

University of Nebraska - Lincoln

## DigitalCommons@University of Nebraska - Lincoln

---

Rural Initiative Publications and Reports

Rural Initiative

---

10-19-2006

### Pillars of Growth in Nebraska's Non-Metropolitan Economy

Eric Thompson

*University of Nebraska - Lincoln*, ethompson2@unl.edu

Ernie Goss

*Creighton University*, ernieg@creighton.edu

Chris Decker

*University of Nebraska at Omaha*, christopherdecker@unomaha.edu

Cheryl A. Burkhart-Kriesel

*University of Nebraska - Lincoln*, cburkhartkriesel1@unl.edu

Bruce Johnson

*University of Nebraska - Lincoln*, bjohnson2@unl.edu

*See next page for additional authors*

Follow this and additional works at: <https://digitalcommons.unl.edu/ruralinitiativepubs>



Part of the [Agricultural and Resource Economics Commons](#)

---

Thompson, Eric; Goss, Ernie; Decker, Chris; Burkhart-Kriesel, Cheryl A.; Johnson, Bruce; Schmitz, Ben; Neira, Julian; and Jeutang, Pavel, "Pillars of Growth in Nebraska's Non-Metropolitan Economy" (2006). *Rural Initiative Publications and Reports*. 11.

<https://digitalcommons.unl.edu/ruralinitiativepubs/11>

This Article is brought to you for free and open access by the Rural Initiative at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Rural Initiative Publications and Reports by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

---

## Authors

Eric Thompson, Ernie Goss, Chris Decker, Cheryl A. Burkhart-Kriesel, Bruce Johnson, Ben Schmitz, Julian Neira, and Pavel Jeutang



A Research Report  
From the University of Nebraska Rural Initiative

---

# **Pillars of Growth in Nebraska's Non-Metropolitan Economy**

October 19, 2006

Dr. Eric C. Thompson, University of Nebraska–Lincoln  
Dr. Ernie Goss, Creighton University  
Dr. Chris Decker, University of Nebraska at Omaha  
Dr. Cheryl Burkhart-Kriesel, UNL Panhandle Research and Extension Center  
Dr. Bruce A. Johnson, University of Nebraska–Lincoln  
Mariana Saenz, University of Nebraska–Lincoln  
Ben Schmitz, University of Nebraska–Lincoln  
Julian Neira, The College of Saint Scholastica  
Pavel Jeutang, University of Nebraska–Lincoln

**Final Report of the  
University of Nebraska Rural Initiative**

---

## Table of Contents

About the Authors.....	1
Executive Summary .....	2
Chapter 1: Project Scope and Purpose .....	9
I. Introduction.....	9
II. Industry Performance.....	10
A. Agriculture .....	10
B. Non-Agricultural Industries .....	11
Manufacturing.....	12
Trucking.....	13
Professional and Technical Services Industry and Information Industry .....	14
Information Industry .....	15
Tourism .....	15
III. Rural Nebraska Regions .....	16
IV. Conclusion .....	18
A. Why Other Industries Were Not Included .....	18
Chapter 2: Manufacturing.....	20
I. Overview.....	20
II. The Importance of Nebraska's Manufacturing Sector.....	20
III. Analysis of Job Gains and Losses.....	27
IV. Factors Contributing to Nebraska's Manufacturing Competitiveness.....	30
A. Development Incentives.....	30
B. Statutory Tax Policy.....	31
V. Nebraska Exports.....	32
VI. Summary.....	33
Chapter 3: Agriculture .....	34
I. Introduction.....	34
II. The Structure of the Industry .....	34
III. Agricultural Production across the State.....	36
IV. Agricultural Production Patterns by Sub-State Region .....	39
A. Crop Enterprises.....	39
B. Livestock Enterprises .....	42
V. Regional Income Dynamics of Production Agriculture.....	43
Chapter 4: Tourism .....	47
I. Introduction.....	47
A. A Focus on Lodging.....	47
II. Growth in Lodging Sales: Nebraska and Neighboring States .....	47
III. Tourism and Nebraska's Economic Base .....	50
IV. Growth and Economic Base in the Regions of Nebraska.....	51
A. Southeast Nebraska (Region 3).....	54
B. Northeast Nebraska (Region 5).....	54
C. Sandhills Region (Region 6) .....	55
D. Western Panhandle (Region 9) .....	55

V. Conclusion .....	56
Chapter 5: Trucking .....	57
I. Introduction .....	57
II. Employment, and Establishment Growth: Nebraska, Neighboring States, and the West North Central Region of the United States .....	58
III. Trucking and Nebraska's Economic Base .....	60
IV. Employment, and Establishment Growth: Regions within Nebraska .....	61
V. Trucking and the Economic Base of Nebraska's Seven Regions .....	65
VI. Analysis of Detailed Sectoral Data from the Nebraska Department of Labor: Employer and Non-Employer Data .....	67
VII. Conclusions .....	68
Chapter 6: Professional Services .....	70
I. Introduction .....	70
II. Employment, and Establishment Growth: Nebraska, Neighboring States, and the West North Central Region of the United States .....	70
III. The Service Industry and Nebraska's Economic Base .....	73
IV. Professional Service Industry Surveys .....	74
V. Employment and Establishment Growth: Regions within Nebraska .....	75
VI. Factors Influencing Growth in Professional Services .....	77
VII. Conclusion .....	79
Appendix 6.1. Survey of Professional Service Businesses .....	80
Appendix 6.2. Specifics of the Survey .....	82
Chapter 7: The Information Industry .....	83
I. Introduction .....	83
II. Employment, and Establishment Growth: Nebraska, Neighboring States, and the WNC Region of the United States .....	83
III. The Information Industry and Nebraska's Economic Base .....	85
IV. Information Industry Surveys .....	86
V. Employment and Establishment Growth: Regions within Nebraska .....	87
VI. Factors Influencing Growth in Nebraska's Information Industry .....	89
VII. Conclusions .....	90
Chapter 8: Conclusion .....	91
Region 3: The Southeast Region .....	93
Region 4: South Central Region .....	95
Region 5: Northeast Region .....	97
Region 6: Sandhills Region .....	99
Region 7: The Norfolk/Columbus Region .....	101
Region 8: The Southwest Region .....	103
Region 9: The Western Panhandle Region .....	105
References .....	107

## List of Tables

Table ES.1.	Annual Growth in Non-Agriculture Pillar Industries in Each Region .....	4
Table ES.2.	County Tourism Dependency Index: Top Ten Ranked Nebraska Counties .....	5
Table ES.3.	Total Farm Labor, Proprietor Income, and Corporate Farm Income by Sub-State Economic Regions, 2000 and 2004 .....	5
Table 1.1.	Industrial Structure of the Economy, Nebraska, Midwestern States, and Nationwide.....	12
Table 1.2.	Manufacturing Industry Growth 1990-2004, Statewide and in Non-metropolitan Nebraska.....	13
Table 1.3.	Trucking Industry Growth 1990–2004, Nebraska, Adjacent States, and Nationwide.....	13
Table 1.4.	Trucking Industry Growth 1990–2004, Statewide and Non-metropolitan Nebraska.....	13
Table 1.5.	US Employment Growth 1990-2004 and Average Annual Wages 2004, By Major Industry Group.....	14
Table 1.6.	Nebraska Professional and Technical Services Employment Growth .....	14
Table 1.7.	Nebraska Information Industry Employment Growth 1990 to 2004 .....	15
Table 1.7.	Percent Growth in Real Lodging Revenue 1990 to 2003 .....	16
Table 2.1.	Manufacturing Statistics by Nebraska Region, 1998-2004 .....	27
Table 2.2.	Food Processing Statistics by Nebraska Region, 1998-2004.....	27
Table 2.3.	Shift-Share of Manufacturing Outside Food Processing, 1998-2004 .....	29
Table 2.4.	Shift-Share of Food Processing, 1998-2004 .....	29
Table 3.1.	Number and Distribution of Farms and Land in Farms by Sub-State Economic Regions in Nebraska.....	35
Table 3.2.	Incidence and Distribution of Farm Operators Working Off-Farm by Sub-State Economic Regions .....	36
Table 3.3.	Volume and Distribution of Agricultural Production by Sub-State Economic Regions in Nebraska <sup>a</sup> .....	38
Table 3.4.	Total Annual Corn Production and Distribution for Selected Years by Sub-State Economic Regions.....	39
Table 3.5.	Total Annual Soybean Production and Distribution for Selected Years by Sub-State Economic Regions <sup>a</sup> .....	41
Table 3.6.	Distribution of Annual Production of Crop Enterprises for Selected Years by Sub-State Economic Regions <sup>a</sup> .....	42
Table 3.7.	Distribution of Annual Production of Major Livestock Enterprises by Sub-State Economic Regions, 2004- <sup>a</sup> .....	43

Table 3.8.	Historical Cash Receipts from Farm Marketings and Farm-related Income Earnings, Nebraska <sup>a</sup> .....	44
Table 3.9.	Total Farm Labor and Proprietors'/Corporate Farm Income by Sub-State Economic Regions, 2000 and 2004 .....	46
Table 4.1.	Average Annual Growth in Real Net Taxable Lodging Sales in Nebraska, the West North Central Region and the United States, 1992-2002 .....	49
Table 4.2.	West North Central Employment Per Capita Sales 1992-2002 .....	50
Table 4.3.	Relationship between Indicators and Lodging Revenues .....	51
Table 4.4.	County Tourism Dependency Index: Top Ten Ranked Nebraska Counties .....	53
Table 5.1.	West North Central Region Average Annual Growth, 1998-2004 .....	59
Table 5.2.	West North Central Region Employment Share of Total, 1998-2004 .....	60
Table 5.3.	Location Quotients: Nebraska to Regional Neighbors, the WNC, and US, 1998-2004 .....	61
Table 5.4.	Regions within Nebraska Average Annual Growth, 1998-2004 .....	62
Table 5.5.	Within Nebraska Employment Share of Total, 1998-2004 .....	64
Table 5.6.	Location Quotients in Relation to the West North Central Census Region (including Nebraska), 1998-2004 .....	65
Table 5.7.	Location Quotients in Relation to Adjacent States (including Nebraska), 1998-2004 .....	66
Table 5.8.	Regions within Nebraska Average Annual Growth, 2000-2004 .....	68
Table 6.1.	West North Central Region Average Annual Growth, 1998-2004 .....	71
Table 6.2.	West North Central Region, Professional Service Sector's Share of Total Employment and Establishments, 1998 and 2004.....	72
Table 6.3.	Location Quotients, 1998-2004 .....	74
Table 6.4.	Correlation between Number of Colleges and Universities and Service Establishment Growth.....	79
Table 7.1.	West North Central Region Average Annual Growth, 1998-2004 .....	83
Table 7.2.	West North Central Region Information Sector's Share of Total Employment and Establishments, 1998-2004 .....	85
Table 7.3.	Location Quotients, 1998-2004 .....	86
Table 8.1.	Share of the Economy in Each Pillar Industry in Each Region .....	91

Table 8.2.	Annual Growth in Non-Agriculture Pillar Industries in Each Region .....	92
------------	--	----



## List of Figures

Map ES.1.	Nebraska's Economic Regions .....	3
Figure ES.1.	Competitive Effect by Nebraska Region, 1998-2004 .....	4
Figure ES.2.	Share of Sales Exported to Omaha, Lincoln, or Out of Nebraska, 2005 .....	6
Figure ES.3.	Share of Surveyed Professional and Technical Services Businesses Reporting that an Issue was Important or Very Important.....	7
Figure ES.4	Share of Sales Exported to Omaha, Lincoln, and Out of Nebraska, 2005 .....	8
Map 1.1.	Nebraska's Economic Regions .....	18
Figure 2.1.	Nebraska Share of US GSP in Manufacturing and Food Processing GSP 1998 and 2004 .....	21
Figure 2.2.	Nebraska Share of WNC GSP in Manufacturing and Food Processing GSP 1998 and 2004.....	21
Figure 2.3.	Nebraska Share of US Manufacturing and Food Processing Employment 1998 to 2006 .....	22
Figure 2.4.	Nebraska Share of WNC Employment 1998 to 2006 .....	22
Figure 2.5.	Ratio of Nebraska Output per Worker to US Output per Worker, 1998-2004 .....	23
Figure 2.6.	Ratio of Nebraska Output per Worker to WNC Output per Worker, 1998-2004.....	24
Figure 2.7.	Wages & Salaries per Worker, Nebraska as % of US for Manufacturing and Food Processing, 1998-2004 .....	25
Figure 2.8.	Wages & Salaries per Worker, Nebraska as % of WNC for Manufacturing and Food Processing, 1998-2004 .....	26
Figure 2.9.	Competitive Effect by Nebraska Region, 1998-2004 .....	30
Figure 2.10.	Nebraska Share of US Manufacturing and Food Processing Exports, 1999-2005 .....	32
Figure 2.11.	Nebraska Share of WNC Manufacturing and Food Processing Exports, 1999-2005 .....	33
Figure 3.1.	Market Value of All Agricultural Products Sold Annually in Nebraska 1990-2005 .....	38
Figure 3.2.	Estimated Percentage Distribution of Nebraska's Total Farm Labor and Farm Proprietors'/Corporate Farm Income for 2000 and 2004 .....	45
Figure 4.1.	Average Annual Growth in Real Net Taxable Lodging Sales (real 1982-84 dollars) in Nebraska and Surrounding States .....	48
Figure 4.2.	Growth in Per Capita Net Taxable Lodging Sales (real 1982-84 dollars) in Nebraska and Surrounding States .....	49

