

RETURN ON INVESTMENT ANALYSIS OF A SELECTED SET OF WORKFORCE SYSTEM PROGRAMS IN INDIANA

EXECUTIVE SUMMARY

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INTRODUCTION AND BACKGROUND

As part of its involvement in the efforts to upgrade and align the state's workforce and economic development systems, the Indiana Chamber of Commerce Foundation has contracted with the Upjohn Institute to use Indiana Workforce Intelligence System (IWIS) data to conduct a formal return on investment (ROI) study of its workforce programs similar to projects that the Institute conducted in the states of Washington and Virginia. The specific programs that were examined in this study included the following:

- Workforce Investment Act (WIA)-Adults
- WIA-Dislocated Workers
- WIA-Youth
- Trade Adjustment Assistance (TAA)
- Postsecondary Education (Credential < Bachelors Degree)

The analysis year for which the estimates in this study were produced is state fiscal year 2006 (July 1, 2005 to June 30, 2006). In order to produce the estimates, the analysis uses IWIS administrative data on employment and earnings for the 19 calendar quarters from 2003 Q3 to 2008 Q1.

DESCRIPTION OF PROGRAMS

The workforce programs that were analyzed represent the major government-sponsored initiatives in the state. The WIA programs provide core labor market exchange services to all individuals and will provide education and training services to individuals who are not employable. The Act authorizes services to three populations – adults over the age of 21 who typically have employment barriers, dislocated workers who have lost their jobs and are unlikely to become re-employed in the occupation and industry of their former employment, and youth between 14 and 21. Trade adjustment assistance provides services to individuals who have lost their job due to international competition. Postsecondary education represents programs overseen by the Commission on Higher Education that lead to a sub-baccalaureate degree credential. Such programs are offered primarily by Ivy Tech, but also at Vincennes University and the regional campuses of Indiana University.

Table ES-1 presents some statistics about these programs, and about WorkOne, for FY 2006. The workforce system served over 21,000 individuals, whereas WorkOne registered over 290,000. The workforce system programs predominantly served females (TAA is an exception); however, a majority of WorkOne clients were male. A quarter or less of the participants in all of the programs, except for WIA-Youth and TAA, were minorities. Finally, WIA-Dislocated Workers and TAA participants had much higher earnings levels than the other programs.

Table ES-1. Workforce Program Characteristics in FY 2006

Characteristic	WIA-Dislocated			TAA	Postsecondary	WorkOne
	WIA-Adult	Workers	WIA-Youth			
Number of participants	2,697	1,891	1,782	2,855	12,452	292,616
Female (%)	72.7	61.1	63.7	28.3	59.6	43.8
Minority (%)	26.4	12.1	43.4	56.5	14.0	22.2
Median Quarterly Earnings (\$)	1,698	4,411	0	4,748	2,590	2,253

NET IMPACTS

How effective are these workforce programs in Indiana?

The first step in conducting an ROI analysis is to estimate the net impacts of these programs on employment and earnings. A net impact evaluation evaluates the outcomes of a program for participants relative to what would have occurred if the program did not exist. In other words, it answers the question of how the program has changed the lives of individuals who participated in it relative to their next best alternative. Net impacts may be considered the value added of a program.

An analytical comparison group for the workforce programs was derived by using individuals who encountered the WorkOne system, but who did not participate in a training program. The assumption here is that the next best alternative to the public workforce development system is WorkOne. Of course, the individuals who use WorkOne may be quite different from the individuals who went through a program, so we conducted a statistical match between the data sets in order to identify individuals in WorkOne who had characteristics like the clients of the public training system.

The following net impact results, displayed in table ES-2, suggest that, in general, the workforce development programs that were studied had positive impacts on participants:

- The WIA-Adult, the WIA-Dislocated Worker program, and postsecondary education all have substantial positive impacts on individuals' likelihood of being employed and average quarterly earnings.

- The WIA-Dislocated Worker program, Trade Adjustment Assistance, and postsecondary education reduce Unemployment Insurance benefits in the short-term (third quarter after exit), but those positive impacts seem to disappear by the 7th quarter.
- The WIA-Youth program net impacts are positive, but they are not statistically significant.
- TAA has a small employment impact, but negative (insignificant) earnings impacts.

