

Utah State Office of Rehabilitation Economic Impact Study

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Executive Summary

Utah's population is less likely to have a disability than the nation's population. Nevertheless, poverty is a substantial problem for the percent of the population that is disabled. In addition, disabilities play a major role in the level of poverty. Individuals with disabilities are less likely to be employed and earn substantially less than individuals without disabilities.

The Vocational Rehabilitation Program run by the Utah State Office of Rehabilitation assists individuals with disabilities improve their employment outcomes.

The purpose of the Economic Impact Study was to determine the return on the public investments in the Utah State Office of Rehabilitation for the Vocational Rehabilitation Program. The goal of the study is to answer two research questions.

1. What has been the impact of the Vocational Rehabilitation Program on participants' earnings and employment?
2. What are the public and private costs and benefits associated with the Vocational Rehabilitation Program?

The study group was divided into a control group and a program group. The program group consists of individuals who received services (closure types 3 and 4 also known as status 26 and status 28 closures). The control group consists of individuals who were determined eligible but did not receive services (closure types 5 and 7 also known as status 30 closures).¹

Given the key questions of what effects do USOR services have on earnings and employment, two separate analyses were done to distinguish the effects on earnings and the effects on employment. The analysis of earnings included only those participants who were employed. The employment analysis included individuals that were not consistently employed.

Earnings Impact

What is the net impact of participation in the Vocational Rehabilitation Program on earnings from Unemployment Insurance (UI) covered employment in Utah?

The answer to this question is that the earnings impact appears to be positive and quite large, based on the analysis of case closures from October 1, 2004 to September 30, 2005. This conclusion is based on the following results.

Using a simple comparison of average earnings, the difference between those applicants who received services, the program group, and those who did not, the

¹ Some individuals with closure types 5 and 7 may have received minimal services related to the eligibility determination process. However, there is no clear method for determining which individuals received these services and as they were minimal, they should not materially alter the findings for employment outcomes.

control group, was \$3,534 in the first year after services, \$3,347 in the second year, and \$2,976 in the third year after services (in 2008 dollars).

Given the key questions of what effects do USOR services have on earnings and employment, two separate analyses were done to distinguish the effects on earnings and the effects on employment. The analysis of earnings is described above and included only those participants who were employed. The employment analysis was designed similarly to the earnings analysis except that the dependent variable was an indicator of whether or not the individual was employed for that person/quarter.

In order to ensure that the higher earnings of the program group is not based on an unobservable systemic difference in the program group versus the control group, we used regression analysis to test for the difference in earnings between the two groups while controlling for individual and labor market characteristics.

Wages do increase post eligibility determination for everyone, both program and control group, by \$1032 per quarter. However, for those that received services their wages increase by an additional \$1506 per quarter. This advantage does not diminish over time.

Individuals, in the program group, with the most significant disabilities do not experience nearly as large a wage benefit. Their quarterly wage increase correlated with USOR services is \$243.

Employment Impact

What is the net impact of participation in the Vocational Rehabilitation Program on UI-covered employment in Utah?

Like earnings, the impact on employment is positive and quite large, based on the analysis of case closures from October 1, 2004 to September 30, 2005. This conclusion is based on the following results.

Using a simple comparison of means, those who receive services are 16% more likely to be employed than those who did not in the first quarter after closure. For the second quarter after closure, those who received services were 15% more likely to be employed.

In order to ensure that the higher employment rates for the program group are not based on an unobservable system difference in the program group versus the control group, we used regression analysis to test for the difference in earnings between the two groups while controlling for individual and labor market characteristics. On average, those who received services were 9.1% more likely to be employed.

Costs and Benefits of Vocational Rehabilitation Program

Private Benefits

Economic benefits to the individual come in two forms:

- For those who are working, an increase in earnings.
- For those who were not working, an increase in the likelihood of employment and, therefore, earnings.

The USOR Vocational Rehabilitation program helps increase earnings in Utah by over \$282 million; over \$56 million from increased earnings and over \$226 million from increased employment.

Public Benefits

While the individuals who participate in the Vocational Rehabilitation program see large increases in their earnings, the State of Utah also benefits from the increased earnings. First, the state collects additional tax revenue and second, the state pays less in public benefits to participants.

Public benefits include decreased payments from Social Security Insurance, Social Security Disability Insurance, Temporary Assistance to Needy Families, General Assistance, Veteran's Disability, Worker's Compensation and other programs. Some of these programs are funded through the state and some are funded through the federal government. The reduction in these benefits will result in a savings of over \$34 million for the participants in FY 2005.

The State of Utah saves the present value of \$4,570,582.93 in Medicaid benefits per year of USOR services.

In terms of increased taxes, Utahns with similar incomes to the participants paid 11.4% of their income in state and local taxes in FY 2005. Thus, the \$282 million will result in the present value of \$32,231,036 in increased state tax revenue.

Public costs of the program are the amount that the state spends on administering the Vocational Rehabilitation program. The state spent \$12,599,900 on the Vocational Rehabilitation program in FY2005. The federal government contributed \$23,887,000, for a total of \$36,486,900.

The final result of the above calculations reveals that for every state dollar spent on Vocational Rehabilitation, \$5.64 dollars are returned to the state in terms of increased taxes and decreased benefits from public programs.

Economic Impact of Federal Expenditures for the Vocational Rehabilitation Program

The federal government contributed \$23,887,000 of the total \$36,486,900 spent on Vocational Rehabilitation in FY2005. This represents a positive economic impact on the Utah economy because it is an injection of money from an outside source. The

federal expenditure supports jobs, which create income and generate tax revenue in Utah.

The federal dollars supported an additional 250 jobs, which resulted in an additional \$16 million in earnings. These earnings translate into approximately \$1.6 million in additional tax revenue to the state.

The additional tax revenue from the federal dollars increases the cost benefit ratio to 5.77.

Limitations of the Study

Limitations of the study include:

- Limited external validity
- Limitations of using nonexperimental data
- Service definitions
- Data limitations

The Utah State Office of Rehabilitation Economic Impact Study

Context of Evaluation

Demographics of People with Disabilities

According to the 2008 American Community Survey (ACS), there were 240,034 (9%) persons with a disability in Utah. This is significantly lower than the national percentage of 12%. The following two tables provide greater detail by age and sex of those in Utah and the United States with and without a disability.

Table 1 illustrates the number and percent of individuals with a disability in Utah and the United States. Utah has a similar percentage of men and women with disabilities, both 9%. Likewise the U.S. percentages are the same for both sexes, although higher than Utah's at 12%.

Table 1: Individuals with Disabilities for Utah and the United States by Sex and Age				
	Utah		United States	
	Number	Percent	Number	Percent
Male	118,687	9%	17,113,707	12%
Male <18 years	15,196	3%	1,818,212	5%
Male 18-64	64,485	8%	9,475,281	10%
Male 65+ years	39,006	36%	5,820,214	36%
Female	121,347	9%	18,958,095	12%
Female <18 years	10,490	3%	1,078,725	3%
Female 18-64 years	62,212	8%	9,519,804	10%
Female 65+ years	48,645	37%	8,359,566	39%
Total	240,034	9%	36,071,802	12%

Source: 2008 American Community Survey

Table 2 illustrates the percent of people by race or ethnicity that have disabilities for the United States and Utah. Utah has a smaller percentage of each race that has a disability compared to the United States. Table 2 represents the percent of the population of a certain race with a disability, so while Utah has a less diverse population, this should not affect these percentages. For example, 5.24% of the

black population in Utah has a disability compared to 13.81% of the US black population.

