10-1-2002

Washington's Workforce Development System Pays Off

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Washington State's legislature has revealed its understanding of the importance of data-driven program performance monitoring and accountability to the public. In the arena of workforce development, it has mandated the state's Workforce Training and Education Coordinating Board (WTECB) to provide the public with a full and open accounting of the efficacy of the programs that they monitor. The WTECB provides the public with biennial evaluations of the extent to which participants in the state workforce development system 1) achieve workplace competencies, 2) find employment, 3) achieve family-wage levels of earned income, 4) are productive, 5) move out of poverty, and 6) are satisfied with program services and outcomes. The performance data for these outcomes come from administrative data or surveys of program participants (or employers of participants).

The WTECB has also a seventh evaluative outcome—return on investment—that is most appropriately calculated by using data from nonparticipants as well as participants. The data burden is greatly expanded as compared to what is required for the other six criteria, and so the reporting is quadrennial. This article presents a summary of the state's most recent study of the net impacts and costs and benefits of its workforce training programs. The study was undertaken by Upjohn Institute staff.

Specifically, the study involved net impact and benefit–cost analyses of nine programs. Five of the programs serve job-ready adults: Community and Technical College Job Training, Private Career Schools, Apprenticeships, Job Training and Partnership Act[1] (JTPA) Title III programs, and Community and Technical College Worker Retraining. Two of the programs serve adults with employment barriers: Community and Technical College Adult Basic Skills Education and JTPA Title II-A programs. The other two programs serve youth: JTPA Title II-C programs and Secondary Career Technical Education.

Non-Experimental Approach with Administrative Data

Methodologically, the best way to determine the net impact of a program is to conduct a random assignment experiment. If it were feasible to do so, an experiment could sort individuals who apply and are eligible for services randomly into two groups—those who are allowed to receive services and those who are not. Then we could compare outcomes for all individuals, and as long as assignment into treatment or control is random, we can have high levels of statistical confidence that the program was responsible for any differences in the outcomes.[2]

Statewide experimentation with the workforce development programs of interest is not feasible, so a second best method needed to be followed. In this case, the net impact analyses were conducted via a non-experimental methodology. Individuals who encountered the workforce development programs were compared to individuals who did not, but members of the latter group were not randomly chosen. In other words, there were systematic (nonrandom)

differences between the participants and the individuals to whom they were compared. An empirical approach, called statistical matching, was used to find a comparison group for the program participants.

Workforce Training and Education Coordinating Board staff invested a lot of time and resources to construct several databases containing administrative data about individuals served by the nine programs of interest. This effort required several interagency agreements among state departments responsible for administering the programs. In addition, the WTECB constructed a database containing administrative information about individuals who received labor exchange services through the state's employment service. From an evaluation perspective, these databases had two incredibly desirable features: they were universal, and they had longitudinal information on employment-related information and on income-conditioned transfers.

In the analytical framework that we set up, we used applicants to the state's employment service as the source of individuals to whom we would compare the participants in the education or training programs.[3] We used two types of selection criteria. First, we eliminated individuals who had ever participated in any of the programs (except for high school career and technical education). This screening allowed us to consider all of the education and training programs as a *system*. Effectively, we set up a framework where program participants were in the system, and their next best alternative would have been to use the employment service. Second, from the remaining individuals in the employment service database, we used statistical matching on an individual-by-individual basis to find the people who most closely matched program participants in terms of observable characteristics. Net impacts were then determined by comparing outcomes for individuals who participated in the education and training programs to their matched counterparts from the employment service data, who never participated in any of the programs.

Data

The longitudinal databases that the WTECB constructed and shared with the Upjohn Institute staff, who did the statistical matching and net impact analyses, had three types of data. First, there was pre-program information on the individuals: demographic information like age and education, employment and earnings information from the Unemployment Insurance wage record system, and transfer income information such as Food Stamps and Temporary Assistance for Needy Families (TANF) recipiency and benefits. The pre-program period ran from approximately 1990 to when the individuals entered the education or training program, or first registered for services at the employment service. The pre-program data were used in the statistical matching to align individuals.

