

UNITED STATES DISTRICT COURT

DISTRICT OF OREGON

PORTLAND DIVISION

PAULA LANE, et al.,
on behalf of themselves and all
others similarly situated, and

Case No. 3:12-cv-00138-ST

**UNITED CEREBRAL PALSY OF OREGON
AND S.W. WASHINGTON,**

Plaintiffs,

v.

KATE BROWN, Governor of the State of
Oregon; et al.,
all in their official capacities,
Defendants.

UNITED STATES OF AMERICA,

Plaintiff- Intervenor

v.

STATE OF OREGON,

Defendant.

REBUTTAL REPORT OF DR. ROBERT EVERT CIMERA

I. ISSUES ADDRESSED

At the plaintiffs' request, I reviewed and am responding to the Opinion Disclosures of Corissa Neufeldt and Ronald Barcikowski, which challenged the reliability and relevance of several of my studies on the cost-effectiveness and cost-efficiency of supported employment, and the comparative cost of support employment and sheltered employment. I reviewed the Opinion Disclosures and depositions of each of these individuals in preparing my report.

II. EXPERTISE

I earned my B.A. in Social Studies Education from Purdue University in 1990. From 1990 to 1994, I worked for a county board for persons with developmental disabilities and two private rehabilitation agencies—all of which had facility-based programs, including sheltered workshops. I returned to Purdue University and obtained a combined special education/vocational technical education Masters in 1994.

At this time, I also was coordinating supported employment programs at Wabash Center, Inc. in Lafayette, Indiana. There was a tremendous amount of pressure to obtain billable time at Wabash Center, Inc., pressure I felt was unethical and possibly illegal. As a result of my experiences at Wabash Center, Inc., I became interested in how supported employment programs were funded and how fiscal mechanisms promoted (or inhibited) effective and efficient outcomes. At the time, it was my opinion, as well as my experience, that supported employment programs were extremely cost-prohibited and economically wasteful—even when successful vocational outcomes were obtained.

I left Wabash Center, Inc. to attend the University of Illinois Champaign-Urbana, where I obtained my Ph.D. in Special Education in 1998 under the tutelage of Dr. Frank Rusch. During my doctoral program, I took courses on economics and program evaluation. My dissertation focused on the monetary costs and benefits accrued by supported employees in Illinois in 1990 and 1994. In essence, I sought to determine whether individuals with severe and multiple disabilities were cost-efficient to serve in supported employment programs. A published paper from this study won a research award from the American Association on Mental Retardation in 1996.

Following the completion of my doctoral program in 1998, I obtained a post-doctoral research position at the Institute on Disability and Human Development at the University of Illinois at Chicago, and then a tenure-track position at the University of Wisconsin—Oshkosh. I am currently employed at Kent State University and have recently been promoted to the rank of professor.

Since obtaining my Ph.D., I have published 50 research papers—39 investigating the economics of employment programs for people with disabilities—7 books, and 22 other publications. I have presented all over the world, included to members of the U.S. Senate H.E.L.P. (Health Education Labor and Pensions) Committee, Norway's Ministry of Labour, and have been the keynote speaker at several national conferences. In 2014, I became a Ruderman Fellow on Disability and Transition Policy. I am regarded as one of the country's leading experts on the economic analysis of employment programs for people with disabilities.

A full description of my training and experience is set forth in Attachment 1.

III. AN OVERVIEW OF ECONOMIC ANALYSES OF VOCATIONAL PROGRAMS FOR ADULTS WITH DISABILITIES

There are two related, yet very distinct, economic concepts that are often confused: cost-effectiveness and cost-efficiency.

A. Cost-effectiveness and Cost-efficiency

Cost-effectiveness studies examine the financial costs of multiple options that all arrive at the same desired outcome. The option that arrives at the desired outcome at the lowest monetary cost to a given perspective is considered to be the most "cost-effective." In short, cost-effectiveness addresses the question: *"Which available option is the cheapest to select?"*

It should be noted that many authors believe cost-effectiveness studies cannot be conducted on supported employment and sheltered workshops because they produce different outcomes (i.e., a competitive employee in the case of supported employment and a sheltered employee in the case of sheltered workshops). However, these differences are often overlooked in an effort to compare the costs of the two programs for policymakers.

To effectively compare two different programs, such as supported and sheltered employment, costs must be placed within a context. Or stated another way, the question: *"Costs related to what?"* must be answered. For example, a study may reveal that supported employees generate fewer cumulative costs than sheltered employees with similar disabilities; however, this comparison (i.e., cumulative costs) may be misleading. After all, the sheltered employees may work more hours or keep their jobs for longer periods of time. For these reasons, costs are often put within the context of "cost-per-hour worked" or "cost-per-month of service" or "cost-per-month of employment."

Cost-efficiency, often referred to as *benefit-cost analysis*, examines the monetary benefits and costs of a single option. In short, cost-efficiency analyses attempt to answer the question: *"Is this option a good investment?"* Benefits and costs in a cost-efficiency analysis are typically compared using either a benefit-cost ratio or net benefit.

With a benefit-cost ratio, total benefits are divided by total costs. For example, if an option results in \$400 of benefits and \$200 in costs, the benefit-cost ratio would be 2.00 (i.e., 400 divided by 200). This indicates that for every dollar of costs created by the option examined, \$2.00 of benefits are obtained. Thus, the option is cost-efficient (benefits exceed costs). However, if the costs (i.e., \$400) exceeded benefits (i.e., \$200), the option would have a benefit-cost ratio of 0.50 (i.e., \$0.50 benefits received per \$1.00 of costs) and would be cost-inefficient.

With net benefits, total costs are subtracted from total benefits. So in the first example discussed above, the option would have a net benefit of \$200 (i.e., \$400 minus \$200) and would be considered cost-efficient. In the second example, the option would have a net benefit of negative \$200 and would be cost-inefficient.

When examining cost-efficiency and cost-effectiveness research, it is imperative to understand that these analyses only examine monetary costs and benefits. While certain variables maybe quantified into dollar values, many (e.g., happiness, self-esteem, security) cannot. This is not to say that these non-monetary outcomes are not important. Quite the contrary. It is just that these outcomes are not factored into economic analyses.

B. Economic Perspectives

In cost-efficiency and cost-effectiveness studies, analyses must be undertaken from a distinct pecuniary perspective. This is because monetary outlays may be both a cost and a benefit to different people. For instance, paying to fix a car is a cost to the car owner, but a benefit to the mechanic. In the vocational rehabilitation literature, supported and sheltered workshops have traditionally been investigated from two economic perspectives: the worker's perspective and the taxpayer's perspective.

From the perspective of the worker with a disability, the monetary benefits of working tend to include: (a) their wages earned and (b) fringe benefits received. The costs of working often include: (a) taxes paid as the result of the wages earned, (b) loss of governmental subsidies, and (c) the net wages that are forgone as the result of not entering an alternative program. For instance, a cost to a person working in sheltered workshops is the projected net wages (i.e., gross wages minus taxes paid) that this person would have likely earned in the community. If an individual decided to work in the community, the net wages that could have been earned in a sheltered workshop would be a cost. (See Table 1).