Figure 4.3.	2005 Per Capita Net Taxable Lodging Sales in Nebraska Regions .....	52
Figure 4.4.	Regions within Nebraska Average Annual Growth, 1990 to 2005 .....	53
Figure 5.1.	Gross Receipts: Local versus Long Distance Truck Freight Hauls, 2004.....	59
Figure 5.2.	Average Annual Growth in Establishments and Employment NAICS 484, Midwestern States: 1998-2004 .....	60
Figure 5.3.	Average Annual Growth in Establishments and Employment NAICS 484, Nebraska Regions: 1998-2004. ....	63
Figure 5.4.	Average Growth in Establishments and Employment Shares for NAICS 484, Nebraska Regions: 1998-2004 .....	64
Figure 5.5.	Location Quotients in relation to the West North Central Census Region 2004.....	66
Figure 5.6.	Location Quotients in Relation to Nebraska's Neighboring States 2004.....	67
Figure 6.1.	Professional Service Sector (NAICS 54) Average Annual Growth, 1998-2004 .....	72
Figure 6.2.	Professional Service Industry Employment Share of Total, 1998-2004.....	73
Figure 6.3.	Share of Sales Exported to Omaha, Lincoln, and Out of Nebraska, 2005 .....	75
Figure 6.4A.	Professional Service Industry Employment and Establishment Growth 1998-2004 .....	76
Figure 6.4B.	Overall Employment Growth versus Professional Service Industry Employment Annual Growth, 1998-2004 .....	76
Figure 6.5.	Professional Service Industry Employment Share of Total, 1998-2004.....	77
Figure 6.6.	Share of Surveyed Businesses Reporting that an Issue was Important or Very Important .....	78
Figure 7.1.	Information Service Industry (NAICS 51) Average Annual Growth, 1998-2004 .....	84
Figure 7.2.	Information Service Industry Employment Share of Total, 1998-2004.....	85
Figure 7.3.	Share of Sales Exported to Omaha, Lincoln, and Out of Nebraska, 2005 .....	87
Figure 7.4A.	Information Industry's Employment and Establishment Growth, 1998-2004.....	88
Figure 7.4B.	Total Employment Growth versus Information Industry's Employment Growth, 1998-2004 .....	88

Figure 7.5.	Information Service Industry Employment and Establishment Shares of Total, 1998-2004 .....	89
Figure 7.6.	Share of Surveyed Businesses Reporting that an Issue was Important or Very Important .....	90

## About the Authors

**Dr. Ernie Goss** is the Jack A. MacAllister Chair in Regional Economics and a Professor of Economics at Creighton University. He has published over 80 research studies focusing primarily on economic forecasting and on the statistical analysis of business and economic data. Dr. Goss is a member of the Editorial Board of *The Review of Regional Studies* and editor of *Economic Trends*, an economics newsletter published three times per year.

**Dr. Chris Decker** is an Associate Professor of Economics at the University of Nebraska at Omaha (UNO). His areas of expertise are Applied Microeconomics, Environmental Economics, Regional Economics, and Regulation. Dr. Decker has published in several journals such as the *Review of Regional Studies*, *Annals of Regional Science*, *Applied Economics*, the *Journal of Law and Economics*, and *Contemporary Economic Policy*.

**Dr. Cheryl Burkhardt-Kriesel** is a Community Development Specialist for the Panhandle Research and Extension Center. Her areas of expertise include Tourism, Community Leadership, and Small Business Development. Dr. Burkhardt-Kriesel has served as an Extension Educator in North Dakota and Nebraska and as the Panhandle Learning Center Coordinator.

**Dr. Eric Thompson** is an Associate Professor of Economics and Director of the Bureau of Business Research at the University of Nebraska-Lincoln (UNL). His areas of expertise include Regional Economics, Local and State Economic Development, and Economic Forecasting. Dr. Thompson has published in several journals such as *Regional Science and Urban Economics*, *Journal of Regional Science*, *Papers in Regional Science*, and *Journal of Cultural Economics*.

**Dr. Bruce Johnson** is a Professor of Agricultural Economics at UNL. His areas of expertise are Resource and Environmental Economics, Real Estate Market Dynamics, Community and Economic Development, and Ethnics in Agriculture and Natural Resources. Dr. Johnson has published in several journals such as the *Journal of Soil and Water Conservation*, *Great Plains Research*, *NACTA Journal*, and the *Journal of Farm Managers and Rural Appraisers*.

**Mariana Saenz** is a graduate student at UNL who is pursuing a Ph.D. in Economics with a specialization in econometrics.

**Ben Schmitz** is a graduate student at UNL who is pursuing a Master of Arts-Ph.D. track in Economics with a specialization in international trade/finance.

**Julian Neira** is an undergraduate student who is pursuing a Bachelor's degree in Economics at The College of Saint Scholastica in Duluth, Minnesota. Julian held the Bureau of Business Summer Research Fellowship in 2006.

**Pavel Jeutang** is an undergraduate student at UNL who is pursuing a Bachelor of Science in Business Administration.

## Executive Summary

Agriculture is a critical part of Nebraska's economy, and changes in the fortunes of agriculture play an important role in the success of the state's non-metropolitan regions. Trends toward consolidation and rising productivity in agriculture, however, have raised concerns about the future of non-metropolitan Nebraska.<sup>1</sup> Some citizens and policymakers have begun to wonder if the economy can create sufficient job opportunities for non-metropolitan residents. The answer to this question depends not only upon the relative strength of the agricultural sector, but also upon the presence of other industries that can join agriculture as pillars for employment growth in non-metropolitan Nebraska.

This study, sponsored by the University of Nebraska Rural Initiative, brings together researchers from the University of Nebraska–Lincoln, the University of Nebraska at Omaha, and Creighton University to examine multiple dimensions of Nebraska's non-metropolitan economy. In addition to agriculture, we will examine the fortunes of five other key industries: 1) manufacturing, 2) tourism, 3) trucking, 4) professional and technical services, and 5) information. This list contains industries that are traditional areas of rural economic development such as manufacturing, agriculture, and tourism, but also includes rapidly expanding industries in our state (trucking) or industries within a rapidly changing national economy (professional and technical services and information). National economic forecasts suggest that industries such as trucking, tourism, professional and technical services, and information will continue to add employment at a moderate to rapid pace over the next decade. (See Chapter 2.)

In this study, we examine the extent to which each of these industries can complement agriculture as a pillar of economic growth in non-metropolitan Nebraska. Like agriculture, these industries have potential to help provide a base for the non-metropolitan economy. More specifically, each industry is part of an area's export base; that is, the industries sell goods and services to customers throughout the Midwest, the nation, and the world. Basic industries bring money into the non-metropolitan Nebraska economy, supporting other industries that serve local customers. Collectively, the industries also account for roughly 25% of non-agricultural employment.

The report will identify the potential for non-metropolitan Nebraska to expand its export base in these key industries, both inside and outside agriculture. But, more generally, the report will examine the degree to which entrepreneurs in non-metropolitan Nebraska have been able to take advantage of emerging opportunities in key industries in a changing national economy. Evidence of success would indicate that non-metropolitan Nebraskans already are succeeding under the current population, infrastructure, workforce skills, markets, and other prevailing conditions in these regions. Such a finding should give these areas confidence about the future, even as the state continues to improve economic development initiatives for the state.

Non-metropolitan Nebraska, of course, is not homogenous, and a different set of industries may prosper in one area of the state than in another. This report utilizes a group of nine multi-county economic regions of Nebraska, which are illustrated in Map ES.1. This report focuses on the seven regions that are primarily non-metropolitan. Region 1, which includes Omaha, and Region 2, which includes Lincoln,

---

<sup>1</sup> Non-metropolitan refers to those Nebraska counties located outside the Omaha and Lincoln Metropolitan Areas. Metropolitan areas such as Omaha and Lincoln have at least one core urbanized area of 50,000 or more population, together with adjacent cities having a high degree of social and economic integration with that core (Office of Management and Budget, 2005). Non-metropolitan Nebraska contains several Micropolitan Statistical Areas which have a core urbanized area of at least 10,000 but less than 50,000, together with adjacent areas having a high degree of social and economic integration with that core (OMB, 2005). For example, there is the Grand Island Micropolitan Statistical Area, which contains the counties of Hall, Merrick, and Howard.

are not a focus of the study. The regions represent recognizable areas of the Nebraska economy and include the principle cities and counties in each of these economic areas. The non-metropolitan regions were defined based on clusters of mid-sized cities (and adjacent rural areas), by the type of agricultural production, and proximity to key economic features, such as Interstate 80 or cities in adjacent states (such as Sioux City, Iowa).

Map ES.1. Nebraska's Economic Regions

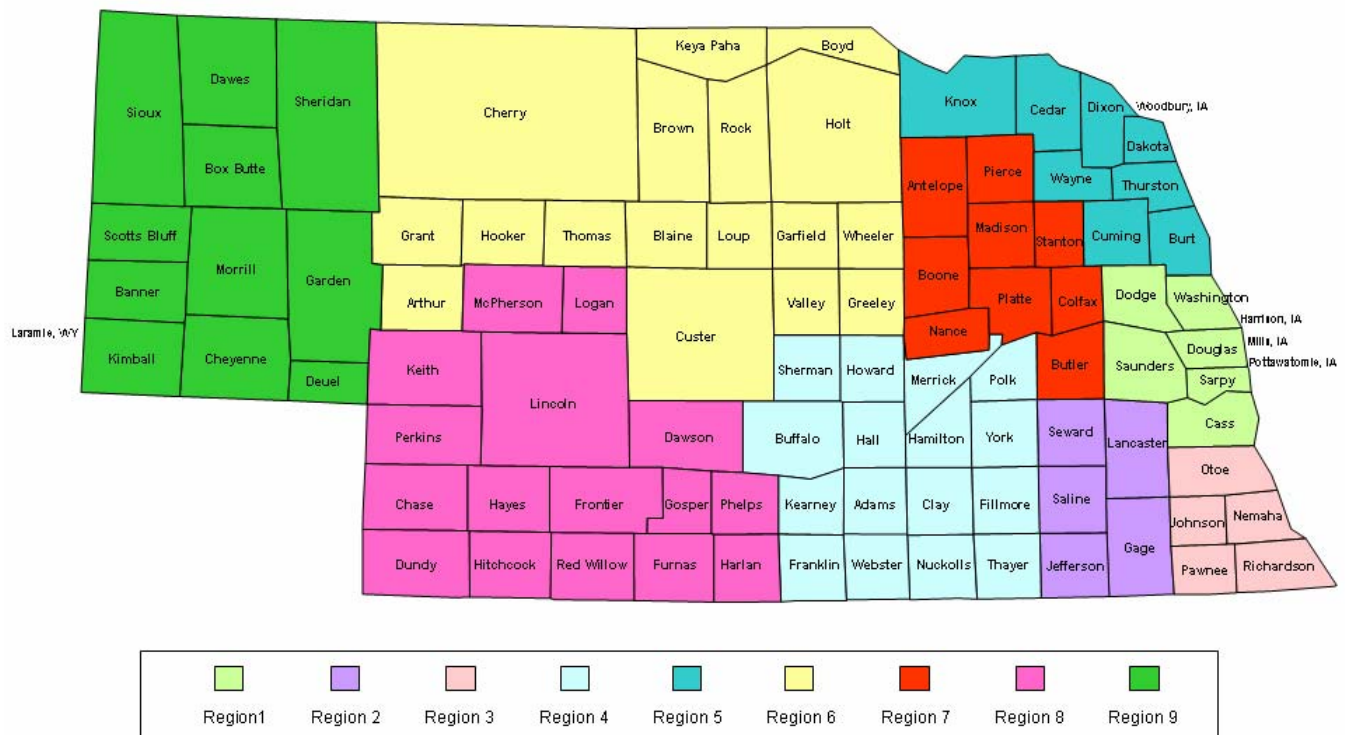


Table ES.1 illustrates the performance of each of the non-agricultural industries in the seven non-metropolitan regions. We utilize data for the 1998 to 2004 period, the most recent period for which data are available (for both small and large counties) utilizing the new North American Industrial Classification System. This six-year period represents a period of change in the national economy, including a recession, the bursting of the dot-com bubble, and the resultant recovery in the economy. Data on lodging sales, which is the key indicator for the tourism industry, are available through 2005.