Table 2: Individuals with a Disability in Utah and the United States by Race and Ethnicity				
	Utah		United States	
	Number	Percent*	Number	Percent*
White	224921	9.13%	27813550	12.39%
Black	1470	5.24%	5006093	13.81%
American Indian or Alaska Native	3666	13.04%	400314	16.81%
Asian	2057	3.85%	897466	6.73%
Native Hawaiian and Other Pacific Islander	907	4.50%	40063	9.62%
Other	3460	6.15%	1128215	7.65%
Two or More Races	3553	6.44%	786101	11.43%
Hispanic or Latino	15947	4.90%	3883628	8.41%
* Percent is the percent of the race with a disability.				
<i>Source: 2008 American Community Survey</i>				

Labor Market Experience for Individuals with Disabilities

Many studies have shown the high prevalence of poverty among people with disabilities.² A new study reveals a high prevalence of disabilities among people in poverty. She and Livermore found that, using a one-year measure of poverty, 47% of those in poverty had a disability and, using a long-term measure of poverty, 65% of those in poverty had a disability.³ Thus, not only are people with a disability likely

² For an overview of previous research see Shawn Fremstad, "Half in Ten: Why Taking Disability into Account Is Essential to Reducing Income Poverty and Expanding Economic Inclusion," (Washington DC: Center for Economic and Policy Research, 2009).

³ Peiyun She and Gina A. Livermore, "Long-Term Poverty and Disability among Working-Age Adults," *Journal of Disability Policy Studies* 19, no. 4 (2009).

to be poor, but also those that are long-term poor are likely to have a disability. This research by She and Livermore is groundbreaking in illustrating the major role that disabilities play in poverty.

Table 3 illustrates the substantial difference in employment rates for individuals with disabilities compared to individuals without disabilities. In Utah, 46.33% of individuals with a disability are employed compared to 79.46% without a disability. Individuals with a disability are more likely to be employed in Utah (46.33%) compared to nationally (39.06%). This difference is statistically significant.

Table 3: Percent Employed United States and Utah by Disability Status			
	United States	Utah	Statistically Significant Difference*
With a Disability	39.06%	46.33%	YES
Without a Disability	77.69%	79.46%	YES

Source: U.S. Census Bureau, 2008 American Community Survey
 *Statistically significant difference between Utah and the United States at the 90 percent confidence level.

Table 4 indicates that while Utahns have lower median earnings than the national median, the earnings difference does not exist for individuals with disabilities. Both males and females in Utah without a disability have significantly lower median earnings than the national median. The median earnings for Utah males without a disability is \$35,275. The median earnings for Utah males with a disability is \$25,341, almost \$10,000 less. The median earnings for Utah females without a disability is \$19,332. The median earnings for Utah females with a disability is \$14,592, almost \$5,000 less.

The conclusion that we can draw from Tables 3 and 4 is that Utahns with a disability do relatively well in Utah, but still have much lower employment rates and earnings than individuals without a disability.

Table 4: Median Annual Earning by Gender and Employment Disability			
	United States	Utah	Statistically Significant Difference*
Total:	29,960	26,190	YES
With a disability:	20,250	20,267	NO
Male:	24,119	25,341	NO
Female:	16,122	14,592	NO
Without a Disability	30,469	26,539	YES
Male:	36,154	35,275	YES
Female:	24,733	19,332	YES
Source: U.S. Census Bureau, 2008 American Community Survey			
*Statistically significant difference between Utah and the United States at the 90 percent confidence level.			

Description of USOR

This section of the report outlines the mission and programs of the Utah State Office of Rehabilitation. In addition, it will detail the services of the Vocational Rehabilitation program, which is the program studied in this report.

Mission and Programs of USOR

The mission of the Utah State Office of Rehabilitation is to “assist eligible individuals with disabilities to prepare for and obtain employment and increase their independence.” There are several divisions within USOR that work to meet its mission; the focus here will be on the Division of Rehabilitation Services, and its Vocational Rehabilitation program. The Vocational Rehabilitation (VR) program provides services to individuals whose disability is a substantial impediment to employment. Services are available according to individual’s needs, abilities, and choices. Vocational Rehabilitation services are provided through the USOR’s Division of Rehabilitation Services, Division for the Deaf and Hard of Hearing and Division of Services for the Blind and Visually Impaired (USOR 2009, 7).

Vocational Rehabilitation Program

The mission of the Vocational Rehabilitation program is to assist eligible individuals with disabilities to prepare for and obtain employment. The services provided include assessment, counseling and guidance, restoration, training, job development

and job placement. These services are individualized and are provided to those determined eligible due to having physical or mental impairments that result in a substantial impediment to employment.

For the 2009 program year, services were provided to 25,682 individuals; 3,116 individuals were successfully employed. Some of the characteristics of the individuals who were successfully employed are below.

Table 5: Gender of VR Clients Employed, 2009		
Gender	Number	Percent
Male	1,725	55%
Female	1,391	45%
TOTAL	3,116	100%
Source: USOR, 2009		

Table 6: Race/Ethnicity of VR Clients, 2009		
Race/Ethnicity	Number	Percent
White	2,552	82.0%
African American	72	2.3%
Asian	13	0.3%
Native American	78	2.5%
Pacific Islander	19	0.6%
Multiple Ethnicity	382	12.3%
TOTAL	3,116	100.0%
Source: USOR 2009		

Table 7: Age at Referral of VR Clients, 2009		
Age at Referral	Number	Percent
Less than 20 years	44	1.4%
20 through 34	1,479	47.4%
35 through 44	697	22.4%
45 through 64	871	28.0%
65 and over	25	0.8%
TOTAL	3,116	100.0%
Source: USOR 2009		

Design and Description of the Study

Purpose

The purpose of the study was to determine the return on investment of public investments in the Utah State Office of Rehabilitation for the Vocational Rehabilitation Program. The goal of the study is to answer two research questions.

1. What has been the impact of the Vocational Rehabilitation Program on participants' earnings and employment?
2. What are the public and private costs and benefits associated with the Vocational Rehabilitation Program?

Data

Two data sources were used for this study:

1. The primary data comes from the USOR dataset that is maintained as required by the federal Rehabilitation Services Administration (RSA). This dataset contains participant data including: background, services, and outcomes.
2. The second dataset was obtained from the Department of Workforce Services by matching quarterly wage data for participants working in Unemployment Insurance covered employment for the 12 quarters prior to application and the 12 quarters after closure.

The analytic sample includes individuals with closure dates from October 1, 2004 through September 30, 2005 (9242 cases). The initial sample of 9242 was narrowed due to several factors. First, only individuals with a positive eligibility determination aged 14-64 were included. Older workers were excluded because they may make different decisions about labor market participation, which would affect their labor market outcomes. Second, workers with an application date prior to December 1, 2001 were excluded because the Unemployment Insurance (UI) data was not available for 3 years prior to their application.⁴ Third, only select closure types were included. Closure types indicate the reason that an individual's case was closed.

The possible closure types are:

1. Exited as an applicant
2. Exited during or after a trial work experience/extended evaluation
3. Exited with an employment outcome
4. Exited without an employment outcome after receiving services
5. Exited without an employment outcome, after a signed IPE but before receiving services

⁴ This resulted in 1,504 individuals being dropped from the sample.

6. Exited from an order of selection waiting list – Not applicable to Utah because they are not using order of selection waiting lists.
7. Exited without an employment outcome, after eligibility, but before an IPE was signed.

Four of the seven possible closure types were included in the study. Closure types 3, 4, 5 and 7 were included in the study because they include only participants who have been determined eligible. Due to the narrowing of the sample for the above three reasons, the resulting sample included 6030 individuals.

The study group was further divided into a control group and a program group. The program group consists of individuals who received services (closure types 3 and 4 also known as status 26 and status 28 closures). The control group consists of individuals who were determined eligible but did not receive services (closure types 5 and 7 also known as status 30 closures).⁵ The control group was created to show potential outcomes that would be achieved without services. This allows for a comparison of outcomes to be made for individuals with disabilities who received services from the Utah State Office of Rehabilitation with those who did not receive services.