Table 1. *Cost-Efficiency Framework from the Perspective of the Worker*

Cost-Accounting Variable	Outcome
Wages Earned in the Community	Benefit
Fringe Benefits Received	Benefit
Change in Governmental Subsidies ¹	Cost
Taxes Paid	Cost
Forgone Wages	Cost

From the perspective of the taxpayer, the costs of individuals with disabilities working typically include: (a) the amount of public monies used to fund the vocational program and (b) the taxes lost as a result of employers receiving a tax credit for hiring a worker with a disability. The benefits of having individuals with disabilities working include: (a) the taxes these workers pay, (b) the reduction in governmental subsidies resulting from becoming employed, and (c) the forgone operating costs associated with the alternative program that the individual would have been in had they not selected the employment program being analyzed. Sheltered workshops are typically considered the alternative to supported employment and vice versa. Therefore, the forgone operating cost of one program is a benefit to the other. (See Table 2).

¹ If the amount of subsidies received *increases* as a result of supported employment, change in subsidies would be a benefit to workers.

Table 2. Cost-Efficiency Framework from the Perspective of the Taxpayer

Cost-Accounting Variable	Outcome
Taxes Paid	Benefit
Change in Subsidies ²	Benefit
Savings from Alternative Program Costs	Benefit
Taxpayer-Funded Supported Employment Expenditures	Cost
Tax Credits to Employers	Cost

Often, people confuse the perspective of the taxpayer with the perspective of funding sources (e.g., Vocational Rehabilitation, Office of Developmental Disabilities, Department of Mental Health). However, there are no monetary benefits from the funders' perspective. That is, if a funding source allocates monies to assist somebody in becoming employed (in either the community or a facility), no monies are actually returned to the funding source. Moreover, the monies allocated to the vocational programs are the primary costs to the funding source. Consequently, the only economic analyses that can be conducted from the perspective of the funding agency involve cost-effectiveness (i.e., *Which program is cheaper for the agency to fund—program x or program y?*).

C. Length of Analyses

Ideally, monetary benefits and costs should be examined over the decision's entire "impact life;" that is, for as long as benefits and costs are generated by the decision. In the case of employment programs for people with disabilities, benefit and costs must be examined for as long as the individual is employed—if the analyses are to be accurate.

Because of their cost-trends, this longitudinal analysis is particularly important when comparing sheltered and supported employment programs. Specifically, the costs of supported employment tend to be highest early on in the employment process—when jobs are being developed and individuals are being initially trained. As assistance from job coaches fade, the cost of supported employment decreases.

The costs of sheltered workshops, on the other hand, are continuous and relatively constant. That is, because sheltered workshops are continuously supervised, they generate an on-going cost that will continue from the moment an individual begins working in a sheltered setting to the moment they change programs or retire. In many cases, the costs of sheltered employment actually increase overtime due to changes in rates by which agencies are funded or because individuals who initially intended to be in sheltered workshops temporarily become full-time employees.

If a study examines only part of a decision's impact life, inaccurate results will be obtained. Specifically, if only the initial costs of supported employment are examined, the costs

² If the amount of subsidies received *increases* as a result of supported employment, change in subsidies would be a cost to taxpayers.

of supported employment will likely be inflated. If only the follow along costs are examined, costs will likely be under-represented.

D. Predictive and Actual Monetary Outcomes

Impact lives of most decisions can be extremely long. For instance, the monetary benefits resulting from obtaining higher education extend for many decades after a college degree is conferred. Often times, analyses cannot wait this long. Consequently, economic analyses are routinely made by using projections. For instance, assumptions are made that the individuals graduating college will earn average wages and remain employed an average length of time and so forth.

Certain assumptions are also made in analyses where forgone costs or benefits are investigated. For example, it is assumed an individual would have entered a sheltered workshop, had they not become a supported employee. These assumptions are made for the sake of comparisons as well as forming the context in which the analyses are being conducted.

Finally, research involving economic analyses are not like clinical studies conducted in laboratories. It is impossible to factor out all mitigating variables that may impact monetary outcomes. For this reason, economic researchers tend to use the term *ceteris paribus* — "with other things being held equal." In short, projections and assumptions are routine in economic analyses and are accepted practice.

IV. AN OVERVIEW OF MY RELEVANT RESEARCH

I have been asked to provide overviews of some of my research that is relevant to this case. All of the studies discussed below were published in international journals and were peer reviewed by qualified researchers who have expertise in economics and vocational rehabilitation (except where noted). Moreover, many of the journals in which these studies were published (e.g., *Mental Retardation*, *Research and Practice for Persons with Severe Disability*, *American Journal on Intellectual and Developmental Disabilities*) are considered "top-tier" journals and have extremely high rates of rejection.

A. Are Individuals with Severe Mental Retardation and Multiple Disabilities Cost-Efficient to Serve Via Supported Employment? (1998)

This study examined the outcomes achieved by 111 adults with intellectual disabilities served in Illinois from 1990 and 1994. Monetary costs and benefits generated by these individuals were examined from three fiscal perspectives—the perspective of the worker, taxpayer, and society in general. Moreover, for each perspective, three benefit-cost ratios were calculated—for 1990, 1994, and a "lifelong" benefit-cost ratio that projected the monetary costs and benefits until the individual retired at age 65.

In this study, supported employees were found to be cost-efficient (i.e., benefits exceeded costs) for each of the analyses conducted. Moreover, from the taxpayer's perspective, there were no statistical relationships between cost-efficiency and the supported employees' IQs. Supported

employees with moderate and severe intellectual disabilities were just as cost-efficient as supported employees with mild intellectual disabilities.

B. The Cost-Effectiveness of Supported Employment and Sheltered Workshops in Wisconsin (FY 2002-FY2005) (2007)

This study examined the costs generated by 1,118 supported employees and 209 sheltered workers with "most significant" mental retardation served in Wisconsin from fiscal year 2002 to fiscal year 2005. This study examined the costs of *all* vocational-related services (including initial placement and follow along costs for individuals in supported employment) received by each individual, and not just costs accrued by Vocational Rehabilitation.

This study found that the average per capita cumulative costs of supported employees was 33.7% less than those generated by sheltered employees (i.e., \$8,212 versus \$12,387). However, sheltered employees received services nearly 85.1% longer than supported employees (i.e., 6.22 versus 3.36 fiscal quarters). When costs were examined in relation to length of time services were received, supported employees produced 22.8% *more* costs than sheltered employees (i.e., \$2,444 versus \$1,991 per fiscal quarter of service). (See Table 3).

Table 3. Average Per Capita Cumulative Costs, Fiscal Quarters of Service, and Cost per Fiscal Quarter for FY 2002 to FY 2005

	<i>Cumulative Costs</i>	<i>Number of Fiscal Quarters of Service</i>	<i>Cost per Fiscal Quarter</i>
Supported Employment	\$8,212	3.36	\$2,444
Sheltered Workshops	\$12,387	6.22	\$1,991

C. The Cumulative Cost-Effectiveness of Supported and Sheltered Employees with Mental Retardation (2007)

This study examined the cost-effectiveness of 56 supported employees and 171 sheltered employees in Wisconsin with a primary diagnosis of "most significant" mental retardation. As with the previous study, costs for employment-related services billed to *all* funding sources were examined, not just those services funded by Vocational Rehabilitation.

The unique aspect of this study was that it examined the cost of all funded employment services throughout the participants' entire "employment cycle;" that is, from the moment they entered supported or sheltered employment until they changed jobs or stopped requiring services. It found that supported employees generated an average per capita cumulative cost of \$6,619 and had an employment cycle of approximately 17.94 months for a per-month-cost of \$368.95. Sheltered employees, on the other hand, averaged a per capita cumulative cost of \$19,388 and a slightly longer employment cycles (18.66 months) or \$1,039.01 per month. (See Table 4).