The second type of data was information about services received while in the education or training program. These included information such as whether the individual completed the program, received a credential/degree, credits earned, and so forth. These variables allowed us to analyze differential net impacts for subgroups of program participants such as completers versus noncompleters.

The third type of data was post-program information, or outcomes. These included employment-related information (hours, wage rates, and earnings) and transfer program participation and benefits. These data were used to actually estimate the net impacts of program participation. We used a variety of estimation techniques to calculate net impacts, including comparison of means, regression-adjusted comparison of means, and difference-in-difference comparison of means. We estimated *short-run* net impacts that examined outcomes for individuals who exited from the education or training programs (or from the employment service) in the fiscal year 1999/2000 and *longer-run* impacts for individuals who exited in the fiscal year 1997/1998.

Results

Table 1 provides the short-run net impacts of the nine programs on employment and earnings. The elements reported in the table show the increase (or decrease) in employment, defined as having at least $100 in earnings in the third quarter after exiting from the program, and the increase (or decrease) in quarterly earnings, on average, for that quarter. Note that these results include all participants—those individuals who completed their training and those who left without completing. Separate results for these two groups were estimated.

Table 1 Short-Run[a] Net Impacts of Washington's Education and Training System, by Program

Program	Net employment impact (in percentage points)	Net quarterly earnings impacts (2001 $)
JTPA II-A	3.6	105**
JTPA II-C	-4.0	86**
JTPA III	2.2	-397
Comm. college adult basic ed.	-5.2	-613
Comm. college job prep	7.6	1,470
Comm. college worker retraining	8.0	147**
Private career schools	2.6	10**
Apprenticeships	5.4	2,030
High school career technical ed.	5.5	112

[a]Defined as three quarters after exit.
**Not significantly significant at the 0.10 level.

The employment impacts are in percentage-point terms and are all significant. Two of the programs have negative short-run employment impacts, whereas all of the others are positive. The employment rate of the comparison group is on the order of 60 percent to 70 percent, so these impacts range from about 3 to 12 percent. The short-run earnings impacts are not as sanguine. With the exception of community college job preparation, apprenticeship, and high school career technical education, the short-run earnings impacts are negative or not statistically

significantly different from 0.

Table 2 illustrates the payoff to education and training in the longer-run. All of the employment impacts are positive, and for the three JTPA programs and adult basic education at community colleges, the longer-run employment impacts are much larger than the short-run impacts. The earnings picture is also far better in the longer-run. Two of the programs, JTPA II-C for disadvantaged youth and adult basic education, have earning impacts that are essentially 0, but all other programs show sizeable earnings impacts that, in percentage terms, are on the order of 20 percent.

In addition to the net impacts, Institute staff members are calculating the costs and benefits of these training programs. Preliminary results show positive returns to both participants and to the public, as did results that Washington published in its last analyses in 1997, but the current results are not yet available for release.

Table 2 Longer-Run[a] Net Impacts of Washington's Education and Training System, by Program

Program	Net employment impact (in percentage points)	Net quarterly earnings impacts (2001 $)
JTPA II-A	7.4	543
JTPA II-C	5.3	-72**
JTPA III	7.3	466
Comm. college adult basic ed.	1.6	-43**
Comm. college job prep	7.0	1,185
Comm. college worker retraining	6.2	423
Apprenticeships	5.3	1,908
High school career technical ed.	5.7	451

[a]Defined as average over quarters 8–11 after exit.
**Not significantly significant at the 0.10 level.

Notes

1. Federal job training programs under JTPA were integrated with public employment services through the Workforce Investment Act (WIA) in 2000. The time frame of the analyses described preceded this integration, so the participants were still receiving services under JTPA.
2. Even with an experiment, there may be implementation problems or behavioral responses that threaten its external validity, i.e., its ability to solve the attribution problem. For example, problems such as crossover, differential attrition, or Hawthorne effects may arise.
3. For high school career technical education (CTE), we relied on a different source of data for the comparison group members. The state collects data through a general survey of all seniors in high school, and that survey was used to identify students completing career technical education, and as a source for comparable students who had not completed CTE.

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