

Training Expenditure Return on Investment

Research Plan

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Understanding the benefits provided by WIOA formula fund supported training will help guide a decision on minimum training expenditure levels. Results of the first phase of analysis outlined in this document, in conjunction with other research conducted by the IWIB Evaluation and Accountability Committee, will provide initial evidence to support a decision on LWIA minimum training expenditures for PY2018. Subsequent, more sophisticated analysis will help guide refinement of LWIA operational guidelines going forward.

There are three main approaches to quantifying return on investment (ROI). *Random assignment* design (known as a true experiment) is considered the 'gold standard' for program evaluation. This approach randomly assigns participants into treatment and control groups. Those assigned to the treatment group are offered training services, those in the control group do not receive training. Differences between the two groups on post participation outcomes (measured by employment rates, wages, government benefits receipts, etc.) are considered impacts of training. Because participants are chosen randomly, the two groups (training and non-training) are expected to be very similar and any differences in outcomes are attributed to the training. This approach is rarely feasible because of cost, timing, and ethical considerations.

Because true experiments are frequently impractical, a *quasi-experimental* approach is used as an alternative. This approach selects members of a control group after the treatment group has been identified. Statistical techniques are used to 'balance' the composition of the treatment and control groups so that they are as similar as possible. The impacts are calculated in the same way as a random assignment study, as the difference in outcome measures between the treatment and control groups.

Finally, the *pre/post* approach compares an individual's earnings (or other impact metric) before they enter a program and after completion. This approach attempts to capture the improvement in earnings as a result of program completion. The largest benefit of this approach is simplicity – data are relatively easy to obtain for individual participants. However, because this approach measures changes over time, factors other than program participation may impact earnings. Thus, the true impact of the program is difficult to isolate. By measuring raw earnings gain from pre-participation to post-participation, it is not possible to discern whether the gains came from a worker's personal job search, from participation in the OET program, or (most likely) some combination of factors.

Phase 1: Pre/post Analysis of Training Programs

Despite its shortcomings, the pre/post design provides a good first approximation of training effects. Virginia employed both pre/post and quasi-experimental approaches in a 2014 ROI analysis of WIA and Trade Adjustment Assistance (TAA) workforce programs¹. For WIA programs, the study found a positive ROI using both methods, however the calculated return was significantly higher using the quasi experimental approach. For TAA programs, the Virginia study found positive impacts using the quasi-experimental approach but negative impacts using the pre/post analysis. This is likely due to the nature of the program, where participants often enter after losing a well-paying job. Their wages may be lower compared to their previous employment, but higher than similar workers that had not received TAA-related services. NIU Center for Governmental Studies has completed ROI analyses for Illinois community college program participants using the pre/post approach, most recently in 2014².

Pre/post Analysis Approach

The analysis will use administrative data covering WIOA participants and program costs. Individual participant data requirements include

- DCEO, OET records
 - Demographic characteristics
 - Date of first service
 - Exit date
 - Services received
- IDES UI wage records (including unemployment insurance participation)
 - Pre-program labor market data
 - Post-program labor market data
- Other administrative sources
 - Pre-program participation in public assistance programs
 - Post-program participation in public assistance programs

WIOA participant records will be matched with IDES wage records and other administrative data using the Illinois Longitudinal Data System (ILDS). The combined dataset will allow the calculation of employment, earnings, and public assistance before and after participation in WIOA programs. The difference in pre- to post-participation in each measure indicates the impact of the program. Financial benefits in terms of wages, government revenues, avoided government costs will then be compared to program costs to calculate a return on investment for the program.

¹ Harper-Anderson, Elsie and Myung Jin (2014). *Return on Investment for Virginia's Workforce Programs*. Virginia Commonwealth University.

² Richard, Brian, Andrew Blanke, Brian Harger, Diana Robinson, and Ben Xu (2014). *Illinois Community Colleges' Economic Impacts*. A report to the Illinois Community College Board, NIU Center for Governmental Studies.

Phase 2: Quasi-experimental Analysis of Training Programs

Compared with the pre/post design, data for a quasi-experimental analysis are more difficult to obtain and analyze but many of the downsides of measuring impacts over time are avoided. For example, due to the nature of the participants the Virginia TAA analysis found significant negative wage impacts using a pre/post design but positive impacts using a quasi-experimental approach. The approach more effectively isolates the impacts of WIOA services and thus more accurately quantifies them.

Quasi-experimental Analysis Approach

The analysis requires the same data as the pre/post approach. However, an additional dataset that includes persons that did not receive WIOA services is required. This will serve as the pool for selecting the control group. IDES UI wage records as well as other administrative sources will be required for these persons.

The control group of WIOA non-participants will be selected using a propensity score statistical matching process. The control group is constructed such that the non-participants are as similar as possible as the participants based on variables related to job outcomes such as education level, earnings history, and demographic profile. Presumably, these non-participants will undertake similar job searching activities as the participants. Thus, the only difference between the two groups is WIOA program participation. This provides confidence that differences in outcomes are based on program participation.

Quasi-experimental analysis has been used by a number of states including Minnesota, Virginia, and Washington to calculate the ROI of workforce programs. Hollenbeck³ walks through the process using data from Washington as an example. NIU Center for Governmental Studies researchers have used the propensity score statistical matching procedure for regional economic development studies published in peer reviewed journals.

Summary

ROI studies of workforce development programs have been conducted in several states including California, Kentucky, Massachusetts, Minnesota, and Virginia. In some of these states the analysis is required by state law. The approach outlined in this document employs best practices from these states and will provide near term feedback to support training expenditures as well as develop a more sophisticated ROI model to evaluate programs throughout the workforce development system.

³ Hollenbeck, Kevin (2012). *Return on Investment in Workforce Development Programs*. Upjohn Institute Working Paper 12-188. W.E. Upjohn Institute for Employment Research.