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USING IN-STATE EMPLOYMENT DATA TO EVALUATE WORKFORCE PROGRAMS

A Case Study of the Portland NEWWS Site

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Evaluations of employment and training programs often use state unemployment insurance (UI) wage records to measure effects on participants' employment and earnings. States are required by the unemployment insurance program to collect information on wages that were paid to employees. These data offer several benefits for evaluation purposes: They are generally accessible to evaluators, pending agreements with state departments of labor; they cover over 90 percent of employment in a state;[1] and they allow evaluators to track participants over long periods to assess how program impacts evolve over time.[2]

UI wage records also have some limitations. They miss earnings from certain types of work — such as self-employment, informal "off-the-books" jobs, and federal government employment. State UI wage records also do not capture out-of-state work. The extent to which this is a limitation for an evaluation depends on several factors, such as whether the program that is being evaluated serves individuals who live near a state border (and therefore may be likely to cross the border for work) or individuals who may have high rates of mobility, such as younger people.

This brief, as part of the Learning from Administrative Data initiative, examines the implications of relying only on in-state UI wage records to evaluate programs that are designed to increase employment and earnings. It uses data from the Portland, Oregon site of the

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National Evaluation of Welfare-to-Work Strategies (NEWWS), an assessment of a series of programs that were implemented and evaluated in the 1990s and were designed to increase self-sufficiency among welfare recipients. The program in Portland increased employment rates and earnings for five years after study entry, as measured with Oregon UI wage records.[3]

A 2023 report examined the implications of using various data sources to assess the long-term outcomes and impacts of the Portland NEWWS site.[4] The analysis in that report found that the employment rate outcomes and impacts differed — primarily in the medium term (that is, five to eight years after study entry) — depending on whether national or Oregon-only data were used. This brief builds on that work by presenting differences between the two data sets in employment rate impacts, year by year, through Year 20. Both data sets are available through the Longitudinal Employer-Household Dynamics (LEHD) program. The brief also presents year-by-year differences in earnings impacts, comparing Oregon-only earnings data with data from a broader group of states.

The findings show that an assessment of the program's short-term effects produces generally similar results using either data set. Using Oregon-only data, the Portland NEWWS program led to relatively large increases in employment rates through Year 4 and small increases through Year 9. National data also show large effects through Year 4, but no effects after that point. Thus, the use of in-state data appears adequate for assessing effects in the short term. However, in-state data misses more workers over the long term, as individuals move out of state for work or for other reasons. When possible, studies of employment programs should pursue national data or data from neighboring states to more fully capture the work trajectories of the target population.

The Portland NEWWS Site

NEWWS examined the effects of 11 mandatory welfare-to-work programs, operated at seven sites around the country, on welfare recipients and their children. The original evaluation was launched in the early 1990s and for five years it tracked program effects on the parents' employment, earnings, benefit receipt, and income, as well as children's well-being and school progress.[5]

The Portland program provided employment and support services to a broad cross-section of individuals who were applicants for — or recipients of — Aid to Families with Dependent Children (AFDC), the program that is now called Temporary Assistance for Needy Families (TANF). Recipients were required to participate in program activities or their welfare grants would be reduced. The Portland program had a clear employment focus but used a mixed approach for matching enrollees to initial activities: Staff members tried to move work-ready individuals into jobs relatively quickly, while others were first assigned to short-term skill-building activities. Participants were counseled to wait for a good job (that offered higher-than-minimum wages and employment stability) instead of taking the first job they were offered.

NEWWS was conducted as a randomized controlled trial. Welfare recipients and applicants were assigned at random to either a control group, which received typical services available to recipients of AFDC, or a program group, which received AFDC but also received services from the Port-

land program.[6] Study participants were subject to the rules of each program for as long as they received benefits. Participants who were assigned to the control group were not eligible for services from the Portland program for three to five years.

The program led to notable increases in both job search and education activities and, for people without a high school diploma or GED at study entry, it led to sizable increases in participation in basic education and the receipt of postsecondary certificates or licenses. The program also led to relatively large and sustained increases in employment and earnings. It increased average five-year earnings by 25 percent and the average number of quarters individuals were employed by 21 percent (based on Oregon UI data).[7] A longer-term analysis examined impacts from Year 12 to Year 14 after study entry using data from the National Directory of New Hires (NDNH), which covered employment and earnings in all states.[8] That analysis found no impacts on employment and earnings, suggesting that the program's effects had faded.[9] In addition, the findings showed a reduction in out-of-state earnings, which offset an increase in in-state earnings. Although NDNH data were not available before Year 12, the pattern of effects raises the question of whether the early analysis may have overstated the program effects on earnings since it did not include out-of-state earnings. This brief attempts to answer that question.