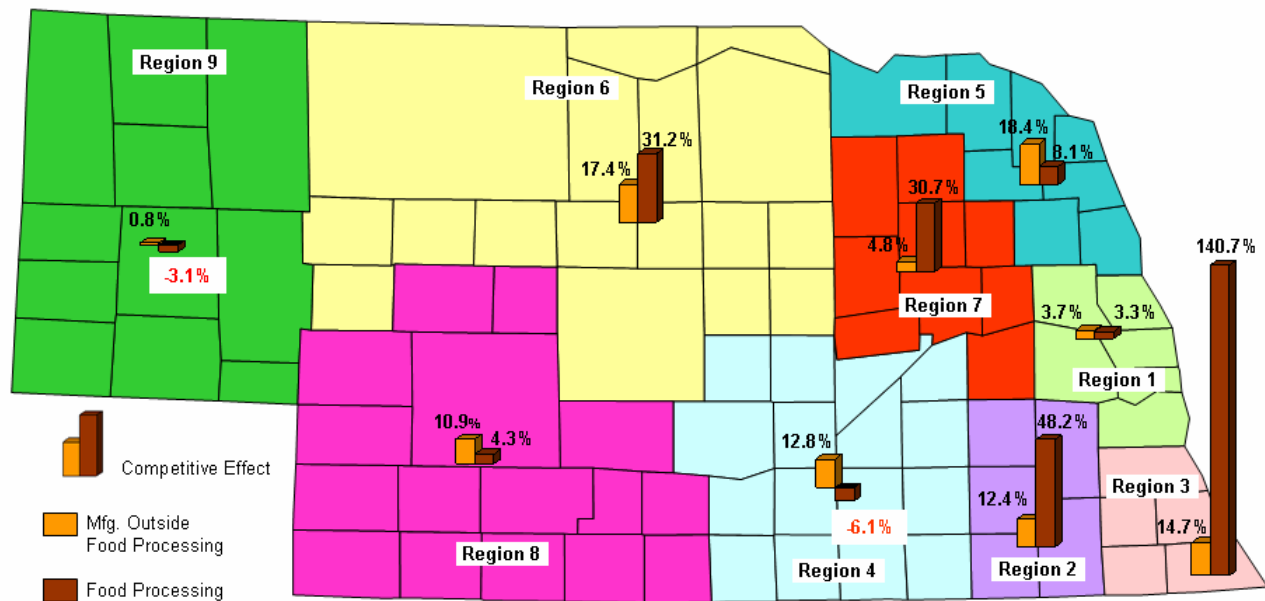
The figures show growth in many of these key potential pillar industries throughout the state. Similarly, the figures show that multiple industries were growing in each region.

**Table ES.1. Annual Growth in Non-Agriculture Pillar Industries in Each Region**

Pillar Industry	Manufacturing (including Food Processing) Jobs 1998 to 2004	Tourism Real Per Person Lodging Sales 1998-2005	Trucking Jobs 1998 to 2004	Professional Services Jobs 1998 to 2004	Information Jobs 1998 to 2004
Annual Growth Measure					
Southeast	4.2%	3.5%	-1.0%	3.2%	4.8%
South Central	-1.4%	-0.9%	2.4%	2.5%	-0.9%
Northeast	0.4%	-1.4%	4.1%	-2.5%	-0.1%
Sandhills	0.6%	1.2%	-1.5%	-0.2%	1.4%
Norfolk/Columbus	-0.1%	1.3%	2.1%	4.4%	0.3%
Southwest	-0.5%	1.4%	0.4%	2.8%	-0.8%
Western Panhandle	-2.8%	0.8%	3.9%	1.0%	-3.7%

The manufacturing industry (which includes food processing) grew in three of the seven regions. This, however, is a remarkable record, given the performance of the manufacturing industry in many parts of the country during this period. Nationally, the industry lost nearly 15% of its employment during the 1998-2004 period. In other words, manufacturing employment declined 3% per year. The industry grew in three Nebraska regions and held mostly unchanged in two. Only in the Western Panhandle did declines in manufacturing employment match those found nationwide. These results suggest that the manufacturing industry remains very competitive in non-metropolitan Nebraska. This is also evident in Figure ES.1, which shows the estimated competitiveness of the food processing and other portions of manufacturing in each region of the state. Competitiveness is positive in nearly every region. Continued efforts to improve the business climate in Nebraska and furthering of existing economic development and trade promotion programs should continue to aid the competitiveness of this industry.

**Figure ES.1. Competitive Effect for Nebraska by Nebraska Region, 1998-2004**



The tourism industry also grew in selected parts of non-metropolitan Nebraska. Of particular interest was the expansion of the tourism industry in the Western Panhandle, the Sandhills, and Southeast Nebraska regions. Southeast Nebraska benefits from the continued expansion of attractions around

Nebraska City. The Panhandle and Sandhills benefit from a growing interest in nature-based tourism, historic tourism, recreation such as canoeing and lodging, and visits to state and national parks. Continued efforts to promote these types of activities in Nebraska should underpin future growth. As Table ES.2 shows, six of the ten most tourism-dependent counties in Nebraska are in the Sandhills (Region 6), the Panhandle (Region 9), or Southeast Nebraska (Region 3).

**Table ES.2. County Tourism Dependency Index: Top Ten Ranked Nebraska Counties**

	Region	2005			1990-2005 Annual Growth
		Real Taxable Lodging Sales	Population	Sales per Person	
Keith	8	\$3,015,685	8,330	\$362.03	0.7%
Thomas	6	\$197,676	623	\$317.30	<sup>1</sup>
Cheyenne	9	\$2,815,044	9,993	\$281.70	7.5%
Cherry	6	\$1,542,197	6,098	\$252.90	4.4%
Lincoln	8	\$7,573,248	35,636	\$212.52	1.2%
York	4	\$2,606,695	14,397	\$181.06	2.4%
Buffalo	4	\$7,771,842	43,572	\$178.37	1.0%
Dawes	9	\$1,432,651	8,636	\$165.89	2.7%
Otoe	3	\$2,072,162	15,509	\$133.61	9.8%
Brown	6	\$450,723	3,328	\$135.43	4.8%

Source: US Census Bureau and Nebraska Department of Economic Development.

<sup>1</sup> Taxable sales data not available for 1990.

Agricultural production continues to rise in Nebraska and the industry makes a substantial contribution to incomes in non-metropolitan areas. Table ES.3 shows the range of that income contribution between relatively poor years for agriculture income (such as 2000) and strong years (such as 2004). Agricultural incomes in corn-belt regions of Nebraska are expected to benefit from the continued expansion of the state's ethanol industry.

**Table ES.3. Total Farm Labor, Proprietor Income, and Corporate Farm Income by Sub-State Economic Regions, 2000 and 2004**

Economic Region and Year		Farm Labor and Proprietors'/Corporate Farm Income		
		Total Dollar Volume <sup>a</sup> (million dollars)	Average Income per Farm Unit <sup>b</sup> (dollars)	Percentage of Total Regional Personal Income
3. Southeast Nebraska	2000	53.0	17,500	5.6
	2004	150.1	47,000	12.9
4. South Central Nebraska	2000	299.2	32,600	5.9
	2004	680.0	82,000	11.1
5. Northeast Nebraska	2000	233.5	42,600	13.0
	2004	545.1	98,600	25.1
6. Sandhills	2000	81.4	13,600	7.6
	2004	312.6	59,000	23.0
7. Norfolk/Columbus	2000	188.2	29,100	6.8
	2004	472.1	74,100	14.3
8. Southwest Nebraska	2000	241.0	37,900	8.9
	2004	572.6	100,100	18.0
9. Panhandle	2000	89.7	18,400	4.4
	2004	147.1	31,800	6.2
TOTAL	2000	1379.4	27,400	2.9
	2004	3368.1	69,700	6.0

<sup>a</sup> Source: Estimates derived from county-level estimates by Bureau of Economic Analysis US Department of Commerce.

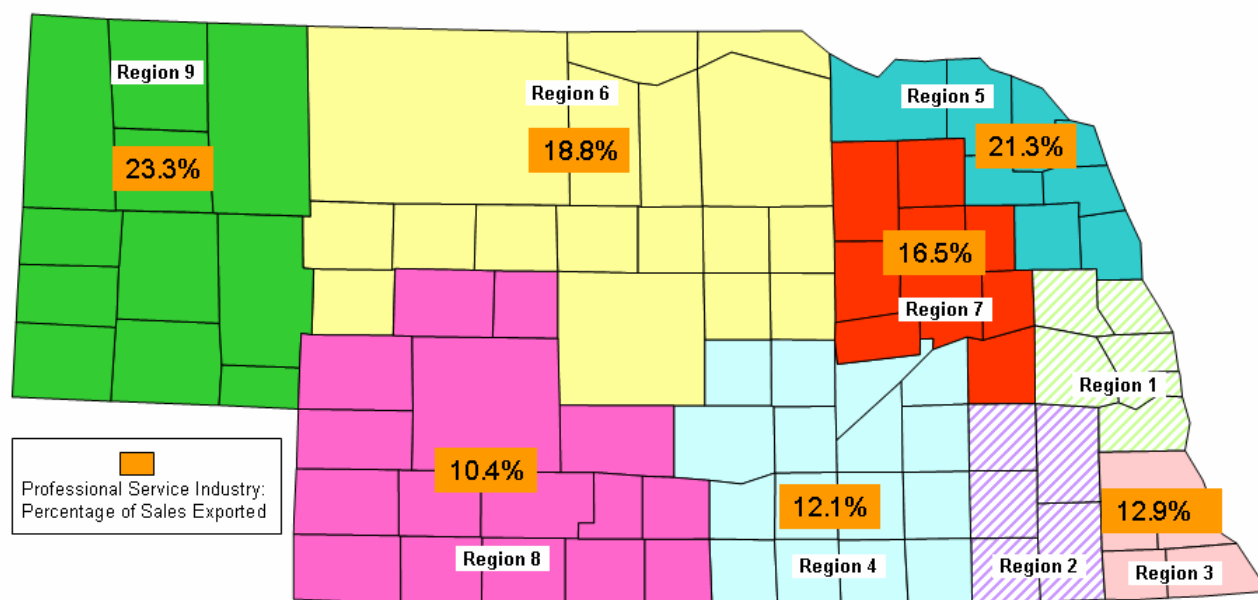
<sup>b</sup> Derived by dividing total earnings from total farm unit numbers interpreted from 1997 and 2002 census reports.



As was evident in Table ES.1, the trucking industry is generating job growth in most areas of non-metropolitan Nebraska. The industry provides an opportunity to generate well-paid employment opportunities for residents who wish to remain in the non-metropolitan areas of the state. Efforts to expand the state's logistics industry should stimulate further growth in trucking employment.

Table ES.1 also demonstrates there is broad-based growth in the professional and technical services industry in non-metropolitan Nebraska. This is one of the most rapidly growing, high wage portions of the national economy, and a key sector as the national economy moves toward a service economy. The industry includes accounting, advertising, management consulting, veterinary services, engineering and architecture, and computer services. While these industries are often thought of as locally-oriented, many firms in these industries also have clients over a broad geographic area. The *Survey of Non-Metropolitan Nebraska Service Businesses*, which was conducted for this report, found that a significant share of industry customers is located outside non-metropolitan Nebraska. Figure ES.2 below shows the share of customers located in Omaha, Lincoln, or out of state. Most of these customers were located out of state rather than in Lincoln or Omaha (Appendix 6.1). Figure ES.2 indicates that the professional and technical services industry, in addition to being a high-wage, growing industry, is part of the economic base for the non-metropolitan Nebraska economy because the industry brings in revenue from customers from outside non-metropolitan Nebraska.