Table 4. Average Per Capita Cumulative Costs, Fiscal Quarters of Service, and Cost per Fiscal Quarter for FY 2002 to FY 2005

	<i>Cumulative Costs</i>	<i>Months of Service</i>	<i>Cost per Month of Service</i>
Supported Employment	\$6,619	17.94	\$368.95
Sheltered Workshops	\$19,388	18.66	\$1,039.01

D. The Cost-Trends of Supported Employment Versus Sheltered Employment (2008)

This study examined the same cost data attributed to the 56 supported employees and 171 sheltered employees discussed above. However, this study examined the cumulative cost to *all* funding sources in relation to when in the employment cycle the costs occurred. It found that the proportion of costs generated by supported employees started high and then decreased steadily over time while the proportion of costs generated by sheltered employees increased slightly over time. (See Tables 5 and 6 and Figure 1).

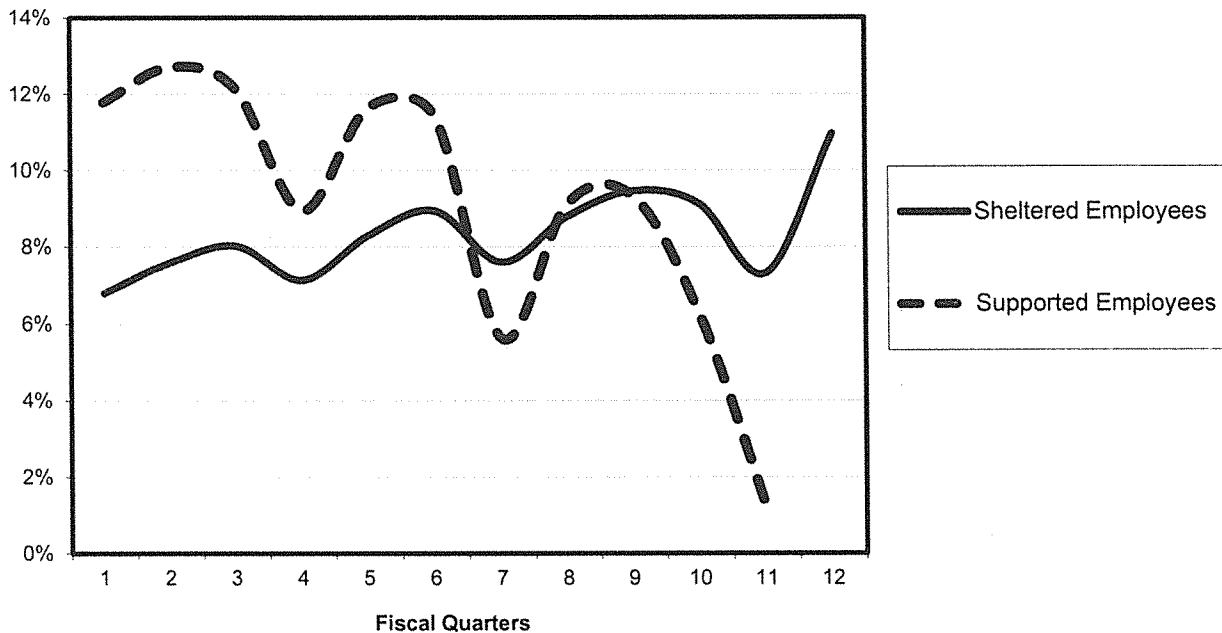
Table 5. The Average Cost and Percent of Overall Cumulative Costs per Quarter for Supported Employees

<i>Fiscal Quarter of Service</i>	<i>Average Cost per Fiscal Quarter</i>	<i>Percent of Overall Cumulative Costs</i>	<i>Number of Supported Employees employed during each quarter</i>
1	\$779.91	11.78%	56
2	\$840.10	12.69%	52
3	\$802.87	12.13%	47
4	\$591.83	8.94%	41
5	\$769.74	11.63%	39
6	\$756.18	11.42%	34
7	\$371.96	5.62%	23
8	\$603.00	9.11%	20
9	\$616.18	9.31%	17
10	\$412.00	6.22%	5
11	\$75.00	1.13%	1

Table 6. The Average Cost and Percent of Overall Cumulative Costs Per Quarter for Sheltered Employees

Fiscal Quarter of Service	Average Cost per Fiscal Quarter	Percent of Overall Cumulative Costs	Number of Sheltered Employees employed during each quarter
1	\$1,319.11	6.80%	171
2	\$1,470.89	7.59%	159
3	\$1,554.82	8.02%	140
4	\$1,383.87	7.14%	121
5	\$1,607.34	8.29%	109
6	\$1,732.31	8.93%	97
7	\$1,472.76	7.60%	85
8	\$1,704.13	8.79%	76
9	\$1,832.92	9.45%	66
10	\$1,766.50	9.11%	31
11	\$1,418.39	7.32%	7
12	\$2,125.00	10.96%	2

Figure 1. Percent of Overall Cost for Supported versus Sheltered Employees per Fiscal Quarter of Service



E. Supported Employment's Cost-Efficiency to Taxpayers: 2002 to 2007 (2009)

This study examined the cost-efficiency of all 231,204 supported employees whose cases were closed by Vocational Rehabilitation throughout the United States from 2002 to 2007. Although utilizing only data from Vocational Rehabilitation, this study was significant because it

was the first nationwide cost analysis of supported employment. All other prior studies examined only individual states or adult service providers.

This study had two primary findings. The first was that, on average, supported employees were cost-efficient from the taxpayers' perspective. For every dollar taxpayers gave up as the result of funding supported employment, they received \$1.46 in the form of taxes paid and programmatic savings from not funding alternative programs. Second, although costs and benefits varied considerably by population served, all nine disability groups investigated produced benefits that exceeded their costs. This was also true for individuals with multiple disabilities. (See Tables 7 and 8).

Table 7. The Average Monthly Monetary Benefits and Costs to Taxpayers by Primary Disability of Supported Employee

	Other Learning Difficulties	Other Health Impairments	Communication Disorders	Mental Illnesses	Physical Disabilities	Autism	Sensory Impairments	Intellectual Disabilities	TBI	All Supported Employees
N	27,357	8,725	1,296	68,409	14,894	4,369	8,586	93,161	4,407	231,204
Change in Subsidies	\$1.89	\$(11.08)	\$(33.73)	\$(0.15)	\$(14.77)	\$(31.13)	\$(26.83)	\$(8.06)	\$(21.55)	\$(6.83)
Savings from Alt. Programs	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64
Taxes Paid	\$83.75	\$79.14	\$68.73	\$76.19	\$79.00	\$60.22	\$88.43	\$57.63	\$77.40	\$70.84
Gross Benefit	\$817.27	\$799.70	\$766.64	\$807.69	\$795.88	\$760.73	\$793.24	\$781.21	\$787.49	\$795.65
Cost of SE	\$220.98	\$265.33	\$284.21	\$331.76	\$329.62	\$320.64	\$437.79	\$501.47	\$525.87	\$394.31
TJTC	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00
Gross Cost	\$370.98	\$415.33	\$434.21	\$481.76	\$479.62	\$470.64	\$587.79	\$651.47	\$675.87	\$544.31
Net Benefit	\$446.30	\$384.37	\$332.43	\$325.92	\$316.26	\$290.10	\$205.45	\$129.74	\$111.62	\$251.34
Benefit-Cost Ratio	2.20	1.93	1.77	1.68	1.66	1.62	1.35	1.20	1.17	1.46