Table ES-2. Net impact Estimates, by Program

	WIA-Adult	WIA-Dislocated Workers	WIA-Youth	TAA	Postsecondary
Employment, 3rd quarter (%)	14.8**	17.0**	3.4	3.2	17.9**
Employment, 7th quarter (%)	13.7**	16.5**	2.3	5.1**	19.9**
Earnings, 3rd quarter (\$)	549**	410**	24	-122	1,490**
Earnings, 7th quarter (\$)	463**	310**	47	-139	1,547**
UI benefits, 3rd quarter (\$)	-15	-53**	5	-95**	-22**
UI benefits, 7th quarter (\$)	10	3	-0	-15	-15**

NOTE: **Indicates statistical significance at the 0.05 level. All dollar impacts are in 2008 \$.

RETURN ON INVESTMENT

The ROIs that have been computed for Indiana residents build on the net impact estimates. The concept of ROI is fairly straightforward. An investment is made in the current time period that is likely to yield benefits in the future. The ROI is the interest rate that equalizes the investment with the (discounted) flow of future benefits. For workforce development programs, individual participants make investments and get future benefits, and the public sector, on behalf of taxpayers, makes investments that yield future benefits. Most programs provide services to eligible individuals without charge, so for participants, the investment costs are their time costs, which comprise opportunity costs of foregone earnings while they are participating in the program. Some programs, postsecondary education in particular, have tuition and fees that must be added to time costs. The benefits that participants receive are greater likelihoods of employment and higher wage rates from skills that are learned. From the public's perspective, the investment is the cost of providing services, and the returns are increased tax revenues from participants' higher levels of employment and earnings and decreased expenditures because participants have decreased take-up rates of unemployment insurance and income support programs.

The ROI results, shown in table ES-3, suggest that participants in programs, with the exception of TAA, have extremely handsome payoffs, and the government sector (federal government and State of Indiana are combined) reaps positive ROIs for the WIA-Dislocated Worker, Trade Adjustment Assistance, and postsecondary programs. If

we add together the benefits for participants and for the government, and compare them to the sum of the costs to the participants and the government, then we can calculate a social rate of return. The results show that this societal ROI is positive for all of the programs, save TAA.

Table ES-3 ROI Estimates (Quarterly ROIs)

	WIA-Dislocated			TAA	Postsecondary
	WIA-Adult	Workers	WIA-Youth		
Individual program participant (%)	16.32	2.64	13.27	-0.93	29.87
Government (%)	-0.04	1.50	-1.73	5.01	1.82
Society (takes into consideration individual and government) (%)	7.60	2.13	0.22	-0.40	9.66

The results can be analyzed on a program by program basis.

WIA-Adults. For WIA-Adults, the program increases earnings and employment modestly in the short- and long-run. The “costs” to the individuals in these programs are minor. There is no tuition or fees, so the only cost to participants is foregone earnings; that is, earnings that they could have made while they were participating. Because WIA-Adult program participants are generally low wage workers, they give up modest earnings while they are being trained, so the individual’s return is high. For the government, however, the cost of serving these individuals—i.e., administrative and services costs—are about \$4,000 (2008\$) per individual. The additional earnings of individuals generate tax revenues and the individuals receive less transfer income, but these additional revenues and expense reductions are not substantial enough for the government to recoup its costs. Thus the public sector’s ROI for the WIA-Adult program is (slightly) negative.

WIA-Dislocated Workers. The story is almost the opposite for WIA-Dislocated Workers. Their employment and earnings gains are comparable to, although a bit higher than WIA-Adults. But because they are higher wage workers, their foregone earnings during training are quite high, so the average individual’s ROI is lower than for the Adult program (still positive, though). However, Dislocated Workers’ lifetime earnings increases and reductions in unemployment compensation more than offset the government’s cost, which is over \$6,000 (2008\$) per participant. Thus, the government’s ROI for this program is positive.

WIA-Youth. The ROIs for WIA-Youth are similar to those for WIA-Adults. The foregone cost of training is very low and, while the employment and earnings net impacts are modestly positive, they last for a long period of time and generate a positive ROI. However, the earnings impacts do not generate much in the way of taxes, so the government’s ROI is negative since the program costs are substantial.

TAA. Not surprisingly, the results for TAA are similar to the results for WIA-Dislocated Workers. However, the foregone earnings cost of training (more than \$2000

per quarter) is larger, which causes the individual's return to be negative, and the earnings and employment impacts are slightly smaller, which limits the extra tax revenues and causes the government's ROI to be slightly negative.

Postsecondary education. The story is all positive for postsecondary education. The investment cost for individuals comprises tuition and fees and foregone earnings. In this case, foregone earnings are actually negative (this means that postsecondary students' earnings while they were in school exceeded their matched counterparts' earnings during those quarters). However, the tuition and fees, on average, exceed in magnitude the negative foregone earnings, so individuals still have a net investment cost of over \$4,000. The net earnings and employment impacts of postsecondary education are large, however, so individuals generate more than enough additional earnings over their lifetimes to make a substantial return on their tuition investments. Furthermore, the additional taxes received from those earnings along with reductions in transfer payments more than offset the government subsidies so that the government gets a return of about 2 percent per quarter.