Figure ES.2. Share of Professional and Technical Industry Sales Exported to Omaha, Lincoln, or Out of Nebraska, 2005

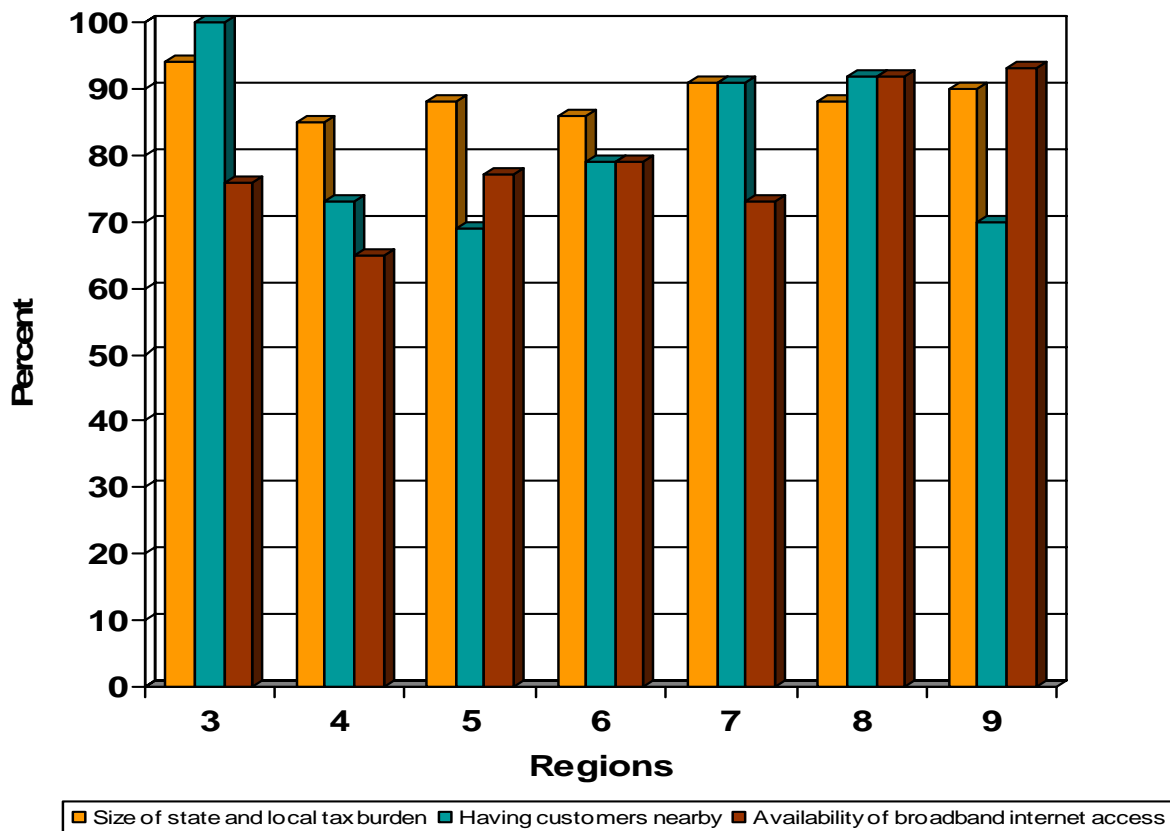


Source: UNL Bureau of Business Research, *Survey of Non-Metropolitan Nebraska Service Businesses*.

The *Survey of Non-Metropolitan Nebraska Service Businesses* also queried professional and technical services business about what factors were most important to the success of their business. As is evident in Figure ES.3, professional and technical services business most often listed 1) the size of the state and local tax burden; 2) having customers nearby, and 3) availability of broadband internet access as important or very important to the success of their business Nebraska. (See Appendix 6.1 for a complete listing of firm responses.) These two factors (lower taxes are often a priority of business and the importance of nearby customers) indicate that local business is still important for professional service firms, despite their out-of-state sales. The importance of broadband availability raises the critical

question of increasing access to this basic infrastructure in non-metropolitan Nebraska. These professional service businesses rated these types of infrastructure as a much higher priority than four-lane highway access (Appendix 6.1), which further demonstrates the importance of developing the best possible policies and strategies for broadband infrastructure in Nebraska.

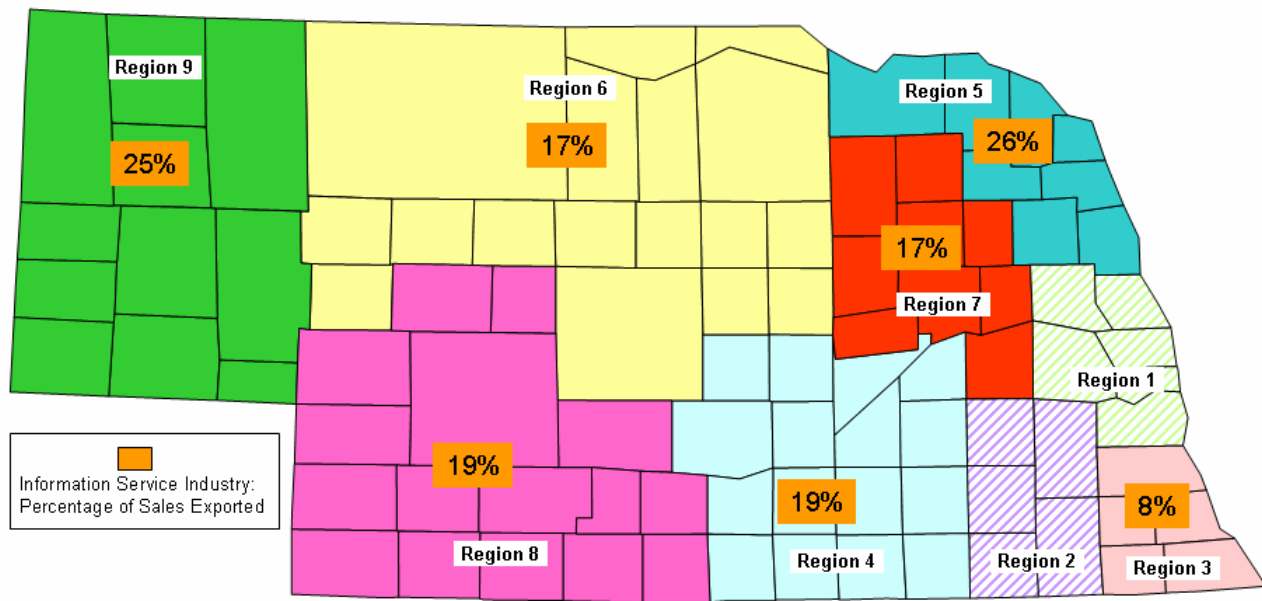
Figure ES.3. Share of Surveyed Professional and Technical Services Businesses Reporting that an Issue was Important or Very Important



Source: UNL Bureau of Business Research, *Survey of Non-Metropolitan Nebraska Service Businesses*.

The *Survey of Non-Metropolitan Nebraska Service Businesses* also was sent to businesses in the information sector, which includes publishing, broadcasting, telecommunications, internet services and portals, and internet publishing and broadcasting. The same three factors as in Figure ES.3 were the top responses for information industry firms as well. While the information industry was not found to be growing in most parts of non-metropolitan Nebraska, it is worth pointing out that this industry also has a substantial share of out-of-state customers, just as was found for professional and technical services businesses. This is evident in Figure ES.4 below. Note that again, most of the sales pictured in Figure ES.4 were to out-of-state customers rather than to customers in Omaha and Lincoln (Appendix 6.1).

Figure ES.4. Share of Information Industry Sales Exported to Omaha, Lincoln, and Out of Nebraska, 2005



Source: UNL Bureau of Business Research, *Survey of Non-Metropolitan Nebraska Service Businesses*.

In summary, the research indicates that a majority of the six pillar industries have been expanding in non-metropolitan Nebraska. These findings indicate that the non-metropolitan Nebraska economy is adept at seizing new opportunities in a variety of non-agricultural industries. This finding provides a reason for optimism that the non-metropolitan Nebraska economy will perform well as the national economy continues to change in the future, whatever direction that national economy takes. Areas of non-metropolitan Nebraska have shown an ability to adapt to such changes. This said, projections about the national economy indicate that these same six pillar industries will continue to offer economic opportunities around the country in the future. Further, this study has provided evidence that there is substantial potential for future growth in at least five of these six pillar industries in non-metropolitan Nebraska (with the information industry being the potential exception). Most individual regions within non-metropolitan Nebraska also have demonstrated success in a wide variety of both traditional and emerging targets of economic development.

# **Chapter 1: Project Scope and Purpose**

## **Eric Thompson and Mariana Saenz**

### **I. Introduction**

Agriculture is a critical part of Nebraska's economy, and changes in the fortunes of agriculture play an important role in the success of the state's non-metropolitan regions. Trends toward consolidation and rising productivity in agriculture, however, have raised concerns about the future of non-metropolitan Nebraska, where non-metropolitan refers to those Nebraska counties outside the Lincoln and Omaha Metropolitan Areas.<sup>2</sup> These non-metropolitan counties do contain smaller cities, but do not contain a large, urban core population of at least 50,000 such as the cities of Omaha or Lincoln.<sup>3</sup> With stagnant or declining populations in many counties, some citizens and policymakers have begun to wonder if the economy can create sufficient job opportunities for non-metropolitan residents. The answer to this question depends not only upon the relative strength of the agricultural sector, but also upon the presence of other industries that can join agriculture as pillars for employment growth in non-metropolitan Nebraska.

This study, sponsored by the University of Nebraska Rural Initiative, brings together researchers from the University of Nebraska-Lincoln, the University of Nebraska at Omaha, and Creighton University to examine multiple dimensions of Nebraska's non-metropolitan economy. We will evaluate agriculture and other industries that are prominent in the national economy or that have particular potential for growth in Nebraska. We will examine how each industry is performing in non-metropolitan Nebraska both overall and in particular regions of the state. Our analysis of the agricultural industry also will examine recent trends and potential for growth by region of the state, recognizing that agriculture is critical for rural Nebraska in any economic scenario. While it is important to look at diversification into new industries, significant contraction and weakness in agriculture would tend to mitigate progress being made in other industries.

In addition to agriculture, we will examine the fortunes of five other key industries. These include manufacturing and tourism, industries that traditionally have been considered as options for rural diversification. We also will examine the trucking industry, which has been a particularly strong and growing industry in Nebraska. Finally, we will look at two industries that have underpinned high-wage job growth at the national level. These industries are the professional and technical services and the information industries. While national commentary and analysis of these industries has focused on metropolitan areas, research also has documented their potential for non-metropolitan areas (Porterfield and Pulver, 1991). We will examine how these industries that have been re-shaping the national economy might play a role in the economy of non-metropolitan Nebraska.

The approach of the study is to provide a consistent analysis across time and regions of the state, tracking the progress of agriculture and of each of these other five key industries: manufacturing, trucking, professional and technical services, information, and tourism. Together, these five industries account for about one-quarter of the state's employment. The analysis will allow consistent comparisons

---

<sup>2</sup> Metropolitan areas such as Omaha and Lincoln have at least one core urbanized area of 50,000 or more population, together with adjacent cities having a high degree of social and economic integration with that core (Office of Management and Budget, 2005). Note that our analysis also excludes Saline, Jefferson, and Gage counties which are outside the Lincoln Metropolitan Area but have are part of Lincoln's commuting shed.

<sup>3</sup> Non-metropolitan Nebraska contains several Micropolitan Statistical Areas which have a core urbanized area of at least 10,000 but less than 50,000, together with adjacent areas having a high degree of social and economic integration with that core (OMB, 2005). For example, there is the Grand Island Micropolitan Statistical Area, which contains the counties of Hall, Merrick, and Howard.

across regions that can be readily repeated in future years in order to track changes. In addition, we will examine the potential for continued growth in each of these industries and provide some basic discussion of what competitive factors influence industry prospects. We will then be able to examine the extent to which each of these industries can complement agriculture as a pillar of economic growth in non-metropolitan Nebraska. In those non-metropolitan areas where all or most of these pillars of economic growth are expanding, we believe that one can be confident that there exists a diverse economic base for growth, and that these regions have demonstrated an ability to take advantage of emerging opportunities in the economy.

This study is not an exhaustive analysis of all important industries operating in non-metropolitan Nebraska. For example, this study will not examine the health care industry. But the five non-agricultural industries studied are critical. As noted above, these industries account for roughly one-quarter of non-agricultural employment in Nebraska. These industries also are basic industries to Nebraska's economy, forming a major part of the state's export base. The industries sell goods and services to customers throughout the Midwest, the nation, and the world. Basic industries bring money into the non-metropolitan Nebraska economy, supporting other industries that serve local customers. An analysis of these basic industries provides a good starting point for understanding what industries are providing, and may continue to provide, a basis for growth and prosperity in the non-metropolitan Nebraska economy.