LEHD Data

The analyses for this brief used data from the original NEWWS evaluation and the LEHD program. The original evaluation included background information on individuals — such as demographic, education, and welfare history data — that was collected by staff members during routine interviews with individuals at the time they entered the NEWWS study. The research team used those data to describe the study sample, define subgroups of interest (for whom program impacts might vary), and increase the statistical power of the analysis in the impact estimation models.

The LEHD program, which is part of the Center for Economic Studies at the U.S. Census Bureau, creates public-use data and restricted-access data that combine federal, state, and Census Bureau data on employers and employees under the Local Employment Dynamics Partnership.[10] Under this partnership, nearly every state agrees to share UI data with the Census Bureau; varying degrees of access are granted to affiliated researchers. For this study, 19 states and the District of Columbia allowed MDRC to access their wage records via Federal Statistical Research Data Centers.[11] Earnings data were available for these states and district, which are referred to hereafter as the LEHD states. In addition, given that access to the LEHD earnings data is granted on a state-by-state basis, the LEHD program also provides researchers with a national indicator file that shows whether workers had earnings records in any state. These data are used to provide information on employment at the national level.

LEHD data were used to examine the Portland program's effects on employment and earnings for 20 years after study entry. The study sample was restricted to individuals who were under 45 years old when they entered the program in order to focus on employment in the years before many individuals begin retiring (which often occurs in one's early to mid-60s). Two measures of annual employment were created, capturing the study sample's employment in Oregon and its

employment in all states. Two measures of annual earnings were created, capturing the study sample's earnings in Oregon and earnings in the LEHD states. Thus, this measure of "national" earnings did not capture earnings in all states. In addition, although earnings data were available from California and Nevada, data were not available for the two other states that border Oregon: Washington and Idaho. Portland, in the northwest part of Oregon, is a 15-minute drive from the Washington state border and two-and-a-half hours from Seattle. A large fraction of out-of-state work may occur in Washington, and the data used here will not capture those earnings.