Table 8: Number of Individuals in the Program, Control and Total Study Groups		
Program	Control	Total
3972	2058	6030

Outcome Measures

The outcome measures for this study are:

1. Quarterly earnings from Unemployment Insurance covered employment in Utah.
2. Quarterly employment rates from Unemployment Insurance covered employment in Utah.

⁵ Some individuals with closure types 5 and 7 may have received minimal services related to the eligibility determination process. However, there is no clear method for determining which individuals received these services and as they were minimal, they should not materially alter the findings for employment outcomes.

A person is considered employed in a quarter when their earnings are greater than \$50.⁶ Earnings were adjusted to 2008 dollars using the Consumer Price Index for All Urban Consumers (CPI-U).

Model Specification and Predictors

Several predictors were used to explain the variation in earnings and employment. An observation is a person/quarter. The key predictors were:

- TIME: the numbers of quarters prior to eligibility or post closure. For example, TIME=-1 one quarter prior to eligibility determination and TIME=+1 for one quarter prior to case closure.
- EPOCH: a categorical variable indicating whether prior to eligibility or after closure.
- SERVICE: a categorical variable indicating of whether the individual is in the program or control group, whether or not they received services.
- DISABILITY: a series of categorical variables indicating whether an individual's disability is non significant, significant or most significant.
- LENGTH: time elapsed between eligibility and closure, the length of services received.
- REGIONAL UNEMPLOYMENT: the unemployment rate for Utah for the quarter.

The general form of the earnings regression model is:

$$\begin{aligned}
 Y_{ij} = & \beta_{0i} + \beta_1 \text{TIME}_{ij} + \beta_2 \text{TIME}_{ij}^2 + \beta_3 \text{EPOCH}_{ij} + \beta_4 \text{EPOCH}_{ij} * \text{TIME}_{ij} \\
 & + \beta_5 \text{EPOCH}_{ij} * \text{TIME}_{ij}^2 + \beta_6 \text{SERVICE}_{ij} * \text{TIME}_{ij} \\
 & + \beta_7 \text{SERVICE}_{ij} * \text{TIME}_{ij}^2 + \beta_8 \text{SERVICE}_{ij} * \text{EPOCH}_{ij} \\
 & + \beta_9 \text{EPOCH}_{ij} * \text{SERVICE}_{ij} * \text{TIME}_{ij} + \beta_{10} \text{EPOCH}_{ij} * \text{SERVICE}_{ij} * \text{TIME}_{ij}^2 \\
 & + \beta_{11} \text{DISABILITY}_{ij} * \text{EPOCH}_{ij} + \beta_{12} \text{SERVICE}_{ij} * \text{DISABILITY}_{ij} * \text{EPOCH}_{ij} + \\
 & + \beta_{13} \text{REGIONAL UNEMPLOYMENT RATE}_{ij} \\
 & + \beta_{14} \text{LENGTH OF SERVICE}_{ij} * \text{EPOCH}_{ij} \\
 & + \beta_{15} \text{LENGTH OF SERVICE}_{ij} * \text{EPOCH}_{ij} * \text{SERVICE}_{ij} + \varepsilon_{ij}
 \end{aligned}$$

In this model, Y_{ij} represents the quarterly earnings for individual i at time j , TIME represents the quarter for individual i at time j relative to the quarter of application

⁶ The Unemployment Insurance data does not cover all employees. No data for a participant in a quarter was interpreted as representing \$0 in that quarter (recognizing that UI data does not capture self-employment earnings, nor those for several other categories of employment, including for religious organizations and some agricultural enterprises). Thus the estimates of earning and employment may be lower than actual and, therefore, underestimate the impacts of the services provided by the State Office of Rehabilitation.

or closure (for example, -1 for the first quarter prior to application and +1 for the first quarter after closure). EPOCH allows us to distinguish between the period before application and the period following closure. SERVICES is the indicator of whether a consumer received services, DISABILITY reflects the significance of disability at eligibility determination, LENGTH indicates the total number of quarters between eligibility determination and closure, and REGIONALUNEMPLOYMENTRATE is the proxy for local labor market/economic conditions. The model further includes two-way interaction terms capturing the interaction between epoch and time, epoch and the quadratic of time, service and time, service and the quadratic of time, service and epoch, and total number of quarters between eligibility determination and closure and epoch. Three-way interaction terms in the model include interactions between services, epoch, and time, between services, epoch and time in its quadratic form, between services, epoch, and disability categories, and between services, epoch and total number of quarters between eligibility determination and closure.

The first three terms (B_0 - B_2) of the equation represent the earnings trajectory prior to application for USOR services. The next three terms (B_3 - B_5) represent the change in that trajectory after the case is closed. The following two terms (B_6 - B_7) represent the change in the earnings trajectory for those who received services. The next three terms (B_8 - B_{10}) show the change in the earnings trajectory for those who have received services after their case is closed. It is these coefficients that will answer the questions “How do earnings change after an individual receives services?” The next two terms (B_{11} - B_{12}) represent the effect of services on individuals with different levels of significant disabilities. B_{13} represents the effect that a proxy for state economic conditions (unemployment rate) has on earnings. B_{14} and B_{15} measure whether the length of time an individual is receiving services affects their earnings.

When fitting this earnings model to the data, it is important to note that earnings for quarters where no UI wage record match was obtained were set to zero. This will lead to a potential underestimation of earnings for those who received services. This means that the results of the estimation will be conservative.

Given the key questions of what effects do USOR services have on earnings and employment, two separate analyses were done to distinguish the effects on earnings and the effects on employment. The analysis of earnings is described above and included only those participants who were employed. The employment analysis was designed similarly to the earnings analysis except that the dependent variable was an indicator of whether or not the individual was employed for that person/quarter. More technically, a logit estimation was performed because the dependent variable was dichotomous. Clustered standard errors by individual were used to control for any variation in individual earnings or employment that were not included in the equations, such as education, experience, occupation, industry, etc., called the unobserved individual effect.

Descriptive Statistics

Before fitting models to the data to answer the net impact questions, descriptive statistics were computed for the program and control group samples.

Gender, Race, Ethnicity, Education and Disabilities

Table 9 below provides descriptive statistics of consumers included in the sample. Included are the figures for the whole sample, the program group and the control group. The final two columns report the difference between the program and the control group and whether that difference is statistically significant. Only in isolated instances is there a significant difference between the control group and the program group indicating that any differences between the two groups is not likely to be systemic.

Fifty-six percent of the sample was male and 44% was female.

The sample was limited to individuals between the ages of 14 and 65. Eleven percent were between the ages of 14 and 21; 36% were 22-34; 25% were 35-44; 21% were 45-54; and 7% were 55-64. The average age was 41.

Twenty-four percent of the sample had no high school diploma; 47% had a high school diploma; 28% had education beyond a high school diploma but less than 4% had a bachelor's degree or higher.

Ninety-four percent of the sample was white, with almost 3% black; 3.5% Native American; less than 1% Asian; and less than 1% Pacific Islander. Almost 10% of the sample was Hispanic.

Seventy-five percent had a significant disability and 21% had a most significant disability. Only 3% had a non-significant disability. The definitions of the disabilities are complicated; a complete description of the three categories is included in Appendix A. An oversimplified description is those with a most significant disability face limitations in at least two functional categories such as: mobility, communication, self care, self direction, interpersonal skills, work tolerance, or work skills and requires multiple USOR services. While an individual with a significant disability faces limitations in at least one functional category and requires multiple USOR services.