Significantly, this study will examine the contributions that non-metropolitan Nebraskans are already making to their own economy given the current population, infrastructure, workforce skills, markets, and other prevailing conditions. We will measure the extent to which entrepreneurs throughout non-metropolitan Nebraska have capitalized upon business opportunities in the nationally flourishing professional services industry and in Nebraska's rapidly growing trucking industry. We will examine how non-metropolitan tourism businesses have been built and expanded and whether Nebraska farmers have continued to succeed in the agriculture sector. Evidence of success, if found, would illustrate how non-metropolitan Nebraska can continue to survive and grow in a changing economy.

In this chapter, we will provide a synopsis of the recent performance of the agriculture, manufacturing, trucking, professional and technical services, information, and tourism industries in non-metropolitan Nebraska. We will consider the seven regions of non-metropolitan Nebraska that will be the focus of the study.

## **II. Industry Performance**

### **A. Agriculture**

Agriculture historically has been, and continues to be, a major economic driver in Nebraska's economy. From a national perspective, the state consistently ranks fourth in the value of cash receipts from farm marketing, with both productive crop and livestock components. With nearly 46 million acres of land in farms and ranches (fourth in the nation), including nearly 8 million irrigated acres (second in the nation), the agricultural industry of Nebraska is an important part of the overall state economy, as well as the non-metropolitan economy. Agriculturally based manufacturing is continuing to develop on several fronts, with bio-fuel production being the most prominent expansion. Currently the state is approaching a third of its corn production being processed into ethanol; and all indications suggest it could become the leading state in bio-fuel production within five to ten years. In short, the future remains bright for this state's agricultural sector.

The diversity of natural resource endowment and agricultural production across Nebraska is considerable. By many measures, Nebraska's agriculture is more variable from its western to eastern

borders than what is observed from the Missouri River to the East Coast. Consequently, the monitoring and analysis of Nebraska's agricultural sector and its role in the state's economy requires a sub-state perspective. Weather, markets, structural changes in the industry, and other factors create considerable variation in economic performance across the state in any given year. Thus, sub-state regional benchmarks with ongoing analysis are essential in assessing Nebraska's agricultural sector.

## **B. Non-Agricultural Industries**

Agriculture forms the foundation of the economy in much of non-metropolitan Nebraska, but the economic base of non-metropolitan Nebraska is also diversified into a number of key basic industries. These basic industries sell to markets or customers outside the local region and include traditional diversification targets such as manufacturing and tourism. Several producer services industries, including the information industry (broadcasting, news, web portals) and professional and technical services industries also contribute to the economic base. Additionally, Nebraska stands out in the importance of transportation in its economy, including long-haul trucking. As is seen in Table 1.1, transportation and utilities<sup>4</sup> account for 5.0% of all employment in Nebraska, compared to 3.4% of all employment nationally and 3.5% of all employment in adjacent Midwestern states.<sup>5</sup> This reflects all the major rail and trucking companies in Nebraska that serve customers throughout the region or nation. Employment in transportation and utilities is far beyond what would be expected, given the size of the population and business in the state.

Among the other basic industries, Nebraska either matches or lags behind the nation in terms of non-farm employment. Compared to the nation as a whole, Nebraska has roughly the same share of employment in manufacturing and information services. Nebraska has relatively less employment in professional and technical services. This is also true in leisure and hospitality employment, which includes the tourism industry.

Whatever the relative share of employment, each industry has grown in Nebraska over the last 15 years. As is seen in Tables 1.2 through 1.8, the growth of these basic industries in non-metropolitan Nebraska has been as strong as, or stronger than, statewide averages. These industries are growing faster in non-metropolitan (primarily rural) regions of Nebraska than in metropolitan regions.

The growth of basic industries in non-metropolitan areas may help to explain why Nebraska's non-metropolitan communities of 1,000 to 2,500 residents (rural places by Census definition) outperformed larger communities and metropolitan regions in attracting in-migrants in their prime earning years (30 to 39) between 1990 and 2000 (Cantrell, 2005). Migration is related to jobs; through the decade of the 1990s, 35 non-metropolitan Nebraska counties experienced total increases in wage and salary employment of 10 percent or greater.

Looking forward, the five key non-agricultural industries are expected to be engines of job growth in the U.S. economy over the next decade. Rapid job growth of between 2.5% and 3% per year is expected in two of the industries. Nationwide, employment in the professional and technical services industry is expected to grow 31% cumulatively from 2006 through 2015.<sup>6</sup> The transportation and warehousing industry is expected to grow 30% during the same period. Steady job growth of around 1.5% per year is expected in two other industries. The information industry is expected to grow 17%. While there is no

---

<sup>4</sup> Employment in publicly owned utilities is not included in this sector.

<sup>5</sup> These are the states of Colorado, Iowa, Kansas, Missouri, South Dakota, and Wyoming.

<sup>6</sup> These figures for the long-term *Forecast of the Nation* were developed by the Economic Forecasting Center at Georgia State University.

specific job forecast for the tourism industry, employment in the arts, entertainment, and recreation industry is expected to grow 20% from 2006 through 2015.

The manufacturing industry is the only one of these five industries not expected to add employment nationwide over the next 10 years. Net employment is expected to decline 7% cumulatively over the period. As is explained below, however, there is reason to believe that smaller cities and non-metropolitan areas may be able to outperform national averages in this industry. Further, several segments of the manufacturing industry that are important in Nebraska are expected to add employment over the next 10 years. For example, employment in the food processing industry is expected to grow 5%.

**Table 1.1. Industrial Structure of the Economy, Nebraska, Midwestern States, and Nationwide**

	Share of Non-farm Employment in Major Industry Groups 2004		
	U.S. Average	Nebraska	Midwestern States
All Employees	100.0%	100.0%	100.0%
Natural Resources, Mining, & Construction	5.4%	4.9%	5.8%
Manufacturing	10.2%	10.3%	10.4%
Wholesale Trade	4.0%	4.2%	4.1%
Retail Trade	10.7%	10.9%	11.0%
Transportation and Utilities	3.4%	5.0%	3.5%
Information	2.2%	2.2%	2.6%
Financial Activities	5.7%	6.4%	6.0%
Professional and Tech Ser	4.8%	3.6%	4.2%
Management of Companies & Enterprises	1.2%	1.5%	1.1%
Admin and Waste Services	5.6%	4.6%	4.6%
Education and Health Services	12.0%	12.9%	11.5%
Leisure and Hospitality	8.8%	7.9%	9.4%
Other Services	3.8%	3.5%	3.9%
Government	15.3%	16.3%	16.2%

Source: US Department of Labor (Current Employment Statistics).

## Manufacturing

Manufacturing has been a growing industry in Nebraska over the last fifteen years. In contrast to a nationwide decline of 19%, Nebraska manufacturing employment grew 3.1% between 1990 and 2004. This has occurred despite two recessions during the period and is part of an overall national trend for manufacturing activity to move away from metropolitan areas and toward non-metropolitan areas (Gale, 1996). Nebraska's manufacturing industry has also expanded in part due to the growth of food processing businesses. These food processing businesses have had a substantial and growing impact on the state economy (Lamphear, 2006).

These past trends do not necessarily indicate that Nebraska manufacturing overall can continue to increase net employment in the years to come, because the industry faces strong foreign competition and trends toward increasing productivity. But there is reason to believe that non-metropolitan Nebraska may be able to add some net manufacturing jobs in the next decade. Food processing industries prevalent in non-metropolitan Nebraska manufacturing are less likely to relocate production to developing countries than are other types of manufacturing. More generally, food processing industries are increasingly choosing rural locations (Gale, 1997).

**Table 1.2. Manufacturing Industry Growth 1990-2004, Statewide and in Non-metropolitan Nebraska**

	Nebraska Manufacturing Industry Growth 1990 to 2004	
	Percent Growth	Change in Number of Jobs
Nebraska Statewide	3.1%	3,000
Metropolitan Nebraska	-8.7%	-4,100
Non-metropolitan Nebraska	14.0%	7,100

Source: US Department of Labor (Quarterly Census of Employment and Wages).

Some economic research backs the notion that the relatively strong performance of non-metropolitan areas in Nebraska may continue into the future. Non-metropolitan locations often have lower labor costs in industries such as food processing. Further, despite expectations, research has found that non-metropolitan manufacturers are not disadvantaged relative to urban manufacturers in terms of skill or technology. Gale (1998) found that non-metropolitan manufacturers in a given industry utilize the same level of technology as urban manufacturers in that industry. Teixeira (1998) finds that relatively few rural firms have difficulty finding skilled labor and that skilled labor percentages do not differ from those found in urban areas. There were some concerns identified for rural manufacturers. Gale *et al.* (1999) found that rural areas throughout the country were more likely to face difficulty finding training opportunities for employees and access to major customers. McGranahan (2001) found that rural areas in the South with low education had twice as much difficulty in attracting plant managers and professionals than areas with higher education. But educational attainment is higher in non-metropolitan Nebraska than in the non-metropolitan South.

## Trucking

The trucking industry is a rapidly growing industry in the state of Nebraska. Due to its central location along the I-80 corridor and presence of efficient firms, the Nebraska trucking industry has been able to capture a growing share of the national market. The result is that growth rates in trucking employment have exceeded national averages by a wide margin over the last 15 years. This is evident in Table 1.3 which shows that employment in Nebraska's trucking industry has grown at roughly five times the national rate and also five times as fast as in adjacent states. The only adjacent state with comparable growth rates is Iowa, where trucking employment grew 61%. The I-80 corridor also runs through Iowa.

**Table 1.3. Trucking Industry Growth 1990–2004, Nebraska, Adjacent States, and Nationwide**

	Trucking Industry Growth 1990 to 2004	
	Percent Growth	
United States	16.9%	
Nebraska	87.8%	
Adjacent States	18.4%	

Source: US Department of Labor (Quarterly Census of Employment and Wages).

Table 1.4 shows that over 12,000 trucking industry jobs were added in Nebraska from 1990 to 2004 and over 10,000 of these were added in non-metropolitan Nebraska. This gain is larger than the increase in manufacturing employment in Nebraska over the period.

**Table 1.4. Trucking Industry Growth 1990–2004, Statewide and Non-metropolitan Nebraska**

	Nebraska Trucking Industry Growth 1990 to 2004	
	Percent Growth	Change in Number of Jobs
Nebraska Statewide	87.8%	12,200
Metropolitan Nebraska	32.8%	1,800
Non-metropolitan Nebraska	122.8%	10,400

Source: US Department of Labor (Quarterly Census of Employment and Wages).



## Professional and Technical Services Industry and Information Industry

The professional and technical services industry is among the more dynamic sectors of the U.S. economy. The industry includes rapidly growing sectors such as accounting, consulting services, engineering, and architecture. The professional and technical services industry is also a producer services industry, which means that it primarily sells services to other businesses. This implies a potential customer base throughout the region and nation rather than a focus on local household customers.

**Table 1.5. US Employment Growth 1990-2004 and Average Annual Wages 2004, By Major Industry Group**

Sector	Employment 2004 (thousands)	Percent Growth 1990-2004	Average Annual Wages 2004
Natural Resources, Mining, & Construction	7,555	25.3%	\$39,613
Manufacturing	14,329	-19.0%	\$47,907
Wholesale Trade	5,655	7.3%	\$53,310
Retail Trade	15,035	14.1%	\$24,408
Transportation and Utilities	4,820	14.3%	\$44,678
Information	3,138	16.7%	\$59,240
Financial Activities	8,052	21.7%	\$61,314
Professional and Tech Ser	6,762	48.4%	\$62,536
Management of Companies & Enterprises	1,718	3.0%	\$80,054
Admin and Waste Services	7,934	71.6%	\$27,326
Education and Health Services	16,954	54.4%	\$36,641
Leisure and Hospitality	12,479	34.4%	\$16,901
Other Services	5,431	27.5%	\$25,259
Government	21,618	17.4%	\$45,419

Source: US Department of Labor (Current Employment Statistics).

Professional and technical services firms are critical to local economic growth and development because they pay high wages and have potential for strong job growth. This is evident in Table 1.5, which illustrates long-term growth (1990 through 2004) and recent average annual wages (2004) for each major industry group in the United States. Professional and technical services stand apart from most industry groups. The industry had the most rapid job growth, with employment growing nearly 50% from 1990 to 2004. Further, professional and technical services had average annual wages of more than \$62,000 in 2004, which was second highest among the 14 major industry groups.