Table 8. *Net Benefit and Benefit-Cost Ratio for Supported Employees by Disability and Multiple Disabilities*

		Without Secondary Conditions	With Secondary Conditions
Sensory Impairments	N	3,807	4,779
	Net Benefit	\$239.02	\$178.70
	Benefit-Cost Ratio	1.41	1.30
Physical Disabilities	N	5,396	9,498
	Net Benefit	\$276.00	\$339.13
	Benefit-Cost Ratio	1.52	1.75
Intellectual Disabilities	N	54,945	38,216
	Net Benefit	\$139.25	\$116.07
	Benefit-Cost Ratio	1.22	1.17
TBI	N	1,717	2,690
	Net Benefit	\$97.29	\$120.77
	Benefit-Cost Ratio	1.14	1.18
Autism	N	2,038	2,331
	Net Benefit	\$290.20	\$290.01
	Benefit-Cost Ratio	1.62	1.61
Mental Illnesses	N	30,606	37,803
	Net Benefit	\$327.50	\$324.65
	Benefit-Cost Ratio	1.69	1.67
Communication Disorders	N	394	902
	Net Benefit	\$340.65	\$328.84
	Benefit-Cost Ratio	1.83	1.74
Other Health Impairments	N	3,196	5,529
	Net Benefit	\$362.83	\$396.83
	Benefit-Cost Ratio	1.83	1.98
Other Learning Difficulties	N	13,889	13,468
	Net Benefit	\$455.66	\$436.64
	Benefit-Cost Ratio	2.26	2.15
All Supported Employees	N	115,988	115,216
	Net Benefit	\$ 249.72	\$ 263.46
	Benefit-Cost Ratio	1.46	1.49

F. The National Cost-Efficiency of Supported Employees with Intellectual Disabilities: The Worker's Perspective (2010)

Utilizing data provided by the Rehabilitation Services Administration (RSA), this study examined the cost-efficiency of 104,213 supported employees with intellectual disabilities whose cases were closed by Vocational Rehabilitation throughout the United States from 2002 to 2007. It was significant because it was the first national study to examine cost-efficiency from the worker's perspective as well as on a state-by-state basis.

Overall, it found that for every dollar individuals with disabilities gave up as the result of working in their communities, they earned \$4.20. Further, supported employees were cost-efficient from the worker's perspective in all 50 states. Supported employees from Oregon earned \$4.35 per dollar lost. (See Tables 9 and 10).

Table 9. Average Outcomes Achieved by All Successfully Employed Individuals with Intellectual Disabilities (2002 to 2007)

Outcome	2002 (10,950)	2003 (10,711)	2004 (10,616)	2005 (10,680)	2006 (11,030)	2007 (10,705)	2002–2007 (64,692)
Successful Employed	63.37%	61.27%	60.52%	61.04%	62.85%	63.48%	62.08%
Hours Worked per Week	22.13	21.92	21.62	21.63	21.94	21.54	21.80
Wages Earned per Month	\$650.96	\$637.67	\$612.27	\$607.25	\$617.68	\$616.75	\$623.77
Monthly Net Benefit	\$481.74	\$483.60	\$474.60	\$462.02	\$472.76	\$477.39	\$475.35
Benefit-Cost Ratio	3.85	4.14	4.45	4.18	4.26	4.43	4.20

Note. Population size of successfully employed supported employees in parentheses. All dollar values are presented in 2008 dollars.

Table 10. Average Outcomes Achieved by Supported Employees with Intellectual Disabilities by State/Territory (2002 to 2007)

State	N	Successfully Employed	Hours Worked per Week	Monthly Wages	Monthly Net Benefit	Benefit-Cost Ratio
American Samoa	2	100.00%	40.00	\$549.18	\$401.77	3.73
Washington	487	97.33%	16.75	\$605.77	\$561.04	13.54
Wisconsin	1103	96.19%	16.14	\$470.34	\$217.92	1.86
Vermont	940	80.11%	14.69	\$503.83	\$337.90	3.04
Pennsylvania	2047	79.38%	22.40	\$661.50	\$501.65	4.14
Wyoming	458	77.95%	17.61	\$501.46	\$454.04	10.57
Puerto Rico	730	77.53%	21.49	\$518.08	\$420.22	5.29
New Jersey	1369	76.99%	23.75	\$795.86	\$659.12	5.82
New Hampshire	326	76.69%	15.50	\$463.74	\$264.22	2.32
Maryland	1396	75.50%	21.99	\$652.27	\$484.88	3.90
Virginia	3243	74.78%	17.71	\$496.88	\$403.02	5.29
Utah	529	74.67%	18.59	\$497.04	\$372.55	3.99

Alaska	184	74.46%	15.58	\$519.10	\$337.56	2.86
Missouri	3149	74.15%	23.78	\$700.46	\$521.60	3.92
Massachusetts	269	73.61%	18.03	\$828.11	\$603.73	3.69
West Virginia	544	72.98%	13.74	\$352.09	\$189.79	2.17
Rhode Island	474	72.36%	15.38	\$510.21	\$249.75	1.96
Minnesota	1800	72.22%	21.90	\$619.25	\$403.90	2.88
Idaho	854	71.66%	15.21	\$401.13	\$231.13	2.36
Maine	217	70.51%	13.57	\$404.52	\$315.15	4.53
Montana	376	68.88%	17.72	\$472.27	\$331.85	3.36
Tennessee	2970	68.79%	17.82	\$467.23	\$233.31	2.00
Kentucky	1880	68.35%	18.13	\$534.74	\$372.95	3.31
Connecticut	351	68.09%	20.88	\$736.31	\$567.17	4.35
South Dakota	765	67.58%	17.35	\$441.52	\$282.35	2.77
Guam	3	66.67%	32.00	\$678.00	\$520.74	4.31
New Mexico	637	66.56%	14.69	\$382.92	\$262.26	3.17
Hawaii	71	66.20%	15.93	\$469.06	\$296.84	2.72
Arkansas	247	65.99%	20.74	\$559.45	\$452.69	5.24
Nebraska	618	65.70%	20.69	\$544.74	\$464.63	6.80
Alabama	1860	65.54%	24.19	\$648.15	\$524.45	5.24
Colorado	839	64.24%	17.26	\$531.50	\$356.11	3.03
Michigan	3701	64.20%	17.65	\$455.30	\$297.64	2.89
Mississippi	1177	64.06%	21.48	\$564.06	\$436.92	4.44
South Carolina	596	63.42%	27.24	\$761.81	\$660.16	7.49
New York	10970	63.04%	22.08	\$661.67	\$546.09	5.72
Illinois	1757	62.83%	18.33	\$552.11	\$324.87	2.43
California	16923	62.29%	27.01	\$725.77	\$529.68	3.70
Oregon	766	61.88%	17.80	\$578.01	\$445.23	4.35
North Dakota	280	61.79%	21.88	\$580.79	\$459.69	4.80
Delaware	274	61.31%	23.68	\$775.65	\$668.23	7.22
Kansas	716	59.64%	19.63	\$543.04	\$387.89	3.50
Ohio	3481	59.38%	24.08	\$708.98	\$506.28	3.50
Nevada	417	58.51%	26.58	\$799.18	\$658.89	5.70
Iowa	1998	57.96%	18.31	\$530.71	\$323.88	2.57
Georgia	2338	55.52%	25.09	\$716.11	\$532.96	3.91
Indiana	6198	54.26%	19.25	\$563.65	\$450.86	5.00
Arizona	559	54.03%	21.10	\$560.43	\$355.26	2.73
North Carolina	7264	53.78%	19.46	\$558.96	\$411.22	3.78
Dist. of Columbia	69	52.17%	28.76	\$1,016.28	\$830.15	5.46
Virgin Islands	29	51.72%	24.51	\$710.41	\$534.62	4.04
Texas	4961	50.70%	22.12	\$618.14	\$431.59	3.31
Florida	5027	45.30%	21.26	\$610.25	\$409.37	3.04
Louisiana	1995	42.31%	25.96	\$693.32	\$566.80	5.48
Oklahoma	1979	37.14%	26.81	\$768.57	\$641.70	6.06