Table 9: Background Characteristics of Consumers						
Characteristics		Whole Sample	Program Group	Control Group	Difference	Sig
Sample Size		6030	3972	2058		
Gender Percentages						
	Male	55.76%	54.92%	57.39%	-2.47%	
	Female	44.24%	45.08%	42.61%	2.47%	
Age Percentages						
	14-21	10.96%	9.67%	13.46%	3.79%	***
	22-34	35.77%	37.06%	33.28%	-3.77%	***
	35-44	25.32%	25.28%	25.10%	0.14%	
	45-54	20.81%	20.75%	20.94%	0.20%	
	55-64	7.13%	7.25%	6.90%	-0.35%	
Education Percentages						
	No Formal Schooling	0.28%	0.35%	0.15%	-0.21%	
	Elementary Education (grades 1-8)	2.60%	2.37%	3.06%	0.69%	
	Secondary Education, No High school Dip	20.66%	19.21%	23.47%	4.26%	***
	Special Education Certificate of Completion	2.17%	2.62%	1.31%	-1.31%	***
	High School Graduate or Equivalency Certificate	46.75%	46.58%	47.08%	0.51%	

	Post-secondary Education, No Degree	18.03%	19.36%	15.45%	-3.91%	***
	Associate Degree or Vocational/Technical	5.89%	5.99%	5.69%	-0.31%	
	Bachelor's Degree	2.79%	2.64%	3.06%	0.42%	
	Master's Degree or higher	0.83%	0.88%	0.73%	-0.15%	
Race Percentages						
	White	93.90%	93.58%	94.51%	0.93%	
	Black	2.70%	3.05%	2.04%	-1.01%	**
	Indian	3.47%	3.37%	3.64%	0.27%	
	Asian	0.91%	0.96%	0.83%	-0.13%	
	Pacific Islander	0.98%	1.08%	0.78%	-0.31%	
Ethnicity Percentage						
	Hispanic	9.60%	9.69%	9.43%	-0.27%	
Significant Disability Percentages						
	Non Significant Disability	3.17%	3.55%	2.43%	-1.12%	
	Significant Disability	75.49%	75.13%	76.19%	1.60%	
	Most Significant Disability	21.34%	21.32%	21.38%	0.06%	
*, **, *** indicates statistically significant difference the 10%, 5%, and 1% confidence level respectively						

Labor Market Experiences

The average quarterly wage at application was \$1841.97 and was \$3073.10 at closure (Table 10). This is a statistically significant difference of \$1231.13. This study will help to identify how much of this difference is due to Vocational Rehabilitation services. In addition, individuals received \$44.96 less in public assistance benefits at closure than at application. Public assistance benefits include cash payments made by federal, state and or local governments for any reason.

Public assistance payments come from programs such as Veteran’s Disability, Temporary Assistance to Needy Families (TANF), Social Security Insurance (SSI), Social Security Disability Insurance (SSDI), General Assistance (GA), Worker’s Compensation, and others.⁷

Table 10: Wages and Benefits at Application and Closure				
	At Application	At Closure	Difference	Sig?
Quarterly Wages	\$1,841.97	\$3,073.10	1231.132	***
Public Assistance	\$189.01	\$144.05	-44.96484	***
*** indicates statistically significant difference between at application and at closure amounts at the 1% confidence level.				

Table 11 provides data on the difference between the program and the control groups’ annual wages for the 3 years after cases were closed. The first column shows the average annual earnings 1 year after closure for all members of the program group, including both individuals that were and were not employed. The second column “Program and Employed” shows the average annual earnings for those individuals who were in the program group and were coded by USOR as a closure with an employment outcome (Closure type 3). Thus the average earnings in the column “Program and Employed” will be higher because this does not include the \$0 earnings of those who are unemployed. The third and fourth columns are similar calculations, but for the control group. However, the “Control and Employed” are distinguished by having positive earnings (in excess of \$50 per quarter). The fifth column calculated the difference between the average annual earnings of the entire control and program groups. The final column indicates whether this difference is statistically significant.

⁷ Others include payments made by Federal, State and local governments for retirement or survivor benefits to the individual as well as unemployment insurance benefits and other temporary payments.

Table 11: Annual earnings after closure						
	Program	Program and Employed	Control	Control and Employed	Difference Between Program and Control	sig?
Year1	\$10,040.83	\$15,776.64	\$6,506.69	\$12,324.78	\$(3,534.13)	***
Year2	\$10,757.54	\$15,914.36	\$7,410.68	\$14,343.00	\$(3,346.86)	***
Year3	\$10,551.59	\$15,460.22	\$7,575.43	\$15,250.05	\$(2,976.17)	***
*** indicates statistically significant difference between at application and at closure amounts at the 1% confidence level.						

When comparing public assistance benefits between the program and the control group, we find no difference in the amount received at application (Table 12). However, after closure, the program group received \$32.15 less in public benefits than the control group. Public assistance includes SSI, SSDI, TANF, GA and other benefit payment programs.

Table 12: Public Assistance						
	Program	Program and Employed	Control	Control and Employed	Difference Between Control and Program	Sig?
At Application	\$185.85	\$168.70	\$195.13	\$159.44	\$9.29	
At Closure	\$133.08	\$103.63	\$165.23	\$191.49	\$32.15	***
*** indicates statistically significant difference between at application and at closure amounts at the 1% confidence level.						

Table 13 details the difference between the program and control groups' employment rates. Here we see a difference in the groups before application and after closure. "Quarters Relative to USOR" signifies the numbers of quarters prior to application if negative or after closure if positive. The difference between the control group and the program group is more pronounced after closure.

Table 13: Average Quarterly Employment Rates					
Quarters Relative to USOR	Whole Sample	Program	Control	Difference	Sig?
-2	43.50%	46.12%	38.44%	-7.69%	***
-1	41.43%	43.25%	37.90%	-5.35%	***
1	50.83%	56.42%	40.04%	-16.38%	***
2	49.67%	54.78%	39.80%	-14.99%	***
*** indicates statistically significant difference between at application and at closure amounts at the 1% confidence level.					

Results of the Statistical Analysis

Given the key questions of what effects do USOR services have on earnings and employment, two separate analyses were done to distinguish the effects on earnings and the effects on employment. The analysis of earnings included only those participants who were employed. The employment analysis included individuals that were not consistently employed.

Earnings Impact

What is the net impact of participation in the Vocational Rehabilitation Program on earnings from Unemployment Insurance covered employment in Utah?

The answer to this question is that the earnings impact appears to be positive and quite large, based on the analysis of case closures from October 1, 2004 to September 30, 2005. This conclusion is based on the following results.

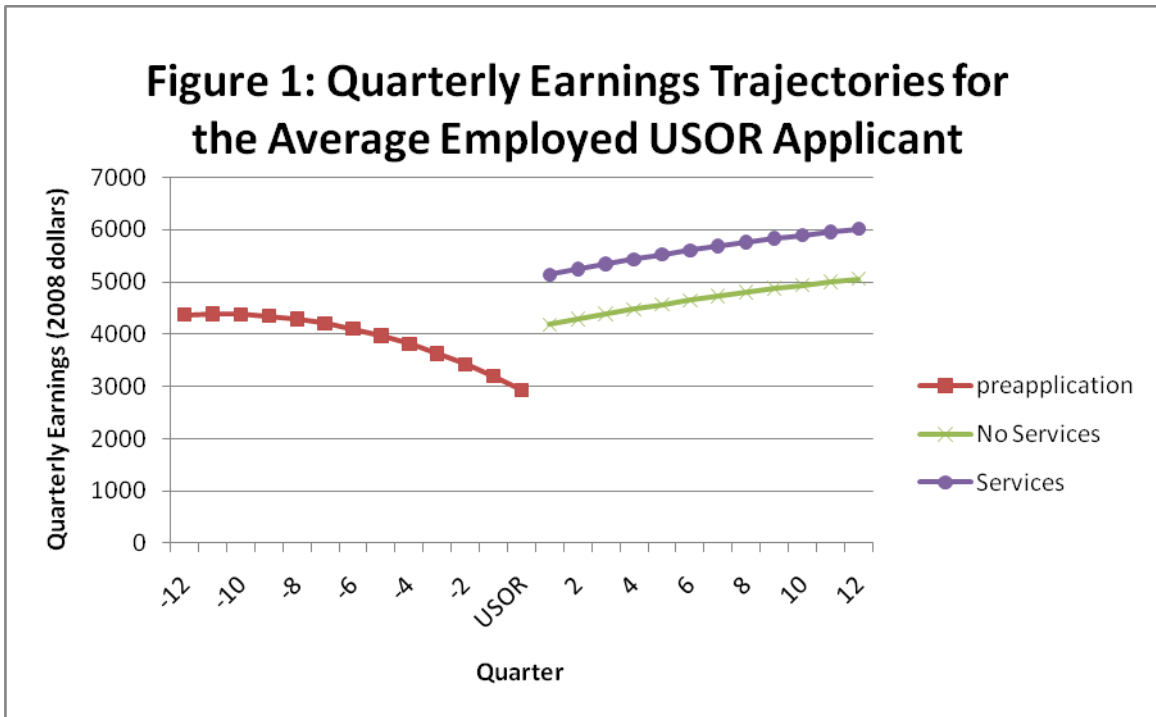
Using a simple comparison of average earnings, the difference between those applicants who received services and those who did not was \$3,534 in the first year after services, \$3,347 in the second year, and \$2,976 in the third year after services (in 2008 dollars).