Program Impacts

Employment and Earnings in Oregon

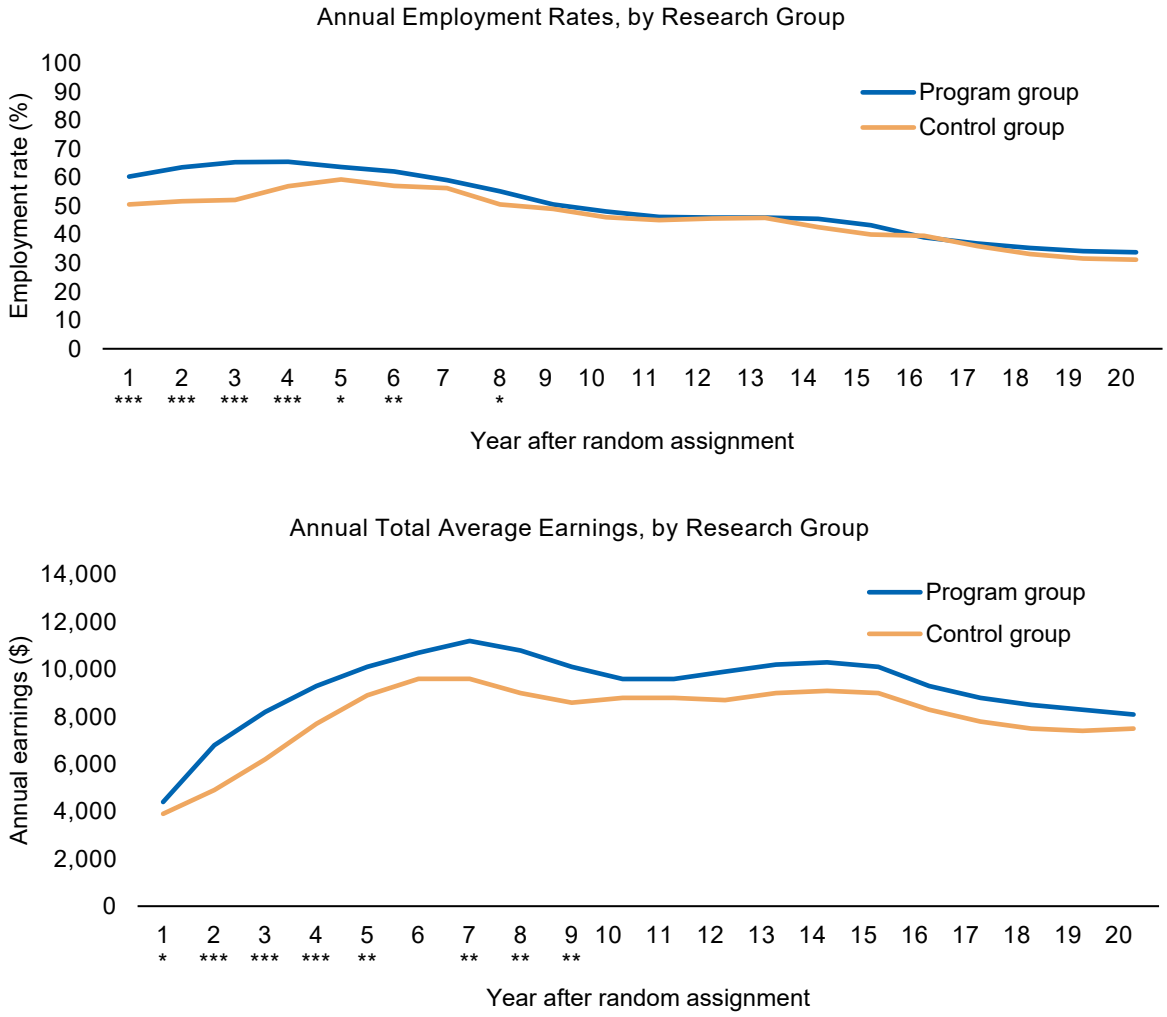
Figure 1 presents employment and earnings impacts through Year 20 for the Portland program, using Oregon UI wage data. The top of Figure 1 shows the proportion of people in the program group and the control group who were ever employed in a given year. The bottom of Figure 1 presents average annual inflation-adjusted earnings.[12] The differences between the two groups were tested for statistical significance, and asterisks indicate whether the difference for a given year is statistically significant at the 1 percent, 5 percent, or 10 percent level.

Employment rates for both groups generally increased over the first few years and then began a gradual decline over the full period. The declines were more rapid during the recessions of 2001 and 2008, which corresponded roughly with follow-up Years 8 and 9 and Years 16 and 17, respectively. Average earnings followed a somewhat similar pattern, increasing through Year 7 and then slowly declining over time, particularly during the recessions.

The Portland program led to statistically significant increases in annual employment rates from Year 1 through Year 6 and in Year 8. The program increased earnings through Year 9 (except for Year 6). The earnings increases were sizable, peaking at a 32 percent increase in Year 3. The increase in earnings was larger in percentage terms than the increase in employment, indicating that individuals in the program worked more hours per week, worked more weeks per quarter, or had higher-paying jobs. The findings suggest that the program helped people find better-paying jobs than they would have found on their own.

Effects on employment diminished after Year 8 and are no longer statistically significant. Effects on earnings are also no longer statistically significant after Year 9, although the program group continued to receive about $1,000 more per year than the control group. The findings update the original evaluation findings — which covered five years of follow-up — and show that the program's positive effects on employment and earnings lasted for several years beyond Year 5 but faded after Year 9.

Figure 1. Employment Rates and Average Total Earnings for the Portland NEWWS Site: Oregon



SOURCE: MDRC calculations from the Longitudinal Employer-Household Dynamics unemployment insurance records.

NOTE: A two-tailed t-test was applied to the differences between outcomes for the program and control groups. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, and * = 10 percent.

