



Workforce reinvention

The data analysis methodology

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The data analysis methodology

Since the inception of federal job training programs, it has been difficult to measure their effectiveness. Starting with the Wagner-Peyser Act of 1933, federally funded employment services have evolved over the decades, with milestone legislative efforts including the Comprehensive Employment and Training Act (CETA) of 1973, the Workforce Investment Act (WIA) of 1998, and the Workforce Innovation and Opportunity Act (WIOA) of 2014.¹

IN 2011, THE Government Accountability Office (GAO) found that very few of these programs have been rigorously evaluated. Amongst the small number of programs that were evaluated, only a few programs were found to have a small positive impact.² In recent years, a focus on evidence-based jobs has made it critical to collect data to help determine “what works and what doesn’t” in job training.³ In 2016, The US Department of Labor released an evaluation of the impact of Workforce Investment Act (WIA) programs using a nationally representative sample.

The 2016 Department of Labor study

This study looked at participants who received services during 2011–2013.⁴ While it lacked a true control group, there was a certain amount of randomization, as participants who were eligible to receive intensive services were randomly assigned to receive one of the three groups of services:

- Group 1: Core services only
- Group 2: Core and intensive services
- Group 3: Core, intensive, and training services



Core services mainly consist of information and online tools to help participants find employment. **Intensive services** have a higher level of staff assistance and include services such as job search assistance, counseling, and skill assess-

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ment. **Training services** are meant to upskill participants and prepare them for high-demand occupations.

Released in 2016, the Department of Labor study made two comparisons. First, it compared the outcomes of participants in group 3 with group 2 to evaluate the incremental impact of training services. Second, it compared the outcomes of participants in group 2 with group 1 to evaluate the incremental impact of intensive services. This approach, because it randomly assigned participants to these various types of services, should be a reliable indicator of incremental impact. Unfortunately, the study lacked a true “control group” of eligible participants who sought services but received none, enabling an assessment of the impact of services versus no services—often a key assessment measure. WIA/WIOA are large programs, so an assessment of their impact could provide important insight into the effectiveness of various services. As per a GAO report, WIA programs (including the Wagner-Peyser Employment Service) account for roughly 40 percent of total spending on employment and training services.⁵ The study looked at the impact 15 months after randomly assigning participants to the three groups.

The 2016 Department of Labor study showed mixed results. The first comparison revealed that training services did not increase earnings or employment outcomes of participants.⁶ The study indicated that this lack of a “bump” from training may have stemmed from the fact that 17 percent of group 1 participants were still enrolled in training at the end of 15 months, while others had only recently finished training, meaning that eventual positive impacts may not yet have been realized at the time of the assessment. On a more

positive note, the second comparison showed that group 2 participants earned US\$600—roughly 17 percent—more in quarter 5 than those in group 1, providing some evidence that the addition of “intensive services” somewhat improved participant wages.⁷ The Department of Labor has indicated that a follow-up “gold standard” study will be released that will cover a longer time period.⁸

Impact of WIOA programs: A Deloitte Center for Government Insights analysis

While the comparisons between different types of services are of some interest, they fail to ask the more fundamental question of what, if any, impact the WIA/WIOA services have on employability and wages. To fill this gap, the Deloitte Center for Government Insights analyzed WIOA data using a slightly different methodology.

First, we considered participants during 2013–2015, which is adjacent to the Department of Labor study period. We extracted data for 5.2 million participants, discarding incomplete data records. To evaluate the wage impact of WIOA programs, WIOA participants’ wages were compared against

those who did not receive WIOA services. To draw a suitable comparison, we looked at nonparticipants of the same gender, education, and state. The nonparticipant wages were taken from quarterly workforce indicators new hire wages released by the United States Census Bureau. This allowed us to estimate the impact for participants receiving any of the three types of services: core, core plus intensive, and core plus intensive plus training.

Because the WIOA requires states to report on the employment status and wages of participants after training, our primary source of data was WIOA data released by the Employment and Training Administration of the US Department of Labor. The

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data is collected by local organizations providing WIOA program services and sent to state and federal agencies, who aggregate the information and review the data. The data is released quarterly.