In order to ensure that the higher earnings of the program group is not based on an unobservable systemic difference in the program group versus the control group, we used regression analysis to test for the difference in earnings between the two groups while controlling for individual and labor market characteristics.

Wages do increase post eligibility determination for everyone, both program and control group, by \$1032 per quarter. However, for those that receive services their wages increase by an additional \$1506 per quarter. This advantage does not diminish over time.

Individuals with the most significant disabilities do not experience nearly as large a wage benefit. Their quarterly wage increase correlated with USOR services is \$243.

Figure 1 shows the expected earnings trajectory for the average employed USOR applicant before they apply to USOR and after the case is closed with USOR.⁸ The vertical axis illustrates quarterly earnings. The horizontal axis represents the period either quarters before application or quarters post closure. For example, -2 indicates 2 quarters before application, while 2 represents 2 quarters after closure. Exact coefficients on each of the variables and their statistical significance and a table version of Figure 1 can be found in the Appendix.



⁸ The distance between the two post closure lines is not \$1506 because this line represents the change in earnings for the average participant. Twenty-one percent of participants have a most significant disability, which diminishes their post services gain and brings the average increase (the distance between the two lines) to \$840.

Employment Impact

What is the net impact of participation in the Vocational Rehabilitation Program on UI-covered employment in Utah?

Like earnings, the impact on employment is positive and quite large, based on the analysis of case closures from October 1, 2004 to September 30, 2005. This conclusion is based on the following results.

Using a simple comparison of means, those who receive services are 16% more likely to be employed than those who did not in the first quarter after closure. For the second quarter after closure, those who received services were 15% more likely to be employed.

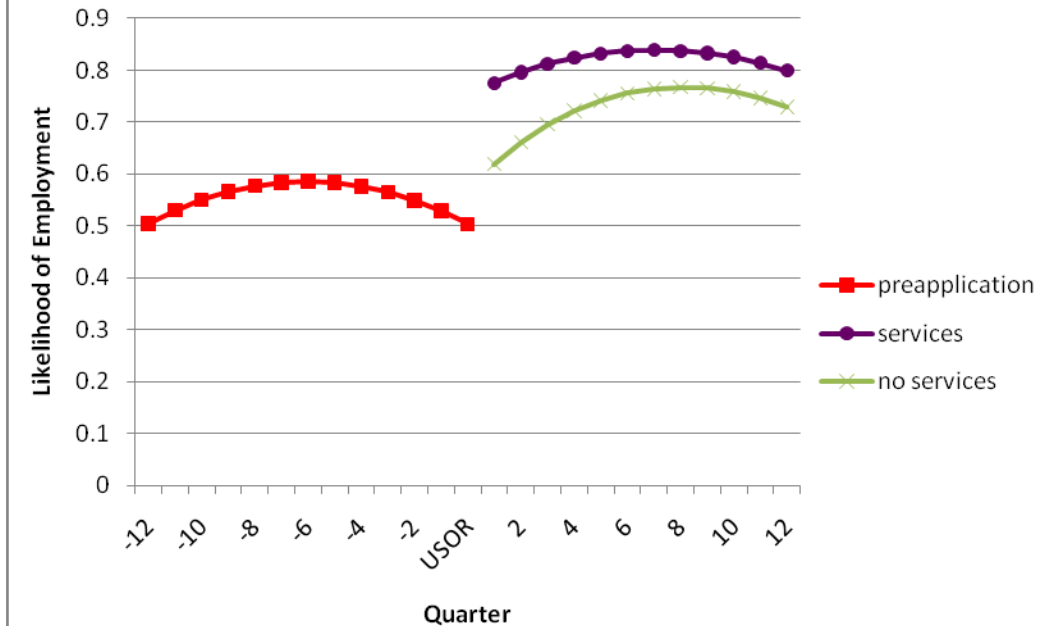
In order to ensure that the higher employment rates for the program group are not based on an unobservable system difference in the program group versus the control group, we used regression analysis to test for the difference in earnings between the two groups while controlling for individual and labor market characteristics. On average, those who received services were 9.1% more likely to be employed.⁹

Figure 2 shows the likelihood of employment for the average applicant prior to application and after application for both those that received services and those that did not. The initial difference of 9.1 % diminishes to 6.6% by the 10th quarter after closure, but the gap begins to increase again.

Exact coefficients on each of the variables and their statistical significance and a table version of Figure 2 can be found in the Appendix.

⁹ This is only for those individuals whose employment status changed during the 12 quarters prior to application or the 12 quarters post closure. For those that were employed the entire time, changes are reflected in changes in their earnings. For those that were unemployed the entire time, there was no change due to services.

Figure 2: Likelihood of Employment for the Average USOR Participant*



* Excluding applicants that were either employed the entire time, or unemployed the entire time.

Costs and Benefits of the Vocational Rehabilitation Program

Now that the impacts of the vocational rehabilitation have been isolated in the above statistical analysis, we can estimate the economic benefits to participants. This report will focus solely on economic benefits in the form of earnings and the earnings generated from employment. There are a myriad of benefits that accrue to an individual and a community from improving the productive abilities of individuals. These benefits will not be addressed here.

Private Benefits

Economic benefits to the individual come in two forms:

- For those who are working, an increase in earnings.
- For those who were not working, an increase in the likelihood of employment and, therefore, earnings.

The increase in earnings for an individual does not just occur in one year, but will continue for the duration of their working lives. Since the average age of USOR participants is 41, we will assume that individuals will continue to work for 24 years

beyond their case closure. A discount rate of 3% was used to calculate the present value, which is an industry standard.¹⁰

The USOR Vocational Rehabilitation program helps increase earnings in Utah by over \$282 million (See table 14); over \$56 million from increased earnings and over \$226 million from increased employment.

Table 14: Private Benefits			
	Increase in Earnings	Increase in Earnings from Increase in Employment	TOTAL
Annual Increase per Person	\$3,360	\$2,726	
Present Value of Future Earnings per Person	\$56,903	\$46,173	
Number of People	995	4897	5892
Total Private Benefit	\$56,618,904	\$226,109,485	\$282,728,389

The \$282 million of additional earnings is the present value of the earnings increase that will be realized over a person's lifetime. Thus the \$282 million represents the current value in earnings of the cases closed between October 1, 2004 and September 30, 2005. Cases closed in subsequent years will generate similar numbers in terms of present value of increased earnings.

Table 15 presents the distribution of the increased earnings by the county of residence of the Vocational Rehabilitation participants. This represents the increase in income in the respective county because of the services provided by Vocational Rehabilitation.

¹⁰ Kevin M. Hollenbeck and Wei-Jang Huang, "Net Impact and Benefit-Cost Estimates of the Workforce Development System in Washington State," (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2006).