While professional and technical services industries do tend to concentrate in the largest metropolitan areas (Thompson, 2004), the industries nonetheless are important businesses throughout the nation and are expanding in non-metropolitan Nebraska. Table 1.6 shows that the professional and technical services sector expanded by nearly as much in non-metropolitan Nebraska (46.2%) as statewide (48.7%) from 1990 to 2004. The overall increase was 2,300 jobs; a net increase of approximately 160 jobs per year.

**Table 1.6. Nebraska Professional and Technical Services Employment Growth**

	Nebraska Professional Service Employment Growth 1990 to 2004	
	Percent Growth	Change in Number of Jobs
Nebraska Statewide	48.7%	11,500
Metropolitan Nebraska	49.4%	9,200
Non-metropolitan Nebraska	46.2%	2,300

Source: US Department of Labor (Quarterly Census of Employment and Wages).

Table 1.6 demonstrates that non-metropolitan Nebraska is participating in the tremendous growth of these cutting edge industries.<sup>7</sup> A natural question, however, is whether these businesses are primarily serving local markets or whether professional and technical services industries are contributing to the economic base of rural Nebraska.

Research suggests that such producer service businesses can broaden the economic base of non-metropolitan areas (Smith, 1984) by providing another group of exporting businesses in addition to agriculture, manufacturing, and tourism. Many producer service businesses in non-metropolitan areas export services to customers outside the region. For example, Beyers and Lindahl (1996) found that approximately 40% of non-metropolitan services businesses, exclusive of the legal services industry, had a large share of customers outside their local area. Porterfield and Pulver (1991) also found that non-metropolitan service providers exported to clients outside the local area.

Porterfield and Pulver (1991) found that even though producer service businesses export less than manufacturing businesses (14.3% versus 49.4% in 1986), they have established a strong connection to local economies. Service producers on average purchased more non-labor inputs in the region than did manufacturers (70% and 20%, respectively, for the year 1986), thus creating a higher economic impact in the local community (Porterfield and Pulver, 1991).

## Information Industry

The information industry is another of the dynamic producer services industries in the economy. The information industry, for example, includes software publishers and web site hosting and service firms. The industry also contains cable, telephone, publishing, and broadcasting systems. While portions of the information industry have a local focus (such as newspapers and movie theatres), other portions such as software publishing, book publishing, printing, and web design have the same type of export potential identified for professional and technical services industry.

As seen above in Table 1.5, the information industry also was a high wage and growing industry. In 2004, the information industry had average annual wages of over \$59,000, the fourth highest among the major industry groups. This information industry expanded employment nearly 17% from 1990 to 2004.

The industry also has seen growth in non-metropolitan Nebraska. Table 1.7 shows that information industry employment grew in non-metropolitan Nebraska (12.6%), while declining statewide (-2.7%) from 1990 to 2004. This decline statewide was largely due to losses in Omaha between 2000 and 2004.

**Table 1.7. Nebraska Information Industry Employment Growth 1990 to 2004**

	Nebraska Information Employment Growth 1990 to 2004	
	Percent Growth	Change in Number of Jobs
Nebraska Statewide	-2.7%	-600
Metropolitan Nebraska	-6.1%	-1,100
Non-metropolitan Nebraska	12.6%	500

Source: U.S. Department of Labor (Quarterly Census of Employment and Wages).

## Tourism

Tourism is an important industry in the state of Nebraska, one that adds economic diversification and offers entrepreneurial opportunities. Nebraska's tourism industry has been growing in recent years.

<sup>7</sup> Note that the study does not focus on financial activities, which are another key producer service. Most insurance underwriters in Nebraska are located in the metropolitan centers of Lincoln and Omaha.

According to the Nebraska Department of Economic Development (NEDED), between 1990 and 2003 total travel expenditures in Nebraska increased 21.1%, visitors increased 8.0%, and income received almost doubled (NEDED, 2004). Consequently, industry-related employment growth was 43.3% between those years (NEDED, 2004). While Nebraska is not a major tourist destination, there are numerous tourist attractions in the state, in both metropolitan and non-metropolitan areas.

One way to gauge the growth of tourism in Nebraska is to examine growth in lodging tax collections. Real (inflation adjusted) state lodging tax collections grew 42.9% between 1990 and 2005 as is seen in Table 1.8. According to the Nebraska Department of Economic Development (2005), this reflects “growth in Nebraska motel and hotel room numbers, occupancy, and rates” (NEDED, 2005). Between 1990 and 2005 growth in tourism appears to have been equally robust in non-metropolitan areas as it was statewide. This can be seen in Table 1.8 which illustrates estimates for growth in lodging revenue, based on lodging tax receipts and lodging tax rates prevalent in individual Nebraska counties. Estimated lodging revenue in non-metropolitan Nebraska grew at just below the statewide rate, illustrating the viability of the industry in non-metropolitan areas.

**Table 1.8. Percent Growth in Real<sup>1</sup> Lodging Revenue 1990 to 2005**

	Nebraska Lodging Revenue Growth 1990 to 2005 Percent Growth
Nebraska Statewide	42.9%
Metropolitan Nebraska	45.4%
Non-metropolitan Nebraska	39.9%

Source: Nebraska Department of Economic Development.

<sup>1</sup>Real revenue refers to revenue adjusted for inflation.

Growth in tourism in non-metropolitan Nebraska creates both job and entrepreneurship opportunities. There is also an impact on property values. Bevins and Zwick (1992) noted much faster growth in property values in communities with significant recreation activity. There are, however, potential concerns regarding the tourism industry. In contrast to the high wages of other industries such as manufacturing, trucking, or information and professional and technical services, Wong (1996) observes that the local employment structure in tourism is considered seasonal and characterized by low status and low pay. Moreover, local tourism implies land and infrastructure constraints, potential negative externalities to local residents and increasing local government expenditures in areas such as public safety, transportation, parks and recreation, and administrative costs (Wong, 1996; Teisl and Reiling, 1992). These concerns do not imply that tourism should be excluded from economic development efforts. After all, tourism does bring resources and income into a community. Further, some members of any community are likely to be interested in obtaining part-time and seasonal work and may enjoy working with the public. Such concerns do suggest that tourism should not be pursued as the sole economic development strategy in non-metropolitan areas. A local economy needs other types of employment opportunities as well, including in the industries discussed above.

### **III. Non-Metropolitan Nebraska Regions**

For this study, we identified nine economic regions for the state of Nebraska. Of the nine regions, two were principally metropolitan in nature. The remaining seven regions, which are primarily non-metropolitan in nature, are the focus of this analysis. The non-metropolitan regions were defined based on clusters of mid-sized cities (and adjacent rural areas), type of agricultural production, and proximity to key economic features, such as Interstate 80 or cities in adjacent states (such as Sioux City, Iowa). Each of the industries cited above will be analyzed for these seven economic regions.

Map 1.1 depicts the nine Nebraska economic regions and the counties included in each region. Regions 1 and 2 primarily capture the metropolitan areas of Nebraska, while Regions 3 through 9 primarily take in the non-metropolitan areas. Each non-metropolitan region includes one or more mid-size cities.

The nine regions comprise the different economic regions of Nebraska.

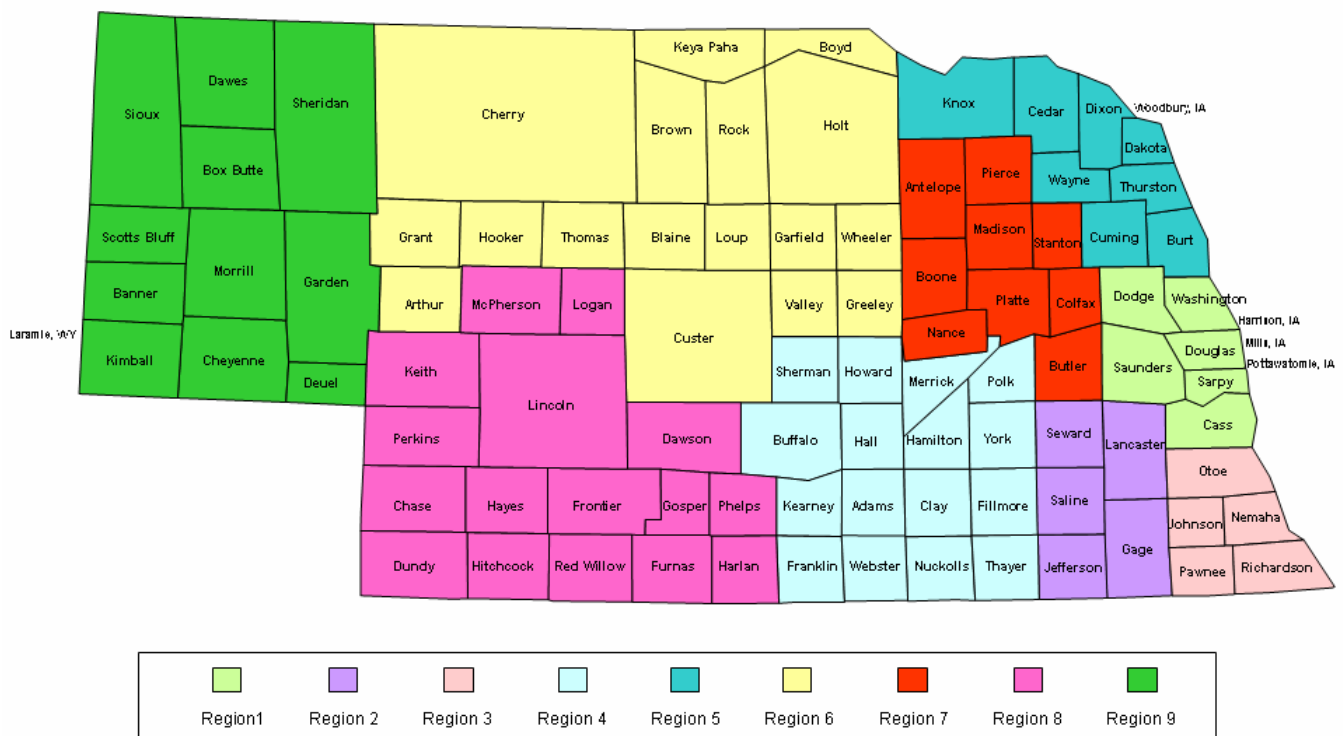
- Region 1 includes Omaha and counties where most of its suburbs are located.
- Region 2 includes Lincoln and counties with substantial commuting to Lincoln or to other adjacent counties in the region.
- Region 3 (Southeast Nebraska) includes the agricultural regions of Southeast Nebraska. The area also contains Nebraska City.
- Region 4 (South Central Nebraska) is defined in large part by counties that are in the vicinity of Interstate 80 and by the Tri-Cities of Grand Island, Kearney, and Hastings. This region also contains agricultural counties with a significant level of crop production in addition to livestock.
- Region 5 (Northeast Nebraska) encompasses the portion of northern and eastern Nebraska that is adjacent to Sioux City, Iowa and areas of South Dakota (such as Yankton). The area also has a substantial level of crop production in addition to livestock.
- Region 6 (Sandhills) is composed of counties in the Sandhills. Livestock production is the key industry. The largest towns in the region include Broken Bow and Valentine.
- Region 7 (Norfolk/Columbus) is defined by the mid-sized cities of Columbus and Norfolk. These two cities give the region a substantial manufacturing base. The region also contains surrounding counties with commuting links to the two cities. The region also has substantial crop and livestock production.
- Region 8 (Southwest Nebraska) also is defined in large part by counties that are in the vicinity of Interstate 80 and by the cities of North Platte, Lexington, and Ogallala. Relative to Region 4, Region 8 contains counties with greater emphasis on livestock production. The region also contains substantial tourism activity due to reservoirs such as Lake McConaughy.
- Region 9 (Western Panhandle) encompasses the Panhandle area of Nebraska. Scottsbluff is the largest city in the region. Agricultural counties in the region focus on crops such as wheat, sugar beets and dry beans, as well as livestock. The region also contains several major tourism attractions.

In summary, these nine regions represent recognizable areas of the Nebraska economy and include the principle cities and counties in each of these economic areas. There are individual counties on the border of each region where it is possible to argue that the county might be placed in a different region or that the regional boundary might be drawn a bit differently. We utilized a consistent methodology to assign such counties to a particular region. In particular, we utilized a set of multi-county labor market areas developed for Nebraska (and the nation) by the Economic Research Service of the United States Department of Agriculture (Tolbert and Sizer, 1996). These labor market areas are groups of counties linked by commuting. Counties on the border of each Nebraska regions were placed in the same region as other counties in their labor market area.<sup>8</sup>

---

<sup>8</sup> Some labor market areas contain counties in adjacent states. Only Nebraska counties were included in the analysis.