Note: N refers to the total population of individuals with intellectual disabilities served by each state's vocational rehabilitation agencies. However, data presented on hours worked, wages earned, net benefits, and benefit-cost ratios were calculated from only individuals who became successfully employed in their communities via supported employment. All dollar values are presented in 2008 dollars.

G. National Cost Efficiency of Supported Employees with Intellectual Disabilities: 2002 to 2007 (2010)

This study examined the same population described above, however, from the taxpayer's perspective. As with the previous research, this study examined the cost-efficiency of supported employment by state. It found that, taken in total, the supported employees produced an average benefit-cost ratio of 1.21. However, this study also found that supported employment was *not* cost-efficient in all locations. Indeed, supported employees from 7 out of the 50 U.S. states returned an average benefit-cost ratio below 1.00. With an average benefit-cost ratio of 1.61, Oregon's supported employment programs were among the most cost-efficient from the taxpayer's perspective. (See Tables 11-13).

Table 11. *The Per Capita Monetary Benefits and Costs to Taxpayers from All Supported Employees with Intellectual Disabilities Served by VR (2002-2007)*

	2002	2003	2004	2005	2006	2007	2002-2007
Population Size	17,280	17,482	17,541	17,497	17,549	16,864	104,213
Reduction in Subsidies	\$(24.55)	\$(10.62)	\$(1.62)	\$(7.28)	\$(6.69)	\$(6.99)	\$(9.60)
Savings from Alt. Programs	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64	\$731.64
Taxes Paid	\$48.53	\$48.78	\$46.84	\$46.46	\$47.25	\$47.18	\$47.51
Gross Monthly Benefits	\$755.62	\$769.80	\$776.87	\$770.82	\$772.20	\$771.84	\$769.54
Costs of SE	\$496.72	\$491.49	\$451.99	\$488.84	\$488.03	\$502.41	\$486.45
Targeted Job Tax Credits	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00
Gross Monthly Costs	\$646.72	\$641.49	\$601.99	\$638.84	\$638.03	\$652.41	\$636.45
Net Monthly Benefits	\$108.91	\$128.31	\$174.88	\$131.98	\$134.17	\$119.43	\$133.10
Benefit-Cost Ratio	1.17	1.20	1.29	1.21	1.21	1.18	1.21

All values presented in 2008 dollars

Table 12. *The Per Capita Monetary Benefits and Costs of Supported Employees with and without Secondary Conditions.*

	Without Secondary Conditions	With Secondary Conditions
Population Size	54,728	49,485
Reduction in Subsidies	(\$9.38)	(\$6.57)
Savings from Alternative Programs	\$663.67	\$663.67
Taxes Paid	\$43.09	\$40.55
Gross Monthly Benefits	\$697.38	\$697.65
Costs of Supported Employment	\$419.14	\$434.62
Targeted Job Tax Credits	\$150.00	\$150.00
Gross Monthly Costs	\$569.14	\$584.62
Net Monthly Benefits	\$128.24	\$113.03
Benefit-Cost Ratio	1.23	1.19

Table 13. *Net Benefit and Benefit-Cost Ratios of Supported Employees with Intellectual Disabilities by State*

State/Territory	N	Net Benefit	B-C Ratio	State/Territory	N	Net Benefit	B-C Ratio
Guam	3	\$566.62	3.57	Alabama	1,860	\$185.55	1.33
Dist. of Columbia	69	\$482.49	1.97	Virginia	3,243	\$184.87	1.36
Nebraska	618	\$481.17	2.77	Ohio	3,481	\$178.64	1.35
Massachusetts	269	\$452.65	2.75	North Dakota	280	\$177.96	1.34
American Samoa	2	\$425.85	2.55	Kentucky	1,880	\$177.00	1.35
New York	10,970	\$395.92	2.17	Florida	5,027	\$163.31	1.33
Nevada	417	\$377.69	2.07	New Hampshire	326	\$161.74	1.32
Mississippi	1,177	\$373.43	2.15	North Carolina	7,264	\$150.63	1.27
Maryland	1,396	\$352.36	1.98	Kansas	716	\$112.50	1.20
Minnesota	1,800	\$342.26	2.04	Alaska	184	\$109.14	1.20
Texas	4,961	\$316.93	1.90	Maine	217	\$103.79	1.16
New Jersey	1,369	\$306.16	1.72	Vermont	940	\$88.93	1.15
Arkansas	247	\$291.46	1.65	Louisiana	1,995	\$87.30	1.14
South Dakota	765	\$279.91	1.73	Tennessee	2,970	\$82.33	1.16
Idaho	854	\$279.77	1.74	Pennsylvania	2,047	\$70.71	1.11
New Mexico	637	\$276.45	1.67	Montana	376	\$54.15	1.09
Colorado	839	\$272.08	1.68	Delaware	274	\$47.94	1.07
West Virginia	544	\$269.64	1.69	Missouri	3,149	\$21.61	1.03
Oregon	766	\$269.01	1.61	Indiana	6,198	(\$6.29)	0.99
Georgia	2,338	\$260.15	1.61	Arizona	559	(\$82.04)	0.89
Wyoming	458	\$251.11	1.47	Hawaii	71	(\$106.61)	0.86
Oklahoma	1,979	\$245.17	1.48	Washington	487	(\$148.04)	0.84
Iowa	1,998	\$244.87	1.62	Wisconsin	1,103	(\$157.50)	0.79
Utah	529	\$239.85	1.50	California	16,923	(\$195.41)	0.78
South Carolina	596	\$229.17	1.44	Illinois	1,757	(\$364.88)	0.63
Michigan	3,701	\$222.02	1.48	Puerto Rico	730	(\$630.37)	0.54
Connecticut	351	\$218.12	1.47	Virgin Islands	29	(\$1,126.46)	0.37
Rhode Island	474	\$191.78	1.43				

H. Supported Versus Sheltered Employment: Cumulative Costs, Hours Worked, and Wages Earned (2011)

This study examined the monetary costs and outcomes achieved by 112 adults with disabilities—46 sheltered employees, 46 supported employees, and 20 adults who were in both programs at the same time. Costs investigated included the cost of *all* employment-related services billed to any funding source (e.g., Vocational Rehabilitation, Department of Developmental Disabilities, etc.) throughout the entire period individuals received services.

The 46 supported and 46 sheltered employees were matched based upon nine demographic variables: (a) age, (b) race, (c) gender, (d) diagnosis or diagnoses, (e) employment

status, (f) self-injurious behaviors, (g) offensive or violent behaviors to others, (h) communication skills, and (i) toileting skills. When the two matched-pairs were compared, it was found that, on average, sheltered employees had higher cumulative costs, cost-per-month, cost-per-hour worked, and cost-per-dollar earned than supported employees. (See Table 14).