Employment and Earnings in All States

Figure 2 presents impacts using the broader set of data that was obtained from LEHD. Employment is measured at the national level, and earnings data were available for the LEHD states. The top of Figure 2 shows a similar pattern of rising and then falling employment rates, although the overall rates were about 10 to 15 percentage points higher than in Oregon alone. In Year 7, for example, about 56 percent of individuals in the control group were employed in Oregon (see Figure 1), and

Figure 2. Employment Rates and Average Total Earnings for the Portland NEWWS Site: All States

SOURCE: MDRC calculations from the Longitudinal Employer-Household Dynamics (LEHD) unemployment insurance records. The employment estimate is based on the national employment indicator of LEHD. The earnings estimate is based on the employment history file for Arizona, California, Colorado, Connecticut, Delaware, the District of Columbia, Illinois, Kansas, Maine, Maryland, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Tennessee, Wisconsin, and Wyoming.

NOTE: A two-tailed t-test was applied to the differences between outcomes for the program and control groups. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, and * = 10 percent.

about 70 percent were employed in any state. In terms of program impact, national data show that the effects on employment faded more rapidly and become statistically insignificant by Year 5.

Earnings data from the LEHD states are shown at the bottom of Figure 2. Unsurprisingly, the earnings from these states were about 10 percent higher than earnings in Oregon, although the pattern of impacts is very similar. The program increased earnings through Year 9 (except for Year 6), after which the effects diminished and are no longer statistically significant. The differences in earnings between the program and control groups after Year 9 were smaller when using data from the LEHD states (about $500 per year) compared with data from just Oregon (about $1,000 per year).

The conclusions about the program's effects after Year 4 are somewhat different when using national employment data and earnings data from the LEHD states (which include Oregon). The effects on earnings, although they lasted through Year 9, diminished substantially after that year. The effects on employment did not persist beyond Year 4.

Out-of-State Employment

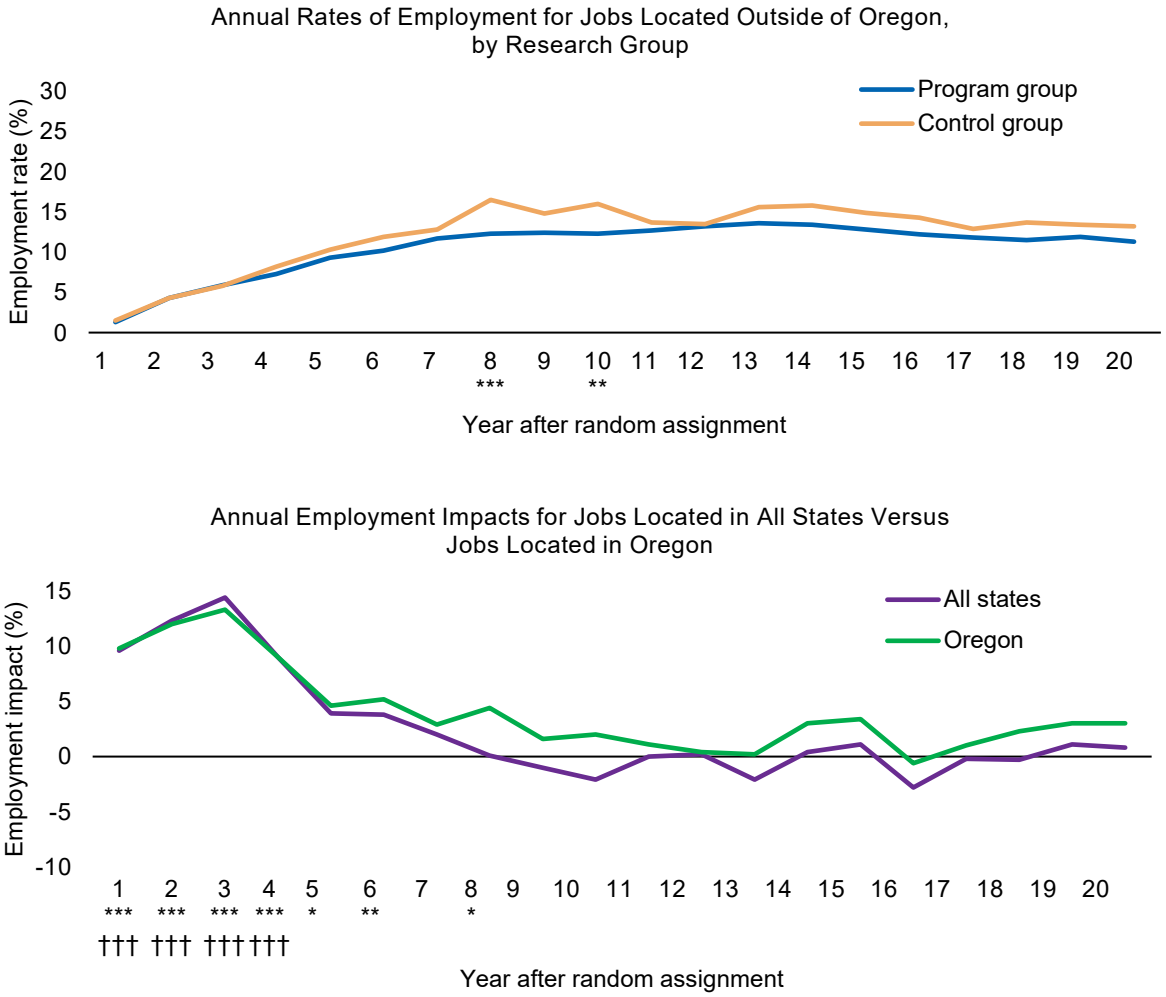
The differences in employment outcomes and impacts between the two data sets stem from varied trends in out-of-state employment for individuals in the program and control groups. Figure 3 (top panel) presents trends in employment outside Oregon. For both groups, out-of-state employment increased gradually and seemed to plateau by Year 8 or 9, suggesting that most of the people who worked outside Oregon had obtained an out-of-state job by that point. The rapid jump in out-of-state employment for the control group in Year 8 may reflect the recession and individuals migrating in search of work.[13]

