Economic Impact of North Dakota Centers of Excellence Program, 2007-2009

F. Larry Leistritz, Dean A. Bangsund, and Nancy M. Hodur[1]

In recent years, economic development has become increasingly linked to technology and information. As a result, policy makers have attempted to facilitate partnerships between universities and private sector businesses. The success of public-private partnerships in areas like the Silicon Valley of California, the Research Triangle of North Carolina, and the Austin, Texas area offers support for the concept of technology-based development. The Centers of Excellence program is North Dakota's initiative to participate in technology and information-based economic development.

The 2003 Legislative session authorized funding for three pilot Centers of Excellence projects. Then in 2005, the Legislature approved Senate Bill No. 2032 expanding the concept into the Centers of Excellence in Economic Development program. The legislation called for a $50 million state investment over multiple biennia, to be leveraged on a 2-to-1 basis with private sector and federal funds. The Legislature approved $20 million for the initiative in the 2005-07 biennium, which launched 11 different Centers throughout the state (for additional information, see Goettle 2008). The 2007 and 2009 Legislatures approved additional funding for the program. As of June 30, 2009, 18 Centers had been approved by the COE Commission through a competitive process since 2005, and 17 of those Centers had received funding.

The purpose of this report is to estimate the economic impacts of the Centers of Excellence program for the period January 1, 2007-June 30, 2009. The analysis is based on payroll and associated expenditures reported by each Center.[2]

Methods

The initial task in any impact assessment is estimating the direct impacts (or "first-round effects") of the activity being studied. In this study, information on in-state expenditures as well as direct employment, were drawn from reports submitted by each Center. The North Dakota Input-Output Model was used to estimate the secondary economic impacts based on these data.

The North Dakota Input-Output Model consists of interdependence coefficients or multipliers that measure the level of business activity generated in each economic sector from an additional dollar of expenditures in a given sector. (A sector is a group of similar economic

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[1]The authors are respectively professor and research scientists in the Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.

[2]In 2009, the Centers reported their expenditures for the period January 1, 2008 to June 30, 2009. This was because of a change in reporting period from calendar to fiscal years.

units, e.g., the firms engaged in retail trade make up the retail trade sector.) For a complete description of the input-output model, see Coon and Leistritz (1989). The model estimates the changes in gross business volume (gross receipts) for all sectors of the area economy resulting from the direct expenditures associated with the Centers of Excellence program. The increased gross business volumes are used to estimate secondary employment and tax revenues based on historic relationships. The procedures used in the analysis are parallel to those used in estimating the impact of other facilities and activities (Leistritz and Coon 2008; Bangsund and Leistritz 2004 & 2007, Hodur et al. 2006). Empirical testing has confirmed the model's accuracy in estimating changes in levels of economic activity in North Dakota. Over the period 1958-2006, estimates of statewide personal income derived from the model averaged within 4 percent of comparable values reported by the U.S. Department of Commerce (Leistritz et al. 1990, Coon and Leistritz 2008).

Results

Period Review (January 1, 2008 - June 30, 2009)

The economic impacts associated with the Centers of Excellence program for (January 1) 2008-June 30, 2009 are summarized in Table 1. The direct economic impacts of Center and partner activities total $56.5 million, based on expenditures from 18 Centers.[3] The total economic impact (contribution) was $160.4 million. Direct employment by Centers and partners totaled 921.5 and total employment effects totaled 1,651.5.

Cumulative Review (January 1, 2007 - June 30, 2009)

The cumulative economic impacts of the program for January 1, 2007- June 30, 2009 are summarized in Table 2. The total direct impact was $115.5 million and the total impact was $329.5 million. The Centers and their partners directly employed more than 921 persons and total jobs generated was 2,059.

Discussion

The Centers of Excellence program is North Dakota's major initiative to participate in technology and information-based economic development. Although many Centers are in early stages of development, the economic effects of the program to date are encouraging. With a direct economic impact of $115.5 million and total impact of $329.5 million for the period January 1,2007-June 30, 2009, the program's contribution to the North Dakota economy is already considerable. Further, the jobs resulting from Center activities are relatively high

[3]No expenditures were reported for the NDSU Beef Systems Center of Excellence as they were specifically exempted by the 2009 Legislature from reporting requirements of the COE program. While funded, the NDSU Center for Integrated Electronic Systems had not expended any funds over the study period.

paying. The Centers reported direct employment totaling 921.5 and a payroll of $44,476,980, for an average of $48,266 per job – substantially above the state average. Another measure of the Centers' success is their ability to obtain matching and leveraged funds. To date, the Centers have obtained $134.8 million of matching and leveraged funds, an amount far exceeding the $31.4 million of state funds dispersed to the Centers to date. To date, the Centers have spent $19.9 million of the state funds that have been dispersed.

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Table 1. Period Review -- Direct, Secondary, and Total Economic Impacts of North Dakota Centers of Excellence and Partner Activities, January 1, 2008- June 30, 2009

Sector	Expenditures/Receipts Direct	Secondary	Total
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Construction	17,498	3,852	21,350
Communications& public utilities	788	5,175	5,963
Retail trade	1,629	32,274	33,903
Finance, insurance & real estate	4,053	12,408	16,461
Business & personal services	3,008	2,773	5,781
Professional & social services	1,100	3,911	5,011
Households	28,386	31,212	59,598
Other [1]	0	12,346	12.346
Total	56,462	103,951	160,413
Employment	921.5	730	1,651.5

[1] Includes agriculture, mining, transportation, manufacturing, and government.

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Table 2. Cumulative Review -- Direct, Secondary, and Total Economic Impacts of North Dakota Centers of Excellence and Partner Activities, January 1, 2007- June 30, 2009

Sector	Expenditures/Receipts Direct	Secondary	Total
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Construction	35,515	7,848	43,363
Communications& public utilities	2,011	10,456	12,467
Retail trade	8,095	65,627	73,722
Finance, insurance & real estate	12,224	19,679	31,903
Business & personal services	4,237	5,568	9,805
Professional & social services	2,152	7,918	10.070
Households	50,381	70,379	120,760
Other [1]	850	26,585	27,435
Total	115,465	214,060	329,525
Employment	921.5	1,138.00	2,059.5
Sales & Use Taxes ($000)			3,413
Personal Income Taxes ($000)			1,811

[1] Includes agriculture, mining, transportation, manufacturing, and government.

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