Map 1.1. Nebraska's Economic Regions



## IV. Conclusion

Limited population growth and declining job opportunities in agriculture have raised concerns about the economic future of non-metropolitan Nebraska. While agriculture continues to provide substantial economic opportunities and support operator incomes, there is a need to diversify the economic base of rural Nebraska. Such diversification would imply the growth of other industries that can export goods and services to customers around the region and nation and thereby support continued economic growth in non-metropolitan Nebraska.

We have presented evidence indicating that at least five other basic industries have been expanding in non-metropolitan Nebraska over the last decade and half: manufacturing, trucking, professional and technical services, information, and tourism. These expanding industries suggest the potential for a diversified economic expansion for non-metropolitan Nebraska regions, with multiple pillars of growth in the non-metropolitan economy. In the balance of this report we will examine the recent expansion of each of these industries in seven non-metropolitan Nebraska regions and the potential for future expansion. The seven regions capture the distinct non-metropolitan economies found throughout the state.

### A. Why Other Industries Were Not Included

This report will focus on agriculture and five other key industries: manufacturing, trucking, professional and technical services, information, and tourism. We have chosen to focus on these six industries because these industries form key pillars for sustaining and growing the non-metropolitan Nebraska economy. These are industries that export; that is, those that provide goods and services to customers based outside non-metropolitan Nebraska. Export sales bring new income into non-metropolitan economies and help support employment in industries that primarily sell to local customers. These six industries are therefore key to non-metropolitan Nebraska's future.

There are many other industries that we were not able to examine but which are nonetheless important to the success of non-metropolitan areas. Three prominent examples are the education, health care, and retail industries. Education is central to developing the skill and earnings power of the non-metropolitan Nebraska workforce; and more generally, education is a critical policy issue in non-metropolitan Nebraska. The education sector also is the largest employer, or among the largest employers, in non-metropolitan counties. Because education is most often publicly provided, at least among primary and secondary education, most employment in education is government employment. This study is focused on private sector employment opportunities in non-metropolitan Nebraska.

As for health care and retail, both industries have provided job growth to non-metropolitan Nebraska, but also have faced consolidation and ever-growing competition from firms in metropolitan Nebraska. Still, the success of these industries remains important to the future of non-metropolitan Nebraska. A large and successful health care industry in mid-sized towns and cities in non-metropolitan Nebraska is important to maintaining income within these areas, rather than seeing health care dollars flow to Lincoln, Omaha, and other states. Quality health care also is a critical issue in maintaining the quality of life in non-metropolitan Nebraska, a factor that helps to maintain population and attract former residents to return. A vibrant and diverse retail sector may also be key for the same reasons. A former resident considering a return to non-metropolitan Nebraska hopes to find the vibrant retail sector that he or she remembers from childhood.

The authors recognize that the performance of the health care and retail industries in Nebraska is of great importance in terms of retaining income and attracting population. The current study is focused specifically upon agriculture and industries that have joined, and can continue to join, agriculture as part of the export base of non-metropolitan Nebraska. That is why we focus on the six industries that we do.<sup>9</sup>

---

<sup>9</sup> Further, failure to maintain or grow these basic industries naturally would also limit potential to grow health care, retail, and key locally-oriented sectors.

## Chapter 2: Manufacturing

### Ernie Goss

#### I. Overview

Robert Haig developed economic base analysis in 1928 in his work the *Regional Plan of New York*. He hypothesized that economic activity in an area is divided between basic and non-basic. As an offshoot, the economic base theory promoted the thesis that the means of strengthening and growing the local economy is to develop and enhance the basic sector. The basic sector was therefore identified as the engine of the economy, with basic industries exporting products.<sup>10</sup> As such, public policymakers assume that manufacturing, a basic industry, is an important driver of overall state economic growth. Today, economic development policy is often shaped around expanding manufacturing firms and jobs. The remainder of this chapter examines Nebraska's experience in attracting, retaining, and expanding jobs, earnings, and output in food processing, which accounts for almost one-third of Nebraska's manufacturing jobs, and in manufacturing, excluding food processing.<sup>11</sup>

#### II. The Importance of Nebraska's Manufacturing Sector

In 2004, Nebraska's overall value added, termed Gross State Product (GSP), was 0.58 percent of the nation's, while the state's share of US employment was 0.70 percent. On the other hand, Nebraska's share of the nation's GSP in manufacturing was 0.42 percent and 1.14 percent in food processing. Thus, compared to the rest of the US, Nebraska has a lower percent of manufacturing activity, but a higher percent of food processing production.

Figures 2.1 and 2.2 show how Nebraska's share of US and West North Central<sup>12</sup> (WNC) manufacturing and food processing GSP varied between 1998 and 2004.<sup>13</sup> As indicated, Nebraska's share of both manufacturing and food processing output was lower in 2004 than 1998 and has declined sharply since 2001. This was the case in comparison with either the nation or the region.

---

<sup>10</sup>[http://en.wikipedia.org/wiki/Economic\\_base\\_analysis](http://en.wikipedia.org/wiki/Economic_base_analysis)

<sup>11</sup>Throughout this chapter, manufacturing numbers will not include the manufacturing industry of food processing.

<sup>12</sup>States composing the West North Central Region are: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

<sup>13</sup>2004 is the latest year for which GSP data are available.

Figure 2.1. Nebraska Share of US GSP in Manufacturing and Food Processing GSP 1998 and 2004

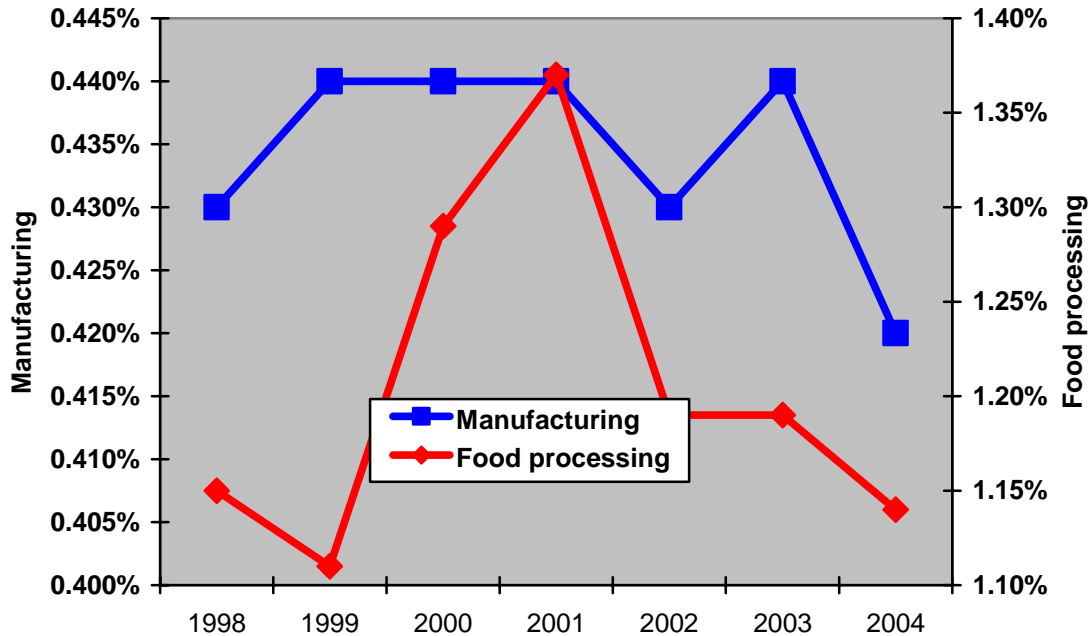
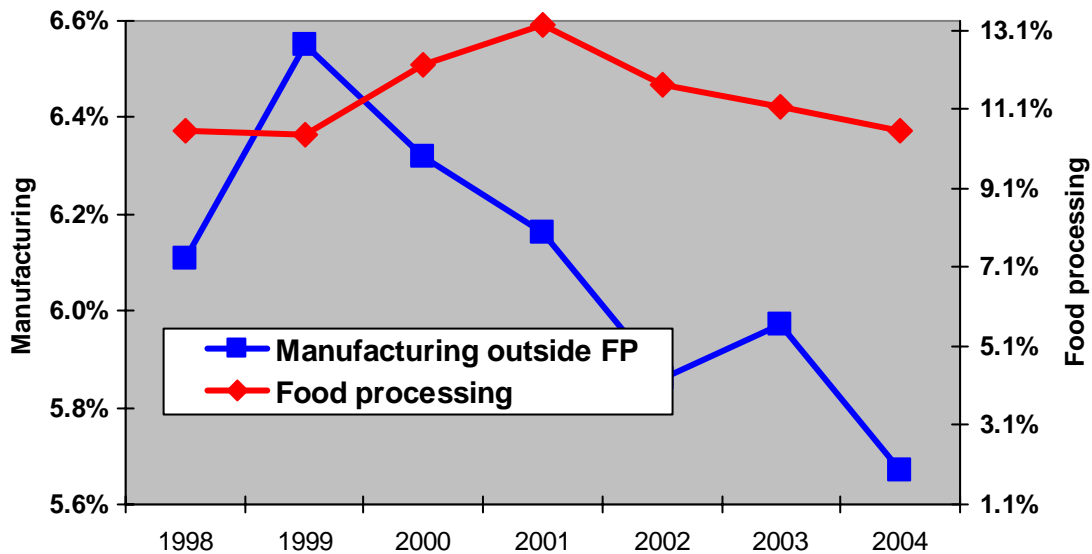


Figure 2.2. Nebraska Share of WNC GSP in Manufacturing and Food Processing GSP 1998 and 2004



Despite accounting for less manufacturing output than expected based on total employment, Nebraska has performed well in expanding manufacturing jobs since 1998. Figures 2.3 and 2.4 show Nebraska's share of US and WNC manufacturing and food processing employment from 1998 to 2006. Between 1998 and 2006, Nebraska's manufacturing employment dropped 12.6 percent, while US and WNC



manufacturing employment plummeted 20.5 percent and 13.6 percent, respectively. Likewise, Nebraska's job growth in food processing outperformed that of the US and region, decreasing 3.4 percent between 1998 and 2006 while the nation and WNC Region lost 5.6 percent and 6.5 percent of food processing employment, respectively.

Figure 2.3. Nebraska Share of US Manufacturing and Food Processing Employment 1998 to 2006