We analyzed data from 11 consecutive quarters starting from Q1 2013 to Q3 2015. The Q4 2015 records were not available at the time of analysis.

The data set has information on participants who took WIOA services in all 50 states, including detailed information such as age, educational attainment, race, ethnicity, disability, and veteran status. Also, there is information on the type of services the participant received. For instance, did the participant receive only employment services such as job search assistance and resume building, or did the participant additionally enroll in a training program?

Working with the WIOA data

The WIOA data, while extensive, was not perfect. For example, a particular WIOA participant can avail themselves of more than one service or can visit a program center multiple times. As a result, information on one participant may be recorded more than once in the data. We tracked information on individual participants across the 11 quarters to study the combination of services received by each participant, as well as the final employment and wage outcomes after the participant exited from the system. As a quality check, we matched the demographic characteristics of participants among all their records to ensure we are tracking the same person over the years. The 11 quarters of data between 2013 and 2015 have information on 7.2 million unique participants, and approximately 6 percent of the participant records did not meet this quality check. These participant records have not been considered in calculating impacts.

In addition, data collection methods varied. We had to drop another 21.2 percent of the records due to missing information on either participant demographics or the type of service received. The final WIOA data set that we analyzed contained information on 5.2 million unique participants for which there was complete information.

Methodology for calculating the impact on wages

To study the impact of workforce development programs on employment, we have considered employment outcomes of participants four quarters after their exit from the program. We have considered Q4 outcomes as a larger horizon reflects job retention. Also, participants who take training programs have a lock-in period and take time to get employed. Cross-tabulations on employment outcomes versus demographic profile and type of services received have been used to study the profile of participants who have benefitted most from the programs and which type of services are most effective.

To study the impact of WIOA programs on earnings, we have adopted a methodology devised by the Arapahoe/Douglas Workforce Development Board.⁹ The impact on wages for each participant was arrived at by comparing the participant's reported Q4 WIOA wage against an estimated baseline wage. For the participant with a disability or educational attainment of high school or lower, that baseline wage was estimated as the lowest quintile wage in the participant's state, as reported by the American Community Survey of the United States Census Bureau.¹⁰ For all other categories of participants, baseline wages were estimated as the Quarterly Workforce Indicators (QWI) new hire wages for that participant's state, gender, and education. The QWI data comes from the Longitudinal Employer-Household Dynamics (LEHD) program of the US Census Bureau. In the absence of a true control group with randomized control trials, these

estimated comparison baselines were chosen to yield a reasonable comparison of nonparticipants.

Assessing program outcomes

Outcomes of these programs are measured in two ways, what we call as success rate:

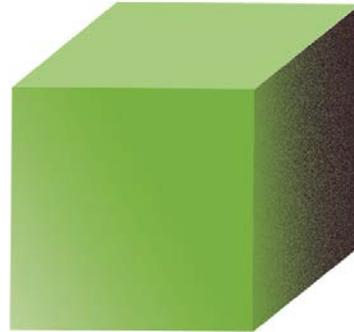
1. Did the participant find employment after exiting the program?
2. What was the estimated impact on participant earnings?

An example of how this assessment of program success might work: If a state has 70,000 participants entering the system, and 35,000 of those participants are employed four quarters after exiting, then the success rate for that state in terms of employment outcome is 50 percent. More granular employment success rates can be applied to a particular type of service, gender group, and level of educational attainment of participants.

An estimate of wage impact would work as follows. If an able-bodied female participant in Florida with more than a high school degree but no college degree takes WIOA services and exits the system with US\$40,000 in annual wages, and the average new hire wage of females with the same level of education in Florida is US\$38,000, then we would find a positive impact on wages of US\$2,000 annually. To aggregate the impact on wages by state, type of service, and demographic profile, we have chosen the median measure as medians are not overly influenced by outliers in the data.

Conclusion

By using comparison baselines from available data sources, our methodology attempts to provide a reasonable estimate of WIOA program effectiveness. In the absence of a true control group and randomized assignment, such an effort is limited, however, and results should be interpreted carefully.



Endnotes

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