The increase in out-of-state employment for the control group also shows that the program led to statistically significant reductions in out-of-state work during Years 8 and 10. Out-of-state employment rates began to diverge for the two groups after Year 4, but the differences were not statistically significant until Year 8.

The implication of this trend can be seen in the bottom part of Figure 3, which shows the impacts on employment rates (that is, the difference between the employment rate of the program and control groups) for sample members who had jobs in Oregon compared with sample members who had jobs in any state. Findings that use Oregon-only employment data overstate the program's effects. Impacts were smaller using national data in every year after Year 4 and are not statistically significant after Year 4.

It is easy to imagine that a jobs program with local employer partners might encourage participants to stay in state, particularly in the first several years. It is interesting in this case that effects emerged after eight years, perhaps in response to the onset of the recession. The negative impacts on out-of-state employment suggest that some individuals in the program group who lost their jobs in Oregon might have found work by moving out of state but did not do so. It may be that the program group's higher employment and earnings through the first several years increased program group members' community ties and made them less likely to move. The original NEWWS evaluation included a five-year follow-up survey of study participants, and the survey data showed no impact on home ownership, although that is only one measure of attachment to a local area.

Figure 3. Employment Rates Outside Oregon for the Portland NEWWS Site and Employment Impacts in Oregon and in All States



SOURCE: MDRC calculations from the Longitudinal Employer-Household Dynamics unemployment insurance records. The estimated employment for jobs located outside Oregon is calculated based on the national employment indicator minus the employment history file for Oregon, the employment impact for jobs located in all states is based on the national employment indicator, and the employment impact for jobs located in Oregon is based on the employment history file for Oregon.

NOTES: A two-tailed t-test was applied to the differences between outcomes for the program and control groups.

In the top chart, statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, and * = 10 percent.

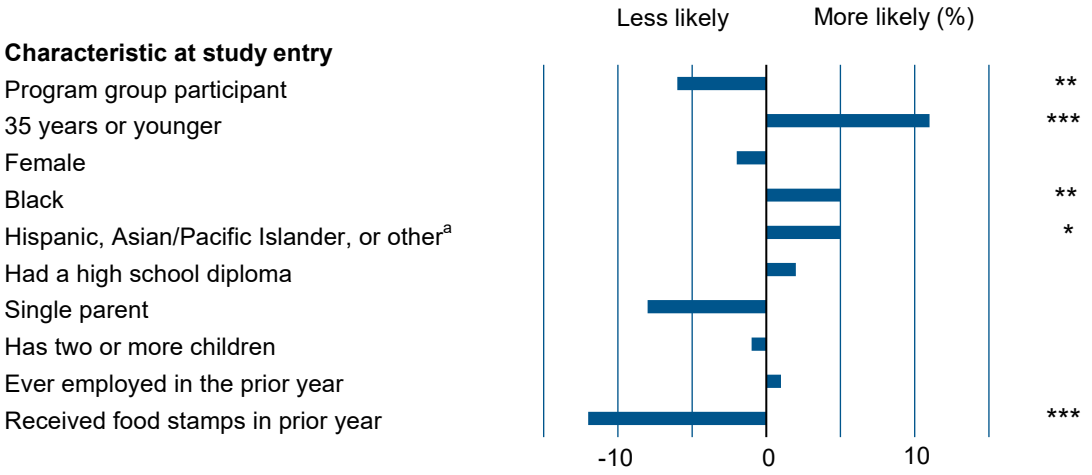
In the bottom chart, statistical significance levels for employment impacts for sample members with jobs in Oregon are indicated as follows: *** = 1 percent, ** = 5 percent, and * = 10 percent. Statistical significance levels for employment impacts for sample members with jobs in any state are indicated as follows: ††† = 1 percent, †† = 5 percent, and † = 10 percent.