Table 15: Increased Earnings by County of Residence		
	Annual Benefits	Lifetime Benefits
Statewide	\$16,694,381	\$282,728,389
BEAVER	\$32,193	\$545,206
BOX ELDER	\$423,108	\$7,165,568
CACHE	\$883,009	\$14,954,229
CARBON	\$607,068	\$10,281,032
DAVIS	\$1,356,706	\$22,976,550
DUCHESNE	\$105,777	\$1,791,392
EMERY	\$188,559	\$3,193,351
GARFIELD	\$9,198	\$155,773
GRAND	\$124,173	\$2,102,938
IRON	\$464,499	\$7,866,547
JUAB	\$41,391	\$700,979
KANE	\$9,198	\$155,773
MILLARD	\$133,371	\$2,258,712
MORGAN	\$9,198	\$155,773
PIUTE	\$-	\$-
RICH	\$9,198	\$155,773
SALT LAKE	\$6,217,852	\$105,302,695
SAN JUAN	\$206,955	\$3,504,897
SANPETE	\$308,133	\$5,218,403
SEVIER	\$331,128	\$5,607,836
SUMMIT	\$87,381	\$1,479,846

TOOELE	\$170,163	\$2,881,805
UINTAH	\$170,163	\$2,881,805
UTAH	\$1,310,716	\$22,197,683
WASATCH	\$101,178	\$1,713,505
WASHINGTON	\$933,598	\$15,810,982
WAYNE	\$13,797	\$233,660
WEBER	\$2,446,670	\$41,435,676

Public Benefits

While the individuals who participate in the Vocational Rehabilitation program see large increases in their earnings, the State of Utah also benefits from the increased earnings. First, the state collects additional tax revenue and second, the state pays less in public benefits to participants.

Public benefits include decreased payments from SSI, SSDI, TANF, GA, Veteran's Disability, Worker's Compensation and other programs. Some of these programs are funded through the state and some are funded through the federal government. Table 16 indicates the different public benefits and the amount on average that USOR services reduce payments for that benefit. The reduction in these benefits will result in a savings of over \$34 million for the participants (Table 17).

In terms of increased taxes, Utahns with similar incomes to the participants paid 11.4% of their income in state and local taxes in 2004. Thus, the \$282 million will result in the present value of \$32,231,036 in increased state tax revenue (Table 17).

Table 16: Public Assistance Programs		
Program	Benefit reduction due to Vocational Rehabilitation Services per Month	Level of Government that Funds the Program
SSI	\$7.63	Federal
SSDI	0	Federal
TANF	\$12.21	State ¹¹
Other public assistance amounts including GA	\$17.80	State
Total	\$37.64	

Additional benefits accrue to the state in reduced participation in Medicaid. Those who participated in the program were less likely to be enrolled in Medicaid, saving the \$5,005 per year per person enrolled.¹² Because of the structure of funding, the State of Utah paid approximately 25% of the \$5005 or \$1251.25. Twenty-one percent of those in the control group were enrolled in Medicaid versus 17% in the program group.

The State of Utah saves the present value of \$4,570,582.93 in Medicaid benefits. This is in addition to the \$32,231,036 in additional tax revenue and \$34,219,945 in assistance payments (Table 17).

¹¹ TANF is federally funded through a block grant system and administered by the state. Savings in benefit payments accrue to the state and can be used by the state for other approved TANF activities.

¹² Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on data from Centers for Medicare and Medicaid Services-64 reports, July 2007, <http://www.statehealthfacts.org/profileglance.jsp?rgn=46>. This report used the average spending per person as opposed to the much higher spending per persons with disabilities, which was 2.5 times larger in order to be conservative with estimates. In addition, the eligibility requirements to receive Medicaid because of a disability are different than the requirements to participate in Vocational Rehabilitation services.

Table 17: Public Benefits Summary	
Increase in Tax Revenue	\$32,231,036.37
Decrease in Public Assistance Payments	\$34,219,945.62
Decrease in Medicaid Payments	\$4,570,582.93
Total	\$71,021,564.92

Public costs of the program are the amount that the state spends on administering the Vocational Rehabilitation program. The state spent \$12,599,900 on the Vocational Rehabilitation program in FY2005. The federal government contributed \$23,887,000 for a total of \$36,486,900.

Table 18: Public Costs of the Vocational Rehabilitation Program in FY 2005	
State Dollars	\$12,599,900
Federal Dollars	\$23,887,000
Total	\$36,486,900
Source: Utah Governor's Office of Planning and Budget and Department of Education, Office of Special Education and Rehabilitative Services.	

The final result of the above calculations reveals that for every state dollar spent on Vocational Rehabilitation, \$5.64 dollars are returned to the state in terms of increased taxes and decreased benefits from public programs (Table 19).

Table 19: Cost Benefit Analysis For the State of Utah	
Public Benefits	\$71,021,565
Public Costs	\$12,599,900
Difference	\$58,421,665
Ratio	5.64

Economic Impact of Federal Expenditures for the Vocational Rehabilitation Program

The federal government contributed \$23,887,000 of the total \$36,486,900 spent on Vocational Rehabilitation in the year 2005. This represents a positive economic impact on the Utah economy because it is an injection of money from an outside source. The federal expenditure supports jobs, which create income and generate tax revenue in Utah.

The federal contribution to Utah is determined by a formula that takes into account the population and the per capita income of a state. The State of Utah is required to match 21.3% of the federal contribution.¹³

In Fiscal Year 2005, Vocational Rehabilitation payroll expenses were \$14,071,637.62 for 284 employees.¹⁴ Sixty five percent of spending in Vocational Rehabilitation is federal spending, so federal spending supported 185 employees and the corresponding \$9,146,564.46 direct payroll expenses. However, these employees will spend their earnings to support other jobs and businesses. These indirect impacts can be calculated using the multiplier data available from the Bureau of Economic Research (www.bea.gov).

Table 20 shows the number of jobs, earnings and tax revenues created by the federal injection of dollars for the Vocational Rehabilitation program. The federal dollars supported an additional 250 jobs, which resulted in an additional \$16 million in earnings. These earnings translate into approximately \$1.6 million in additional tax revenue to the state.

Table 20: Economic Impact in Utah of Federal Funding for the Vocational Rehabilitation Program, FY2005	
Jobs	250
Earnings	\$16,430,888
Utah Tax Revenues ¹⁵	\$1,626,658
New Cost Benefit Ratio	5.77
Source: Bureau of Economic Analysis RIMS II Data and author's calculations.	

¹³ U.S. Department of Education.

¹⁴ Office of the Legislative Fiscal Analyst, prorated for the size of Vocational Rehabilitation, which is included in the State Office of Rehabilitation.

¹⁵ Average earnings for the 250 jobs created by the federal influx of support for Vocational Rehabilitation program was \$65,717. The average tax rate for this income group was 9.9% according to "Who Pays? A Distributional Analysis of the Tax Systems in All 50 States," (Washington DC: Institute on Taxation and Economic Policy, 2003).

The additional tax revenue from the federal dollars increases the cost benefit ratio to 5.77 or for every dollar the state spends, the program generates \$5.77 in returns for the State of Utah.

Limitations of the Study

The study has several limitations that are discussed in the following sections.

Limited External Validity

Since the analytic sample is not a random sample of individuals with disabilities in Utah, the external validity is limited. In other words, we cannot generalize our findings to the population of people with disabilities. However, we can expect similar results from eligible applicants to the Vocational Rehabilitation Program.

Limitations of Using Nonexperimental Data

Due to selection bias we cannot determine if the Vocational Rehabilitation services caused the differences that were observed. To completely eliminate selection bias we would need to create an experiment where individuals were randomly assigned to receive services or not. However, we have used statistical techniques to minimize the effects of selection bias in our results. Namely, we used an analytic approach that allowed us to control for differences between the program group and the control group.