Table 14. *Costs of 46 Matched Pairs of Supported and Sheltered Employees*

	Cumulative Costs	Cost-per-Month of Service	Cost-per-Hour Worked	Cost-per-Dollar Earned
Supported Employees	\$23,459	\$496.41	\$10.83	\$2.01
Sheltered Employees	\$44,433	\$602.36	\$14.13	\$12.24

However, what was innovative about this particular study was that, in addition to comparing supported and sheltered employees, I also examined individuals who were in both programs at the same time. Although in the earlier analyses the supported and sheltered employees were matched across nine different variables, there was no guarantee that I wasn't comparing apples to oranges; that is, individuals in sheltered workshops, for example, may have been different somehow than the supported employees, thus causing the disparity in outcomes noted. By examining people who were in both programs, I was clearly comparing apples to apples. When individuals were in both programs at the same time, they also average higher cumulative costs, cost-per-month, cost-per-hour worked, and cost-per-dollar earned than supported employees. (See Table 15).

Table 15. *Costs of 20 Adults in Supported and Sheltered Employment at the Same Time*

	Cumulative Costs	Cost-per-Month of Service	Cost-per-Hour Worked	Cost-per-Dollar Earned
Supported Employees	\$18,813	\$550.46	\$11.88	\$2.02
Sheltered Employees	\$46,855	\$549.30	\$17.12	\$9.39

I. Does Being in Sheltered Workshops Improve the Employment Outcomes of Supported Employees with Intellectual Disabilities? (2011)

This study investigated the question: "*Are sheltered workshops value-added?*" That is, do adults with disabilities learn skills in sheltered workshops that will make them more employable than if they had not gone into sheltered workshops. To investigate this issue, I compared two groups of 4,904 supported employees served by Vocational Rehabilitation. One group consisted of individuals who were in sheltered workshops prior to working in the community; the second group consisted of individuals who were not in sheltered workshops prior to working in the community. Individuals in both groups were matched based upon their primary disability, secondary disability, and gender.

This study found that individuals who had been in sheltered workshops were just as likely to be employed in the community as individuals who had not been in sheltered workshops (59.6% versus 60.4%). However, individuals who had not been in sheltered workshops and became employed in the community cost significantly less to serve (\$5,399) and earned more wages per week (\$137) than their counterparts who had been in sheltered workshops (\$8,659 and \$119, respectively). (See Table 16).

Table 16. Vocational Outcomes Achieved by Supported Employees with and without Experience in Sheltered Workshops

	Was In Sheltered Workshops	Was Not In Sheltered Workshops
Sample Size	4,904	4,904
Percent Employed	59.6%	60.4%
Weekly Earnings*	\$118.55 (\$74.56)	\$137.20 (\$82.29)
Hours Worked**	22.44 (10.71)	24.78 (10.06)
Cost of Services for entire sample***	\$7,894.63 (\$11,643.03)	\$4,542.65 (\$6,141.63)
Cost of Services for employed****	\$8,659.44 (\$10,895.56)	\$5,399.26 (\$5,847.08)

Note: Standard deviations presented in parentheses.

* $t=8.96$; $p=.000$

** $t=2.76$; $p=.006$

*** $t=17.69$; $p=.000$

**** $t=14.18$; $p=.000$

These differences were thought to be the result of what individuals learned in sheltered workshops. That is, individuals in sheltered workshops might become "cue dependent" (e.g., have to be continuously told what to do) and this behavior had to be unlearned for them to be successful in the community. This unlearning resulted in the need for more interventions from job coaches, thus resulting in greater costs to Vocational Rehabilitation. However, at this point, this is purely speculation.

J. The Economics of Supported Employment: What New Data Tell Us (2012)

This paper is a review of the available literature on the economics of supported employment—both my research and the research of other authors. Of the findings cited in this paper, one is particularly important. In the 1980s, sheltered employees earned an average of \$1.17 per hour. In 2009, a multi-state study found that sheltered employees earned \$1.36. Once adjusted for inflation, the relative value of what sheltered employees earned decreased by 40.6% over the past thirty years (i.e., \$2.29 to \$1.36 in 2009 US dollars). This is compared to supported employees who earned an average of \$3.15 in the 1980s (\$6.17 in 2009 US dollars) and \$7.15 in the 2000s—an increase of 15.9% in adjusted U.S. dollars.

Moreover, previously cited studies that utilized data from only Vocational Rehabilitation (e.g., Cimera, 2010), found remarkably similar results as studies from the 1980s and 1990s that utilized data from other funding sources. For example, Hill and Wehman (1983) examined the cumulative costs of supported employees with intellectual disabilities in Virginia over a 47-

month period and found that they generated a benefit-cost ratio of 1.17 from the taxpayer's perspective. In my 2010 article, I found that supported employees with intellectual disabilities from Virginia generated an average benefit-cost ratio of 1.36. Rusch et al. (1993) found that 729 supported employees with intellectual disabilities in Illinois generated an average benefit-cost ratio of 0.77. In 2010, I found this figure was 0.63. These repeated replications of earlier results strongly suggest that supported employment's cost-efficiency to taxpayers remains relatively constant over time, regardless of the funding source examined.

K. Have We Moved Past Food, Filth, and Flowers? A Longitudinal Analysis of Occupations Obtained by Transition-Age Supported Employees with Intellectual Disability (2015)

For this paper (which has yet to be published), I examined the occupations held by all 30,668 supported employees with intellectual disabilities who became employed via Vocational Rehabilitation throughout the United States from 2007 to 2013. I also examined the average weekly wages earned in each occupation as well as the cost of services per hour worked. I believe this study has two findings related to this case.

The first was that supported employees in the Far West portion of the United States (which included Oregon) worked in a surprisingly broad range of occupations. Second, the two occupations in which supported employees earned the most wages (i.e., construction and healthcare support industries) were also the cheapest to serve. (See Tables 17 and 18).

Table 17. Occupations by Economic Region of the United States for 2013 (in percentages)

Type of Occupations	New England	Mideast	Great Lakes	Plains	Southeast	Southwest	Rocky Mts	Far West
n	161	689	573	386	1,275	315	199	601
Food Preparation and Serving	23.0	22.4	25.7	28.5	27.8	18.1	13.9	11.6
Office and Administrative Support	20.5	15.7	12.2	16.8	13.3	17.8	11.3	14.0
Building/Grounds Cleaning and Maintenance	19.3	23.5	25.7	20.7	20.4	18.7	26.8	30.0
Sales	9.9	9.4	4.4	4.9	6.6	4.8	3.6	5.8
Transportation and Material Moving	8.1	6.0	8.7	10.9	9.3	8.6	14.9	6.5
Personal Care and Service	6.8	4.5	7.0	8.0	5.4	7.0	18.0	1.8
Production	4.3	6.1	12.4	5.2	7.4	9.2	7.7	10.5
Farming, Fishing, and Forestry	2.5	0.1	0.2	0.3	0.5	0.0	0.0	0.5
Other	2.5	1.9	1.7	0.5	0.9	0.6	0.5	0.5
Healthcare Support	1.9	1.0	0.3	1.0	1.7	1.3	1.0	0.2
Construction and Extraction	0.6	0.0	0.3	0.5	0.6	0.3	0.0	0.8
Installation, Maintenance, and Repair	0.6	9.1	0.9	2.3	6.3	13.3	1.5	16.8
Education, Training, and Library	0.0	0.3	0.5	0.3	0.0	0.3	0.5	1.0

