration does not exceed $50 in a calendar quarter. All but 2 of the States noted, Md. and Tex., have a provision which provides for the coverage of any excluded services which are subject to the FUTA.

[5/] If the remuneration (exclusive of room, board, and tuition) does not exceed $50 per calendar quarter.

[6/] By court decision or attorney general's opinion.

[7/] Applicable only while exempt from FUTA.

[8/] Does not exclude such service if performed for a corporation or by industrial and debit insurance agents, R.I.

[9/] All States except the following exclude service by the spouse of a student in the employ of the school: Alaska, Ark., Del., D.C., Fla., Hawaii, Idaho, Kans., La., Maine, Minn., N.Mex., Ohio, P.R., R.I., Tex., V.I., and Va.

[10/] All States except the following exclude students in work-study programs: D.C., Hawaii, Maine excludes only elementary or secondary school students.

COVERAGE

TABLE 104.--Exclusions from Service for State and Local Governments

State	Elected officials	Legislators and members of judiciary	Members of State National Guard and Air National Guard	Temporary emergency employees	Policymaking and Advisory positions
(1)	(2)	(3)	(4)	(5)	(6)
Ala.	X	X	X	X	X
Alaska	X	X	X	X	X
Ariz.	X	X	X	X	X
Ar..	X	X	X	X	X
Calif.	X	X	X	X	X
Colo.	X	X	X	X	X
Conn.	X	X	X	X	X
Del.	X	X	X	X	X
D.C.[1/]	. . . .	. . . . .	. . . . .	. . . .	. . . . .
Fla.	X	X	. . . . .	X	X
Ga.	X	X	X	. . . .	X
Hawaii[1/]	. . . .	. . . . .	. . . . .	. . . .	. . . . .
Idaho	X	X	X	X	X
Ill.	X	X	X	X	X
Ind.	X	X	X	X	X
Iowa	X	X	X	X	X
Kans.	X	X	X	X	X
Ky.	X	X	X	X	X
La.	X	X	X	X	X
Maine	X	X	X	X	X
Md.	X	X	X	X	X
Mass.	X	X	X	X	X
Mich.	X	X	X	X	X
Minn.	X	X	X	X	X
Miss.	X	X	X	X	X
Mo.	X	X	X	X	X
Mont.	X	. . . . .	. . . . .	. . . .	. . . . .
Nebr.	X	X	X	X	X
Nev.	X	X	X	X	X
N.H.	X	X	X	X	X
N.J.	X	X	X	X	X
N.Mex.	X	X	X	X	X
N.Y.	X	X	X	X	X
N.C.	X	X	X	X	X
N.Dak.	X	X	X	X	X
Ohio	X	X	X	X	X
Okla.	X	X	X	X	X
Oreg.	X	X	X	X	X
Pa.	X	X	X	X	X
P.R.	X	X	X	X	X
R.I.	X	X	X	X	X
S.C.	X	X	X	X	X
S.Dak.	X	X	X	X	X
Tenn.	X	X	X	X	X

(Table continued on next page)

COVERAGE

TABLE 104.--Exclusions from Service for State and Local Governments (Continued)

State	Elected officials	Legislators and members of judiciary	Members of State National Guard and Air National Guard	Temporary emergency employees	Policymaking and Advisory positions
(1)	(2)	(3)	(4)	(5)	(6)
Tex.	X	X	X	X	X
Utah	X	X	X	X	X
Vt.	X	X	X	X	X
Va.	X	X	X	X	X
V.I.	X	X	X	X	X
Wash.	X	. . . . .	X	. . . .	X
W.Va.	X	X	X	X	X
Wisc.2/	X	X	X	X	X
Wyo.	X	X	X	X	X

1/State law does not exclude any of these services.
2/In addition to the exclusions listed, excludes official appointed to fill unexpired term of elected official, Wis.

Appendix B

Appendix B.1

JTPA Data File Elements
(One Record Per Termination)

Data Item

1. Client Identifier
2. SDA
3. Title
4. County of Residence
5. Date Enrolled in Program
6. Age
7. Race/Ethnic Group
8. Sex
9. Educational Status
10. Single Head of Household with Dependent under Age 18
11. Presence of Children under 6
12. Limited English Speaking
13. Offender
14. UI Claimant Status
15. Veteran Status
16. Unemployed 15 or More Weeks of Last 26
17. Employment Status at Enrollment
18. AFDC Welfare Status
19. General Assistance Status
20. Refugee Assistance Status
21. Termination Date
22. Termination Status
23. Hourly Wage at Termination
24. Scheduled Weekly Hours at Termination
25. Post Program Sample Status
26. Post Program Response Status
27. Employment Status at 13th Week
28. Weekly Earnings During 13th Week
29. Weeks Worked in Post Program Period

Suggested supplemental data items:

a) Length of time on welfare
b) Any additional barriers to employment collected by the State.
c) Any additional post-program data collected by the State.

Appendix B.2

UI Data File Elements
(Multiple Records Per Termination)

Data Item

1. Client Identifier
2. Start Date of Quarter
3. Employer Identifier
4. Industry Code
5. County Code
6. Weeks Worked During Quarter
7. Quarterly Earnings
8. Quarter Index

Appendix B.3

Activity Data File Elements
(Multiple Records Per Termination)

Data Item

1. Client Identifier
2. SDA
3. Title
4. Date Enrolled in Program
5. Start Date for Activity
6. End Date for Activity
7. Activity Code

Suggested supplemental data items:

a) Contact hours for classroom training activities
b) Occupational Code
c) Completion Code for Activity

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