Service Definitions

Services were defined as a dichotomy in the analysis; either an individual received services or they did not. In reality, the quantity, intensity and duration of services varies greatly among those who receive services. Thus, it is possible that differences in services resulted in differences in outcome measures that were not captured. It should also be restated that some individuals that were included in the control group might have received a minimal level of services related to the eligibility determination process.

Data Limitations

In this study, we encountered several data limitations. We lacked data on several individual characteristics such as time of onset of disability and employer characteristics that would have allowed us to more appropriately explain some of the variation in earnings. The Unemployment Insurance data does not cover all employees. No data for a participant in a quarter was interpreted as representing \$0 in that quarter (recognizing that UI data does not capture self-employment earnings, nor those for several other categories of employment, including for religious organizations and some agricultural enterprises).

Conclusion

Utah's population is less likely to have a disability than the nation's population. Nevertheless, poverty is a substantial problem for the percent of the population that

is disabled. Conversely, disabilities play a major role in the level of poverty. Individuals with disabilities are less likely to be employed and earn substantially less than individuals without disabilities.

The Vocational Rehabilitation Program run by the Utah State Office of Rehabilitation assists individuals with disabilities in improving their employment outcomes. This report measures the economic impact that the program has on individuals' incomes and the cost and benefits to the State of Utah. Measuring the family, personal and community benefits of increasing employment and earnings for individuals with disabilities are beyond the scope of this project.

Earnings Impact

What is the net impact of participation in the Vocational Rehabilitation Program on earnings from Unemployment Insurance covered employment in Utah?

The answer to this question is that the earnings impact appears to be positive and quite large, based on the analysis of case closures from October 1, 2004 to September 30, 2005. This conclusion is based on the following results.

Using a simple comparison of average earnings, the difference between those applicants who received services and those who did not was \$3,569.04 in the first year after services, \$3,171.63 in the second year, and \$2,655.95 in the third year after services (in 2008 dollars).

In order to ensure that the higher earnings of the program group is not based on an unobservable systemic difference in the program group versus the control group, we used regression analysis to test for the difference in earnings between the two groups while controlling for individual and labor market characteristics.

Wages do increase post eligibility determination for everyone, both program and control group, by \$1032 per quarter. However, for those that receive services their wages increase by an additional \$1506 per quarter. This advantage does not diminish over time.

Individuals with the most significant disabilities do not experience nearly as large a wage benefit. Their quarterly wage increase correlated with USOR services is \$243.

Employment Impact

What is the net impact of participation in the Vocational Rehabilitation Program on UI-covered employment in Utah?

Like earnings, the impact on employment is positive and quite large, based on the analysis of case closures from October 1, 2004 to September 30, 2005. This conclusion is based on the following results.

Using a simple comparison of means, those who receive services are 16% more likely to be employed than those who did not in the first quarter after closure. For

the second quarter after closure, those who received services were 15% more likely to be employed.

In order to ensure that the higher employment rates for the program group are not based on an unobservable system difference in the program group versus the control group, we used regression analysis to test for the difference in earnings between the two groups while controlling for individual and labor market characteristics. On average, those who received services were 9.1% more likely to be employed.

Costs and Benefits of Vocational Rehabilitation Program

Private Benefits

Economic benefits to the individual come in two forms:

- For those who are working, an increase in earnings.
- For those who were not working throughout the analysis period, an increase in the likelihood of employment and, therefore, earnings.

The USOR Vocational Rehabilitation program helps increase the present value of earnings in Utah by over \$282 million; over \$56 million from increased earnings and over \$226 million from increased employment.

Public Benefits

While the individuals who participate in the vocational rehabilitation program see large increases in their earnings the State of Utah also benefits from the increased earnings. First, the state collects additional tax revenue and second, the state pays less in public benefits to participants.

Public benefits include decreased payments from SSI, SSDI, TANF, GA, Veteran's Disability, Worker's Compensation and other programs. Some of these programs are funded through the state and some are funded through the federal government. The reduction in these benefits will result in a savings of over \$34 million for the participants.

The State of Utah saves the present value of \$4,570,582.93 in Medicaid benefits.

In terms of increased taxes, Utahns with similar incomes to the participants paid 11.4% of their income in state and local taxes in FY2005. Thus, the \$282 million will result in the present value of \$32,231,036 in increased state tax revenue.

Public costs of the program are the amount that the state spends on administering the Vocational Rehabilitation program. The state spent \$12,599,900 on the Vocational Rehabilitation program in FY2005. The federal government contributed \$23,887,000 for a total of \$36,486,900.

The final result of the above calculations reveals that for every state dollar spent on Vocational Rehabilitation, \$5.64 dollars are returned to the state in terms of increased taxes and decreased benefits from public programs.

Economic Impact of Federal Expenditures for the Vocational Rehabilitation Program

The federal government contributed \$23,887,000 of the total \$36,486,900 spent on Vocational Rehabilitation in FY2005. This represents a positive economic impact on the Utah economy because it is an injection of money from an outside source. The federal expenditure supports jobs, which create income and generate tax revenue in Utah.

The federal dollars supported an additional 250 jobs, which resulted in an additional \$16 million in earnings. Those earnings translate into approximately \$1.6 million in additional tax revenue to the state.

The additional tax revenue from the federal dollars increases the cost benefit ratio to 5.77.

While the study faced limitations every attempt was made to be conservative in our estimates so that the impact of the Vocational Rehabilitation program is, if anything, underestimated.

Endnotes

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Appendix A

24.3 Definitions

A. Individuals with the Most Significant Disabilities

1. An individual with the most significant disabilities means a person who exhibits serious limitations as a result of the disability(ies), in two or more functional categories such as: mobility, communication, self care, self direction, interpersonal skills, work tolerance, or work skills **and** the individual will require multiple VR services over an extended period of time.

Examples of serious limitations under functional categories include but are not limited to:

- a. Mobility
 - i. Requires assistive devices (cane, canes for the blind, crutches, prosthesis, walker, wheelchair) to be mobile.
 - ii. Is unable to climb one flight of stairs without pause.
 - iii. Is unable to walk 100 meters without pause.
 - iv. Cannot evacuate from a building in less than three minutes without assistance.
 - v. Is unable to travel to and from worksite (including accessing public transportation) without assistance.
 - vi. Other similar mobility deficits.
- b. Communication
 - i. Expressive and receptive primary mode of communication is unintelligible to non-family members.

- ii. Does not demonstrate understanding of simple requests or is unable to understand one-to-two step instructions including instructions given through an interpreter.
 - iii. Is unable to read or understand any written material or instructions due to disabling condition.
 - iv. Other similar communication deficits.

- c. Self-care

Is unable to perform activities of daily living without assistance (i.e., loss of manual dexterity or coordination sufficient that he/she cannot perform personal hygiene tasks, dress self, prepare own meals etc. without assistance)

- d. Self direction
 - i. Is unable to provide informed consent for life issues without the assistance of a court appointed legal representative or guardian; or has been declared legally incompetent.
 - ii. Is unable to understand rights or responsibilities in judicial or other proceedings even with utilization of an interpreter.
 - iii. Is unable to perform work in an integrated setting without support because he/she is unable to tell time, manage time, and/or stay on task without assistance.
 - iv. Is unable to perform work outside sheltered environment.
 - v. Other similar deficits in self-direction.

- e. Interpersonal Skills
 - i. Has disfigurement or deformity so pronounced as to cause social rejection.
 - ii. Has demonstrated behavior such that the individual is a danger to self and others without supervision.

- iii. Is unable to respond appropriately to supervision or to respond appropriately to co-workers or the public.
 - iv. Consistently demonstrates behavior toward others which is considered offensive, unpredictable or explosive.
 - v. Other similar interpersonal skill deficits.
- f. Work Tolerance
- Is unable to perform sustained work for more than 4 hours per day.
- g. Work Skills
- i. Is unable to perform work tasks outside sheltered environment.
 - ii. Is unable to perform several types of work tasks (regardless of training) due to disabling condition.
 - iii. Other similar work skill deficits.