Table 18. Average Hours Worked, Weekly Wages, Wages per Hour, and Cost of Services by Occupation for 2013

Type of Occupations	Hours per Week	SD	Weekly Wages	SD	Wage per Hour	SD	Costs per	
							Hour	SD
							Worked	
Construction and Extraction	32.6	6.6	\$246*	\$87	\$7.55	\$2.13	\$182	\$118
Healthcare Support	26.2	11.2	\$239*	\$126	\$9.15	\$1.83	\$323	\$336
Production	23.6	11.3	\$179	\$108	\$7.58	\$1.79	\$437	\$537
Installation, Maintenance, and Repair	22.1	10.3	\$175	\$93	\$7.90	\$1.45	\$371	\$427
Transportation and Material Moving	21.6	10.2	\$166	\$89	\$7.71	\$1.61	\$469	\$664
Other	21.1	8.9	\$176	\$95	\$9.21	\$1.58	\$690	\$843
Building/Grounds Cleaning and Maintenance	21.0	10.5	\$163	\$100	\$7.74	\$2.09	\$523	\$785
Office and Administrative Support	20.0	9.9	\$166	\$106	\$8.29	\$2.24	\$553	\$679
Sales	19.4	9.0	\$156	\$77	\$8.04	\$1.73	\$531	\$659
Education, Training, and Library	19.3	10.3	\$161	\$93	\$8.34	\$1.46	\$745	\$1,151
Personal Care and Service	18.9	9.6	\$149	\$82	\$7.90	\$1.00	\$484	\$555
Food Preparation and Serving	18.7	8.9	\$148	\$79	\$7.93	\$1.59	\$546	\$583
Farming, Fishing, and Forestry	16.9	10.9	\$140	\$86	\$8.28	\$1.48	\$348	\$435
Average	21.6	9.8	\$174	\$93	\$8.12	\$1.69	\$477	\$598

Note: * indicates wages above the \$220 per week poverty line for single household

V. RESPONSE TO MS. NEUFELDT AND MR. BARCIKOWSKI

Since Ms. Neufeldt and Mr. Barcikowski have remarkably similar, almost identical, testimony, I will address their opinions together.

A. The Use of Data from Vocational Rehabilitation

In their evaluation of my work, Ms. Neufeldt and Mr. Barcikowski express concerns regarding the use of national data from Vocational Rehabilitation. For example, Mr. Barcikowski stated: "the cost-benefit ratio for Oregon found in Cimera 2010 are most likely inaccurate... (because) ... Cimera 2010 includes only the supported employment expenditures by vocational rehabilitation agencies.... Vocational rehabilitation services are time-limited. Long-term services are provided by the developmental agency." (Barcikowski, p. 3).

Ms. Neufeldt and Mr. Barcikowski are correct. The study they cite (Cimera, 2010) only contains data from Vocational Rehabilitation. The reason for this is simply that there is lack of national data from other sources.

Ms. Neufeldt and Mr. Barcikowski's may also be correct that the utilization of data from only Vocational Rehabilitation might make the benefit-cost ratios I presented in Cimera (2010) inaccurate. However, the degree and direction of the inaccuracy are the key issues here.

Specifically, the degree of the inaccuracy would involve the differential between the rate at which Vocational Rehabilitation funds supported employment services in Oregon and the rate at which Oregon's Office of Developmental Disability Services ("ODDS") funds supported employment services. If ODDS and Vocational Rehabilitation fund services at relatively similar rates, the degree of the inaccuracy will be small.

As Ms. Neufeldt and Mr. Barcikowski indicated, Vocational Rehabilitation provides time-limited services—such as vocational assessment, job development, and initial job training. As was seen in my study examining cost-trends (Cimera, 2008), the majority of supported employment's costs occur during this period. As supported employees gain independence and job coaches fade their support, the cost to funding sources (whether Vocational Rehabilitation or ODDS) decreases. At the same time, the costs of sheltered workshops continue unabated. Therefore, the inclusion of follow along costs (compared to the ongoing costs of sheltered workshops) would only increase supported employment return-on-investment to taxpayers.

What Ms. Neufeldt and Mr. Barcikowski fail to point out is that I, and other authors, have conducted many studies examining the cumulative costs of supported and sheltered employment utilizing data from *all* sources used to fund these programs. In each of these analyses (Cimera, 2007a, b; 2008, and 2011), supported employment always produced fewer costs than sheltered workshop—with one exception.

When examining twenty individuals from Wisconsin who were in both sheltered and supported employment programs at the same time, I found that the cost-per-month of services

were nearly identical for both programs. Specifically, in 50% ($n=10$) of the cases individuals generated more costs as supported employees; in 50% ($n=10$) of the cases, individuals generated more costs as sheltered employees. Taken as a whole, the average cost of supported employment was \$550.46 per month of service, while the average cost of sheltered employment was \$549.30.

B. The Generalization of Other State Data to Oregon

Both Ms. Neufeldt and Mr. Barcikowski indicate that findings from other states cannot be generalized to Oregon due to the variations in cost of services. On the surface, this is true. There are certainly differences in the cost of services between, as well as within, states. However, the variations in cost-per-unit of service throughout the United States are likely to be relatively small for three reasons.

First, it isn't as though a unit of service in one state costs \$1, while it costs \$1 million in another. The range of possible funding costs from state to state is constrained to what politicians and policymakers in each state are willing to pay. What is deemed reasonable in one state is not likely to be far removed from what is deemed reasonable in another state. To put it bluntly, nobody—in any state—is getting rich from providing services to adults with disabilities.

Second, the cost-drivers for sheltered workshops and supported employment programs (e.g., the cost of the building, cost of transportation, cost of health care for workers) are the same throughout the country. Although the actual expenditures associated with these cost-drivers would differ from state to state, any variation in cost of services between states is likely to disappear once adjusting for cost of living.

Third, Ms. Neufeldt and Mr. Barcikowski's argument that the costs across the United States cannot be generalized to Oregon implies that Oregon is radically different than all 49 other states averaged together. There is no evidence to support these assertions.

C. Potential Differences in Abilities of Supported and Sheltered Employees

Ms. Neufeldt and Mr. Barcikowski indicate that I did not address the potential differences in the abilities of supported and sheltered employees in my studies. This isn't accurate. In my studies, I matched supported and sheltered employees based upon many demographics, such as: (a) age, (b) race, (c) gender, (d) diagnosis or diagnoses, (e) employment status, (f) self-injurious behaviors, (g) offensive or violent behaviors to others, (h) communication skills, and (i) toileting skills.

If Ms. Neufeldt and Mr. Barcikowski meant to state that I did not address "all" potential differences in abilities between supported and sheltered employees, then this statement is absolutely true. As a social scientist, I cannot compare two groups of people who are completely alike in all respects. This is clearly a limitation of any research. However, to address this limitation, I investigated the costs of services of individuals who were in both supported and sheltered employment at the same time. In other words, I compared the costs an individual generates in one program to the costs the same person generates in another. By doing this, I eliminated any issues with differences in population.

As previously noted, when I examine the costs of individuals in both programs, costs attributed to supported employment were always less than costs attributed to sheltered workshops—with the exception of costs-per-month of service, which were nearly identical.