Who Moves Out of State?

Some individuals are more mobile than others. To get a sense of whose employment is not captured using in-state UI data, it is useful to understand who is likely to work outside of Oregon, either because they moved to another state or because they still live in Oregon but work outside of the state. For those individuals, the assessment of program impacts may be less reliable.

Figure 4 shows how certain characteristics affected the probability that an individual worked outside Oregon at any point in the 20 years after the study began. As an example, program group participants were about 6 percentage points less likely to work out of state than their counterparts in the control group. That difference between the two groups is statistically significant, as indicated by the asterisks.

Figure 4. Probability of Working Out of State, by Characteristic, Year 1–Year 20



Sample size = 3,900

SOURCE: MDRC calculations from the Longitudinal Employer-Household Dynamics unemployment insurance records. The estimated employment for jobs located outside of Oregon is calculated based on the national employment indicator minus the employment history file for Oregon.

NOTES: A two-tailed t-test was applied to the differences between outcomes for the null hypothesis and alternative hypothesis. Statistical significance levels are indicated as follows: *** = 1 percent, ** = 5 percent, and * = 10 percent.

[a]"Other" race or ethnicity includes Native American, Alaskan Native, and other races or ethnicities.

The figure includes several characteristics that were associated with a higher probability of working out of state. Younger study participants, for example, were more likely to work out of state than their older counterparts. Black participants — as well as participants who are Hispanic, Asian, Pacific Islander, or another race — were more likely to work out of state than their White counterparts. This finding suggests that Oregon UI data may provide a relatively less accurate picture of their employment rates and how they may have been impacted by the program. In contrast, study

participants who received food stamps (an earlier version of the Supplemental Nutrition Assistance Program, or SNAP) were less likely to work out of state than their counterparts who did not receive food stamps. The research team did not measure the effect of TANF receipt in the year before study entry on working out of state in this analysis, but it is likely captured in the estimated effect of food stamp receipt, as TANF and food stamp receipt tend to be highly correlated.[14]

Conclusion

This brief examines the implications of using in-state UI wage records to evaluate employment programs. It compares two analyses of the Portland program's estimated impacts over a 20-year period: one using Oregon UI wage records and another using a broader set of employment and earnings data.

The findings show that, using either data set, the overall assessment of the program is generally similar, particularly through the first four years: The Portland program led to relatively large increases in employment and earnings. Where the findings differ, somewhat, is over the longer term.[15] The estimated effects on employment faded more quickly when using national data on employment. Thus, the use of Oregon-only data led to a small overestimate of program effects in later years.

The reason for this difference is that the program reduced out-of-state employment in the medium term. In Year 8 through Year 10, which coincided with the onset of the 2001 economic recession, individuals in the control group were more likely to work out of state than individuals in the program group.

The findings also show that in-state data missed a fairly large amount of employment for the target population. In the case of Oregon, using in-state data understated employment rates by as much as 15 percentage points in some years. The result is that the overall assessment of how the group of welfare recipients in Portland fared over time is not quite right — many more of them worked than the in-state data suggest.

The findings suggest that some caution is warranted when using in-state data to assess longer-term outcomes and impacts. However, the findings presented here are based on one state, with a specific study and population, and during a specific period. Interstate mobility rates have gradually fallen since the 1980s, and the rise in telework options may have further reduced the need to relocate to find work.[16] Nonetheless, when possible, studies of employment programs should pursue national data or data from neighboring states to more fully capture the work trajectories of the target population and the program impact.