The counselor must document the functional deficits.

2. Determinations Made by Other Agencies.

While Federal Regulations prohibit assigning Order of Selection categories by disability type or automatically assigning categories, determinations made by other agencies may be utilized to assist the counselor in documenting the priority category as they give a counselor information about functional limitations. For example, the Utah State Office of Rehabilitation (USOR) may receive documentation that the individual is:

- a. Eligible for services from the Division of Services for People with Disabilities; or (see Appendix 24 A)

- b. Determined Seriously and Persistently Mentally Ill (SPMI) by the Mental Health System, a duly licensed physician, licensed psychologist, other qualified provider under the Mental Health Professional Practice Act, the Judicial System in accordance with DSM-IV-TR; or (see Appendix 24 B)
- c. Found to be permanently and totally disabled by the State Labor Commission; (see Appendix 24 C).

In such cases the counselor can be assured that the individual has demonstrated limitations in some functional areas as listed in the appropriate appendices above. Regardless of the client's eligibility for other programs, however, the counselor must still document the specific functional deficits.

NOTE: Individuals who are allowed SSI/SSDI disability benefits from the Social Security Administration MAY or MAY NOT be considered Most Significantly Disabled. To be considered Most Significant there must be two or more functional limitations or a determination from another agency as described under 24.3(A)(2)(a-c)

B. Individuals With Significant Disabilities

A significantly disabled person is one who can be classified in any one of the following three categories at any time while he or she is in the vocational rehabilitation process:

Category 1. An individual who:

- a. has a significant physical or mental impairment which seriously limits one or more functional capacities (such as mobility, communication, self care, self direction, interpersonal skills, work tolerance, or work skills) in terms of an employment outcome (for examples of such on functional limitations see CSM 24.3 A 2); **and**

- b. whose vocational rehabilitation is expected to require multiple services over an extended period of time; **and**

- c. who has one or more physical or mental disabilities resulting from amputation, arthritis, autism, blindness, burn injury, cancer, cerebral palsy, cystic fibrosis, deafness, head injury, heart disease, hemiplegia, hemophilia, respiratory or pulmonary dysfunction, mental retardation, mental illness, multiple sclerosis, muscular dystrophy, musculoskeletal disorders, neurological disorders (including stroke and epilepsy), paraplegia, quadriplegia, and other spinal cord conditions, sickle cell anemia, specific learning disability, end-stage renal disease, or another disability or combination of disabilities determined to cause comparable substantial functional limitation.

Category 2. A recipient of a Social Security Disability Insurance benefits (SSDI) who requires multiple vocational rehabilitation services over an extended period of time.

Category 3. A recipient of a Supplemental Security Income (SSI) payment by reason of blindness or disability who requires multiple vocational rehabilitation services over an extended period of time.

NOTE: Individuals who are allowed SSI/SSDI disability benefits from the Social Security Administration are considered to be at least Significantly Disabled.

C. Individual With a Disability

An individual with a disability means an individual who:

- 1. has a physical or mental impairment which, for that individual, constitutes or results in a substantial impediment to employment;

2. can benefit in terms of an employment outcome after receiving vocational rehabilitation services; and
3. requires vocational rehabilitation services to prepare for, enter, engage in or retain gainful employment.

D. Multiple Services

Multiple VR services means - three or more services as listed under Section 103 of the Act.

E. Extended Period of Time

Extended Period of time means - the life span of the case is projected to be six months or more.

Appendix B

Coefficients for the Earnings Regression.

	rwageswin	Coefficient	P> t	Significant at the * 10%, ** 5% and ***1% level
Pre eligibility	TIME	-299.2608	0	***
	TIME2	-14.03695	0	***
Post Eligibility	EPOCH	1032.151	0.068	*
	EPOCH*TIME	425.7107	0	***
	EPOCH*TIME ²	11.16401	0.027	**
Services and their interactions with eligibility and time	SERVICE*TIME	-31.86682	0.454	
	SERVICE*TIME ²	-3.442304	0.348	
	SERVICE*EPOCH	1506.138	0.03	**
	SERVICE*EPOCH*TIME	35.61629	0.555	
	SERVICE*EPOCH*TIME ²	1.64981	0.736	
Significance of Disability and its interaction with Epoch	DIS2*EPOCH	-598.8804	0.261	
	DIS3*EPOCH	-1303.466	0.02	**
Service and its	SERVICE*DIS2*EPOCH	-450.4024	0.491	

interactions
with
significance
of disability
and epoch

SERVICE*DIS3*EPOCH	-1262.663	0.066	*
LENGTH*EPOCH	72.09907	0.035	**
LENGTH*SERVICE*EPOCH	-67.84581	0.085	*

OTHER

REGIONAL UNEMPLOYMENT RATE	-22.66902	0.642	
Intercept	3023.665	0	***

Numbers for Figure 1

Quarter	Preapplication	No Services	Services
-12	4593.4738		
-11	4617.06285		
-10	4612.578		
-9	4580.01925		
-8	4519.3866		
-7	4430.68005		
-6	4313.8996		
-5	4169.04525		
-4	3996.117		
-3	3795.11485		
-2	3566.0388		
-1	3308.88885		
USOR	3023.665		
1		4322.342427	5162.679404
2		4440.173507	5280.510484
3		4552.258707	5392.595684
4		4658.598027	5498.935004
5		4759.191467	5599.528444
6		4854.039027	5694.376004
7		4943.140707	5783.477684
8		5026.496507	5866.833484
9		5104.106427	5944.443404
10		5175.970467	6016.307444
11		5242.088627	6082.425604
12		5302.460907	6142.797884

Coefficients for the employment regression

	EMP	Coefficient	P> z	Significant at the * 10%, ** 5% and ***1% level
Pre eligibility	TIME	-0.0286228	0.058	*
	TIME2	-0.0009486	0.443	
Post Eligibility	EPOCH	0.1401099	0.566	
	EPOCH*TIME	0.2552402	0	***
	EPOCH*TIME ²	-0.0139037	0	***
Services and their interactions with eligibility and time	SERVICE*TIME	-0.1234733	0	***
	SERVICE*TIME ²	-0.0138585	0	***
	SERVICE*EPOCH	1.078951	0	***
	SERVICE*EPOCH*TIME	0.0530121	0.053	*
	SERVICE*EPOCH*TIME ²	0.0167306	0	***
Significance of Disability and its interaction with Epoch	DIS2*EPOCH	0.2981468	0.191	
	DIS3*EPOCH	0.3235869	0.177	
Service and its interactions with significance of disability	SERVICE*DIS2*EPOCH	-0.5419334	0.046	**

and epoch

SERVICE*DIS3*EPOCH	-0.4738545	0.098	*
LENGTH*EPOCH	0.0439123	0.004	***
LENGTH*SERVICE*EPOCH	-0.0257082	0.141	

OTHER

REGIONAL UNEMPLOYMENT RATE	0.3452431	0	***
Intercept	-1.381729	0	***

Numbers for Figure 2

	preapplication	services	no services
-12	0.50493187		
-11	0.529897072		
-10	0.550199535		
-9	0.56585654		
-8	0.576933342		
-7	0.583503218		
-6	0.585620146		
-5	0.583303176		
-4	0.576531499		
-3	0.565249848		
-2	0.549384627		
-1	0.528871788		
USOR	0.503697357		
1		0.775597857	0.618680465
2		0.796288347	0.661247294
3		0.812182456	0.69549926
4		0.823927839	0.722169353
5		0.832026887	0.742065537
6		0.836835611	0.755914321
7		0.838568428	0.764277924
8		0.837303081	0.767516358
9		0.832982778	0.765772888
10		0.825414607	0.758970125
11		0.814264924	0.746812008
12		0.799054244	0.728794216