D. Volunteer Bias

Ms. Neufeldt and Mr. Barcikowski suggest that my results were impacted by "volunteer" or "self-selection bias." That is, my results were what they were because I investigated individuals who wished to be employed in the community. Ms. Neufeldt and Mr. Barcikowski suggest that I should have utilized a methodology where I randomly assigned individuals to either program and that this approach would have produced more accurate findings.

I understand Ms. Neufeldt and Mr. Barcikowski are not researchers, so they probably do not appreciate the implications of what they are proposing. They're suggesting I take adults with disabilities and *make* them work in the community or facility-based programs so that I can see what the resulting costs are. I cannot imagine this proposal would pass the Internal Review Boards of any university. Moreover, the foundation of all employment programs, whether in the community or facility, should be based upon the unique needs and desires of the people whom they serve. Forcing individuals to work in the community or sheltered workshop is simply unethical no matter what side of these arguments a person is on.

E. Costs Will Rise If We Put Sheltered Employees in the Community

In my study (Cimera, 2011), I investigated whether sheltered workshops were "value added;" that is, I asked the question: *"Does being in a sheltered workshop prepare adults with disabilities for the community better than no services at all?"* As discussed earlier, I found that sheltered workshops appear to have a "negative value" and that individuals moving from sheltered settings to the community have to unlearn the behaviors they acquired in the facility. This unlearning appears to increase the cost of services these individuals require to be successful in the community. In their critique of my work, Ms. Neufeldt and Mr. Barcikowski believe this is evidence to not fund supported employment programs. Specifically, Mr. Barcikowski stated "costs could rise relative to benefits" if persons in sheltered workshops are allowed to work in their communities. (p. 5).

Underlying this argument seems to be the notion that people should not be allowed to leave sheltered workshops once they are in them. An obvious response to this concern is to not have people enter sheltered workshops if they wish to work in the community.

F. Oregon's Reported Cost-Efficiency Is Inflated Because Oregon Only Places Adults with Mild Disabilities

Ms. Neufeldt and Mr. Barcikowski suggest my research findings may not be accurate because Oregon may only place adults with "less severe" disabilities in the community (p. 5-6 of Barcikowski's Opinion Statement). The assumption here is that individuals with severe disabilities are not cost-effective to place in the community.

While it is true, some of my research has found that individuals with "less severe" disabilities generate fewer costs than individuals with "more severe" or multiple disabilities, in every case in which I examined this issue, I found that even supported employees with severe and multiple disabilities were cost-effective and cost-efficient from the worker's and taxpayers' perspectives.

G. Increases in Subsidies Received by Supported Employees

In one of my studies (Cimera, 2009), I found, on average, the amount of governmental subsidies received by study participants increased by \$6.83 per month after participants entered supported employment programs. As one of his criticisms of my work, Mr. Barcikowski states:

Prof. Cimera concludes that "even with this increase in subsidies, supported employment is still cost efficient." However if the cost-benefit ratio of supported employment is not accurate or valid, this conclusion too is not accurate or valid. (p. 6)

Mr. Barcikowski is basically saying that if the cost-efficiency results I identified in 2010 were not valid, then my conclusion that supported employment is still cost-efficient even though supported employees increased their governmental subsidies by \$6.83 is also not valid. This is rather circular.

In her testimony, Ms. Neufeldt adds: "...Prof. Cimera does not take into account the funding of these government subsidies has on his cost-benefit analysis, as opposed to his cost-efficiency analysis." (p. 9). This complaint puzzles me. Ms Neufeldt doesn't seem to understand that cost-benefit analyses *are* cost-efficiency analyses. These terms are often interchangeable. Moreover, the change in funding of governmental subsidies is clearly included in my analyses. Please see the second line of Table 7.

H. Cost-Accounting Methodology Not Explained

Mr. Barcikowski indicates that the methodology I utilize isn't explained in enough detail. Specifically, Mr. Barcikowski states: "Prof. Cimera does not explain his cost accounting methodology in a way that can be fully verified." (p. 6)

All of the articles Ms. Neufeldt and Mr. Barcikowski reviewed were published in peer-reviewed, top-tier, international research journals. Had my methods not been described in detail and to the satisfaction of the reviewers who are experts in this field, these studies would never have been published. Furthermore, with the exception of the use of matched-pairs, my cost-accounting methodology replicates the methodology utilized by over twenty other studies from a dozen different authors.

I. Adults with Disabilities Who Are Unemployed

On page 6 of his testimony, and page 9 of her testimony, Ms. Neufeldt and Mr. Barcikowski discussed the impact that supported employees who are unemployed have on my findings. Mr. Barcikowski stated: "Other persons could receive services and, for whatever reason, not obtain employment in the community. Prof. Cimera does not account for this." (p. 6).

This isn't correct. For instance, the 104,213 participants in my 2010 study included all individuals who had supported employment as the vocational goal on their IPE and either a primary or secondary diagnosis of "mental retardation." This included all individuals who never became employed.

J. Availability of Jobs

Ms. Neufeldt and Mr. Barcikowski discuss the impact that local labor markets may have on supported employment's cost-efficiency. Specifically, both Ms. Neufeldt and Mr. Barcikowski, state:

...the availability of jobs at the times these studies were conducted was not controlled for. That is, some states may have a labor market or other economic conditions in which jobs in the community for individuals with I/DD are more readily available than in others. Were the cost-benefit ratios for the states with the highest ratios in Cimera 2010 impacted by the effect of poorer labor markets or other economic conditions? This is not examined

...

Page 10 of Ms. Neufeldt's testimony and page 7 in Mr. Barcikowski's testimony.

Ms. Neufeldt and Mr. Barcikowski indirectly raise an interesting question: *Are supported employees impacted by the labor market?* There are two ways to consider this issue. The first is to see the labor market as a static box in which only a finite number of jobs may fit. In such an economic view, the assumption may be that if somebody loses their job (e.g., a banker or lawyer), that person would then get another job (e.g., McDonald's cashier or custodian), thus displacing the supported employee who would otherwise would have held that position.

In another school of thought, labor markets are elastic and infinite. That is, wherever there is a need and a way to make or save money, there is a job. In this view, jobs can be created to suit the changing needs of the employer. Supported employment is largely based upon this perspective. Job developers are taught how to create jobs and not to merely look for them in the newspaper.

If this second view is correct, economic climates will not significantly impact the cost-efficiency of supported employment. If the first view is correct, it is unlikely that many supported employees lose their jobs as the result of an economic downturn. The reason why

many employers hire supported employees is because they have difficulty finding non-disabled workers willing to fill entry level, minimum wage positions.

IV. Conclusion

Three conclusions emerge from the research on the costs of sheltered workshops and supported employment, as well as the identical critiques of that research from two state employees:

1. Over the past seventeen years, my cost studies have consistently demonstrated that, in the majority of cases, supported employment is cost-effective compared to sheltered employment. These findings have been replicated by other authors.
2. My cost studies have also consistently demonstrated that supported employment is cost-efficient from both the worker's and taxpayers' perspectives. Numerous other authors have replicated these findings as well.
3. Although they may be knowledgeable regarding Oregon's sheltered and supported employment programs, the state officials (Ms. Neufeldt and Mr. Barcikowski) who critiqued my work are not researchers, nor have they been trained in economics or economic analyses. They are simply not qualified to evaluate the reliability of research that has already been peer-reviewed by experts in the field.