Notes and References

1. Robert Kornfeld and Howard S. Bloom, "Measuring Program Impacts on Earnings and Employment: Do Unemployment Insurance Wage Reports from Employers Agree with Surveys of Individuals?" *Journal of Labor Economics* 17, 1 (1999): 168–197.
2. For an in-depth assessment of how well different sources of information cover employment, see Mark van Dok and Kelsey Schaberg, *Do Employment-Related Outcomes Differ Depending on Which Data Source is Used? Findings from the Portland Site of the National Evaluation of Welfare-to-Work Strategies*, OPRE Report 2023-253 (Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, 2023).
3. Gayle Hamilton, Stephen Freedman, Lisa Gennetian, Charles Michalopoulos, Johanna Walter, Diana Adams-Ciardullo, Anna Gassman-Pines, Sharon McGroder, Martha Zaslow, Surjeet Ahluwalia, and Jennifer Brooks, *National Evaluation of Welfare-to-Work Strategies: How Effective are Different Welfare-to-Work Approaches? Five-Year Adult and Child Impacts for Eleven Programs* (New York: MDRC, 2001).
4. Van Dok and Schaberg (2023).
5. Hamilton et al. (2001).
6. Random assignment is a lottery-like process in which sample members are placed randomly into either a program group, whose members are eligible to receive the program's services, or a control group, whose members are not eligible to receive those services. Random assignment ensures that participants' characteristics in the two groups are similar at the start of the study, and differences between the program and control groups' outcomes at the conclusion of the study are the program's "impacts." Impacts that are statistically significant can be attributed with a high degree of confidence to the program that is being evaluated.
7. Hamilton et al. (2001).
8. The NDNH is maintained by the federal Office of Child Support Services. Federal law requires the deletion of all data from the NDNH database 24 months after receipt. Thus, the analysis of the Portland NEWWS site only used two years of data. For more detailed information on the NDNH data submission guidelines, see Administration of Children and Families, "Guide for Data Submission," website: https://www.acf.hhs.gov/sites/default/files/documents/ocse/ndnh_guide_for_data_submission.pdf, 2022.
9. Stephen Freedman and Jared Smith, "Memo 1: Long-Term Impacts on Employment and Earnings for the Full Impact Sample and Key Subgroups," unpublished paper (New York: MDRC, 2008).
10. See United States Census Bureau, "Longitudinal Employer-Household Dynamics," website: https://lehd.ces.census.gov/, 2023.
11. These states include Arizona, California, Colorado, Connecticut, Delaware, Illinois, Kansas, Maine, Maryland, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Tennessee, Wisconsin, and Wyoming. MDRC was also given access to wage records from the District of Columbia.
12. Earnings amounts were adjusted for inflation to 2014 dollars.
13. See Brian L. Levy, Ted Mouw, and Anthony Daniel Perez, "Why Did People Move During the Great Recession?: The Role of Economics in Migration Decisions," *Russel Sage Foundation Journal of the Social Sciences* 3, 3 (2017): 100–125, website: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5439978/. The nearest state to Portland is Washington, and unemployment rates in the Seattle metro area were lower than those in the Portland metro area during the recession and in the years afterward.

14. For example, see Geoffrey Wallace and Rebecca M. Blank, "What Goes Up Must Come Down? Explaining Recent Changes in Public Assistance Caseloads," pages 49–90 in Sheldon H. Danziger (ed.) *Economic Conditions and Welfare Reform* (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 1999). Because TANF and food stamp receipt is highly correlated, the team opted to use food stamp receipt as a broader measure of the connection to the publicly funded benefit system.
15. As shown by van Dok and Schaberg (2023), when calculated over the full sample of study participants, the difference between the employment rates that were calculated using Oregon UI wage data and estimates that were calculated using the national indicator of employment in Years 8 and 10 is statistically significant.
16. Raven Molloy, Christopher L. Smith, and Abigail Wozniak, "Internal Migration in the United States," *Journal of Economic Perspectives* 25, 3 (2011): 173–96; Jonathan I. Dingel and Brent Neiman, "How Many Jobs Can Be Done at Home?" *Journal of Public Economics* 189 (2020): 104235.

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