BOTTOM LINE: WHO BENEFITS?

As administered in FY2006, the individual programs comprising the workforce system had disparate ROIs for individual participants and for the government. From an individual's perspective, the WIA-Adult, WIA-Youth, and Postsecondary education programs provide extraordinarily high returns. The programs that serve more mature, higher-wage workers—WIA-Dislocated Workers and TAA—have more modest returns (actually negative for TAA).

The ROI estimates suggest that governments (state and federal are combined) receive a payoff from only three of the programs, and it should be recognized that these payoffs are accounted for over a working lifetime. That is, it takes a long time for the government to recoup its investment.

IMPACT OF TRAINING

It should be recognized that not all of the workforce system programs provide training to all clients. In particular, about half of the Workforce Investment Act adult program participants receive training. At the national level, between program years 2002 to 2005, the annual average number of participants in WIA-Adults was about 250,000, of whom about 46.0 percent received training. The annual average number of WIA-Dislocated Workers was about 200,000, of whom about 48.5 percent received training. Between program years 1999 and 2003, the Trade Adjustment Assistance program had about 40,000 participants, of whom just under 80.0 percent received training.

The IWIS data identified individuals in the WIA-Adult and WIA-Dislocated Worker programs who entered training (the data do not indicate whether the training was completed). For these two programs, we disaggregated the net impact results to the populations who entered training and those who did not. These disaggregated results

suggest that training significantly increases the employment rate and earnings outcomes for WIA-Adults. However, the training outcomes are not significantly different from the outcomes for individuals who didn't receive training for WIA-Dislocated Workers.

POLICY EXPERIMENTS

A useful byproduct of the ROI analyses done in this study is a spreadsheet tool that can be used to conduct policy experiments. To demonstrate its usefulness, two policy experiments were run as follows:

Experiment 1: Reduce the per participant cost of the workforce program, except for postsecondary education 25 percent, and, concomitantly, reduce the earnings gains from the programs by 25 percent.

Experiment 2: Reduce the state subsidy for postsecondary education by 25 percent, and added that amount to tuition and fees. (Note that this might be a very unpopular reduction, but presumably could be accompanied by increases in supports for access.)

The results for experiment 1 (fully documented in the full report) suggest that scaling up the WIA programs, which would likely reduce per participant costs and also per participant employment and earnings gains, would still yield sizeable returns for the individuals and would enhance the payoff for the government. However the experiment does just the opposite for TAA. For this program, the experimental return to the taxpayer is quite large, and the return to the program participant is negative. This combination suggests that the program might be able to strike a better balance by investing more into the services provided to individuals (assuming that these individuals would then obtain more positive labor market outcomes).

Reducing state subsidies to sub-baccalaureate education and increasing tuition and fees (Experiment 2) turns out to be reasonable from the ROI point of view. The return to individuals declines by about 12 percentage points, but is still well over 50 percent on an annualized basis. The public sector's return increases from about seven percent on an annual basis to about 10 percent.

RECOMMENDATIONS

In many ways, this study should be considered a prototype, or proof of concept. It shows a potential use of administrative data for the State of Indiana. All in all, it seems that with IWIS and with support of studies such as this, Indiana has shown the potential for systematically using data to inform policymakers and to improve its workforce development system. The following specific recommendations may be considered by state policymakers to institutionalize its data analytic capability:

Recommendation 1: *Legislate or use an executive order to mandate ROI studies to be used in the budgeting process.* The purpose of estimating ROIs for the various

programs comprising the workforce development system is to determine whether there might be relative underinvestment in one or a few programs as indicated by relatively high returns on investment. If there were high returns, then it would be sensible to re-allocate funding toward those programs to the extent practicable.

Recommendation 2: *Invest adequately in data systems.* The IWIS system is a great start, but the initiative needs to continue and be funded at an adequate level. Resources need to be adequate, and also staffing expertise needs to be available. In general, a data warehouse effort such as IWIS needs a considerable investment in time and effort for its design, but also needs a thorough plan for retaining complete and accurate data in order to provide the best information possible for performance monitoring and policy analysis.

Recommendation 3: *Institute a cross-program coordinating board.* As it moves forward, we hope that the state will develop an oversight or coordinating entity that will have cross-program accountability. We believe that such a construct will facilitate meaningful use of net impact/ROI studies, but also would be a way to overcome the “siloeing” that occurs from having different programs administered by different agencies.