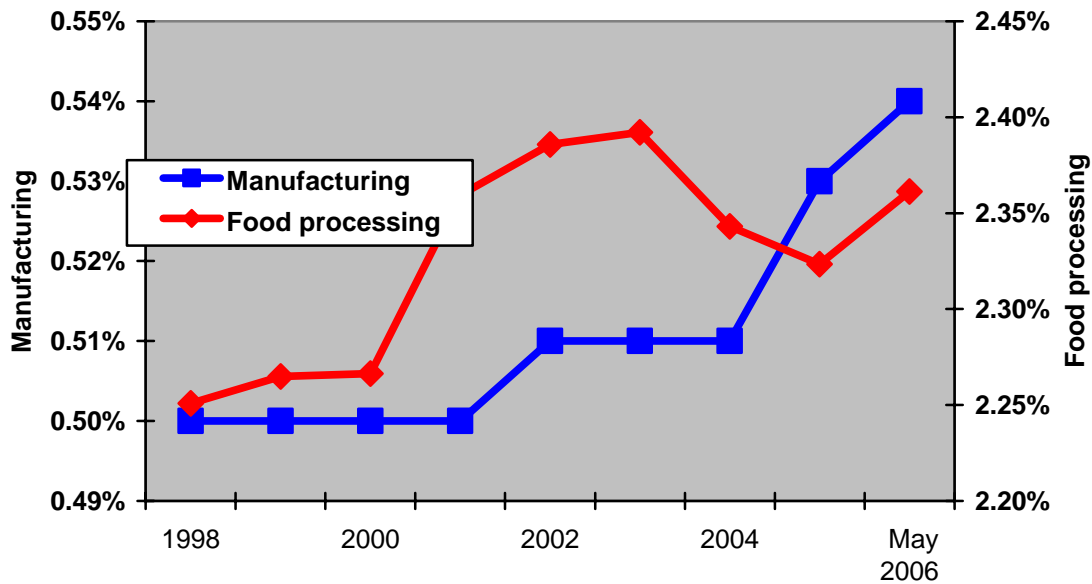
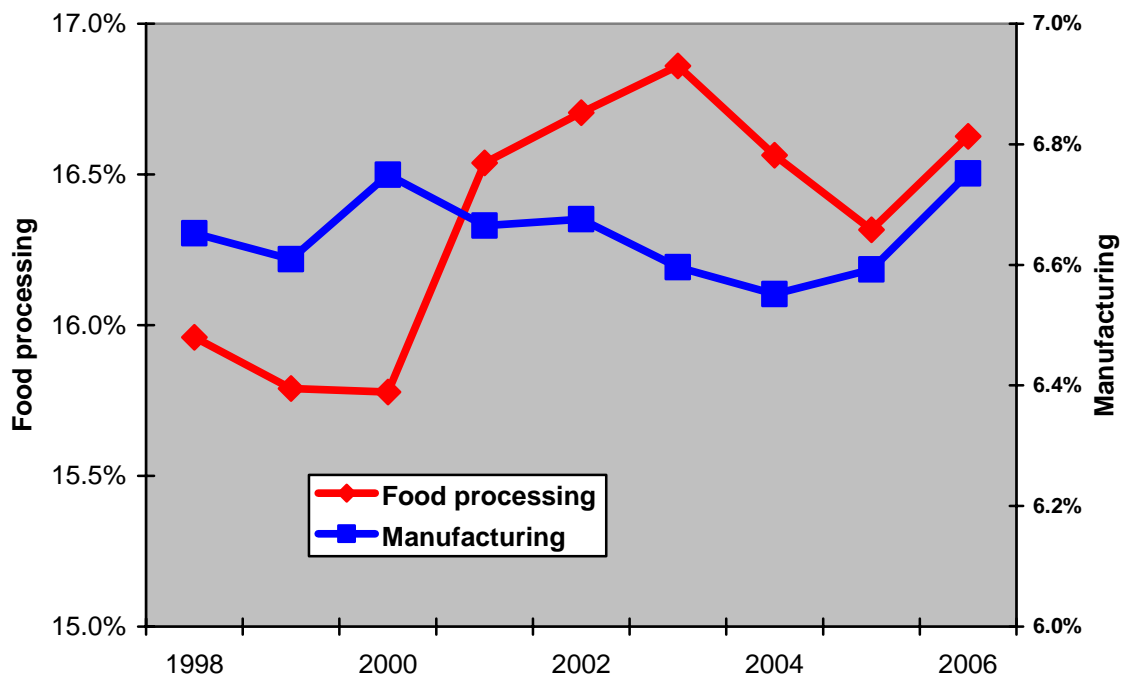


Figure 2.4. Nebraska Share of WNC Employment 1998 to 2006



As profiled between 1998 and 2006, Nebraska's share of US employment in manufacturing grew from 0.50 percent to 0.54 percent and in food processing from 2.25 percent to 2.4 percent. In terms of the WNC Region, Nebraska's share of regional employment in manufacturing advanced from 6.65 percent

to 6.75 percent and in food processing expanded from 15.96 percent to 16.63 percent. As presented in Figures 2.3 and 2.4, Nebraska's share of food processing employment dipped in 2004. This drop was likely the result of the discovery in the US of a case of bovine spongiform encephalopathy (BSE) in December 2003 and the subsequent beef embargo by Japan and several other important Nebraska trading partners.<sup>14</sup>

Together the previous figures show that Nebraska performed well in terms of manufacturing and food processing jobs, but lost ground in respect to output or value added in both areas. Figures 2.5 and 2.6 focus on this productivity issue and compare the ratio of Nebraska output per worker to that of the US and WNC between 1998 and 2004 in manufacturing and food processing. Not only did Nebraska begin the period in a lagging position, the state's output per worker declined relative to the US in manufacturing and food processing.

Figure 2.5. Ratio of Nebraska Output per Worker to US Output per Worker, 1998-2004

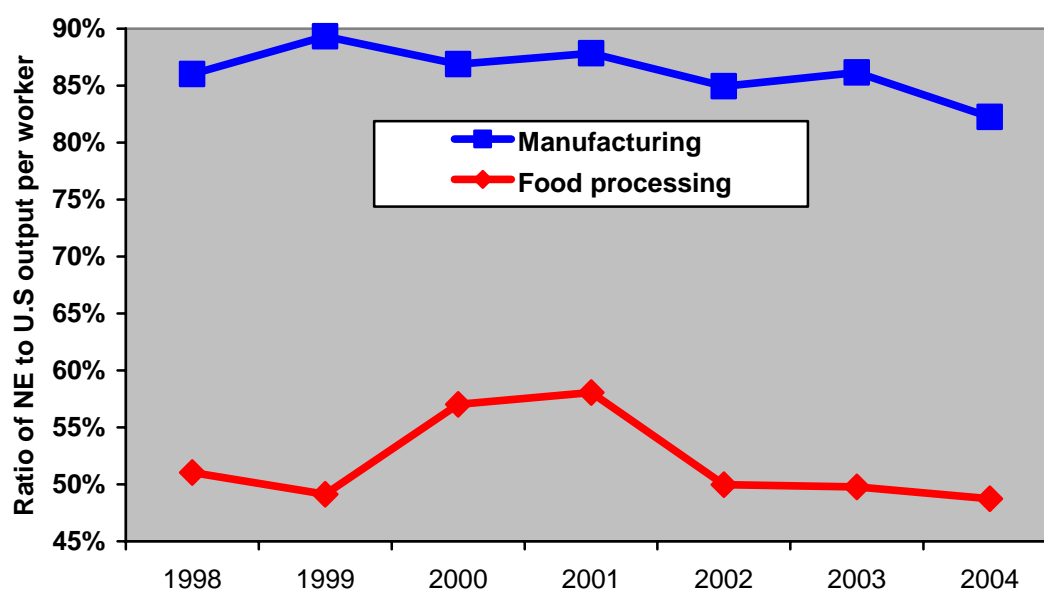
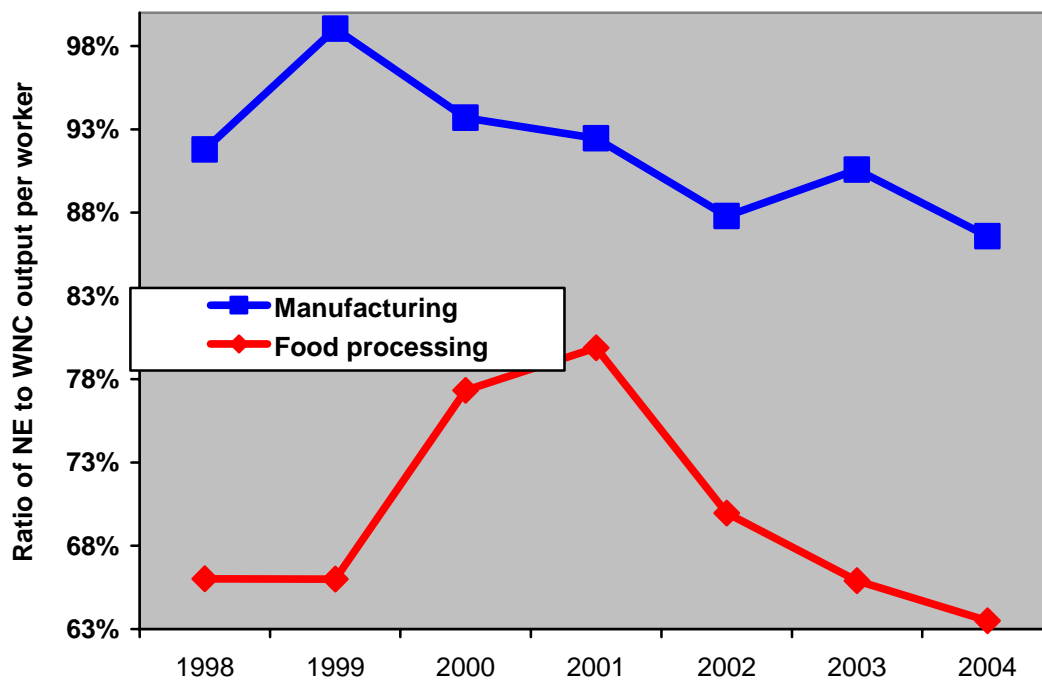


Figure 2.6 conveys much the same message as Figure 2.5 with Nebraska output per worker beginning the period with lower output per worker in manufacturing and food processing than the WNC Region. Furthermore relative to the region, the trend in output per worker in manufacturing and food processing was less favorable in Nebraska than in the region.

<sup>14</sup> <http://www.mofa.go.jp/region/n-america/us/economy/bse/development.html>

Figure 2.6. Ratio of Nebraska Output per Worker to WNC Output per Worker, 1998-2004



Figures 2.5 and 2.6 indicate that, as often asserted, Nebraska's manufacturing economy is more heavily distributed in areas distinguished by lower value added products. For example according to Bureau of Labor Statistics (2006) data, 73.7 percent of Nebraska's, but only 30.0 percent of the nation's employment in food processing in 2004, was in animal slaughtering and processing.<sup>15</sup> At the national level, value added per worker in animal slaughtering and processing was 53.5 percent and 47.0 percent of that in beverages and pet and animal food processing industry, respectively (U.S. Bureau of Economic Analysis). Nebraska's location quotient for animal slaughtering and processing in 2005 was 7.20, indicating that the state has more than seven times the nation's concentration in this lower productivity industry.

One expects this focus on lower productivity industries to negatively affect relative wages in the state. Figure 2.7 shows Nebraska wages and salaries per worker as a percent of US wages and salaries per worker for manufacturing and food processing. As expected, Nebraska's wages and salaries per worker began and ended the period lower than the US for both manufacturing and food processing. Average wages and salaries for Nebraska's food and processing workers, however, grew more quickly than US food and processing workers. Between 1998 and 2004, Nebraska food and processing workers earnings grew from 89.3 percent of national food processing workers to 91.0 percent of US food processing workers. On the other hand, Nebraska manufacturing average wage and salaries were 74.3 percent in 1998 and rose to 76.9 percent in 2004.

<sup>15</sup>Data for the animal slaughtering and processing were not available for all the states in the WNC Region.

Figure 2.7. Wages & Salaries per Worker, Nebraska as % of US for Manufacturing and Food Processing, 1998-2004

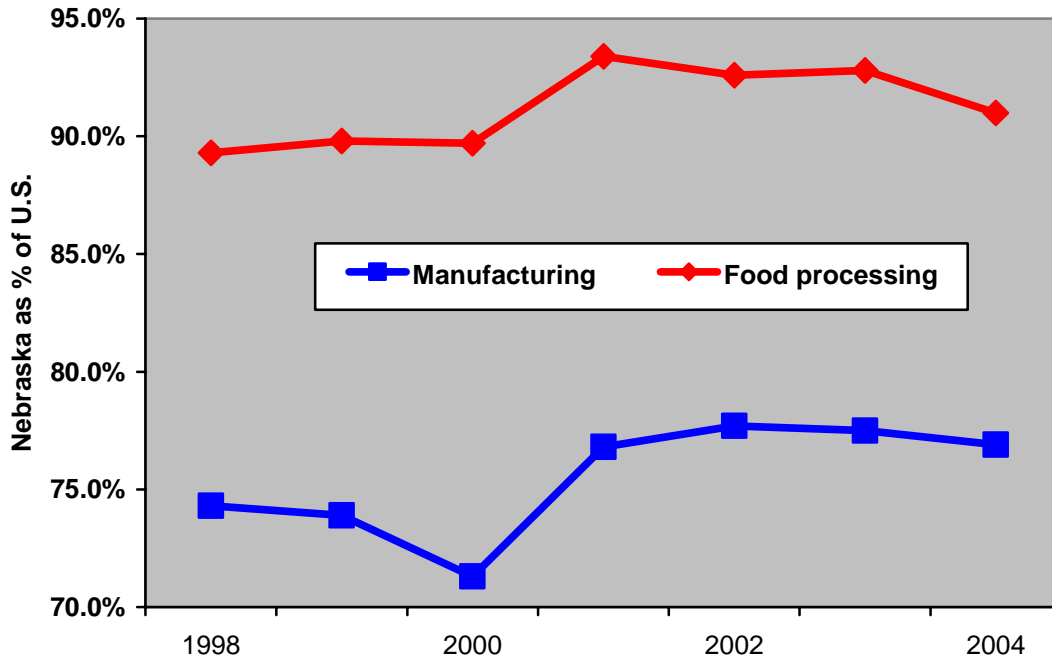
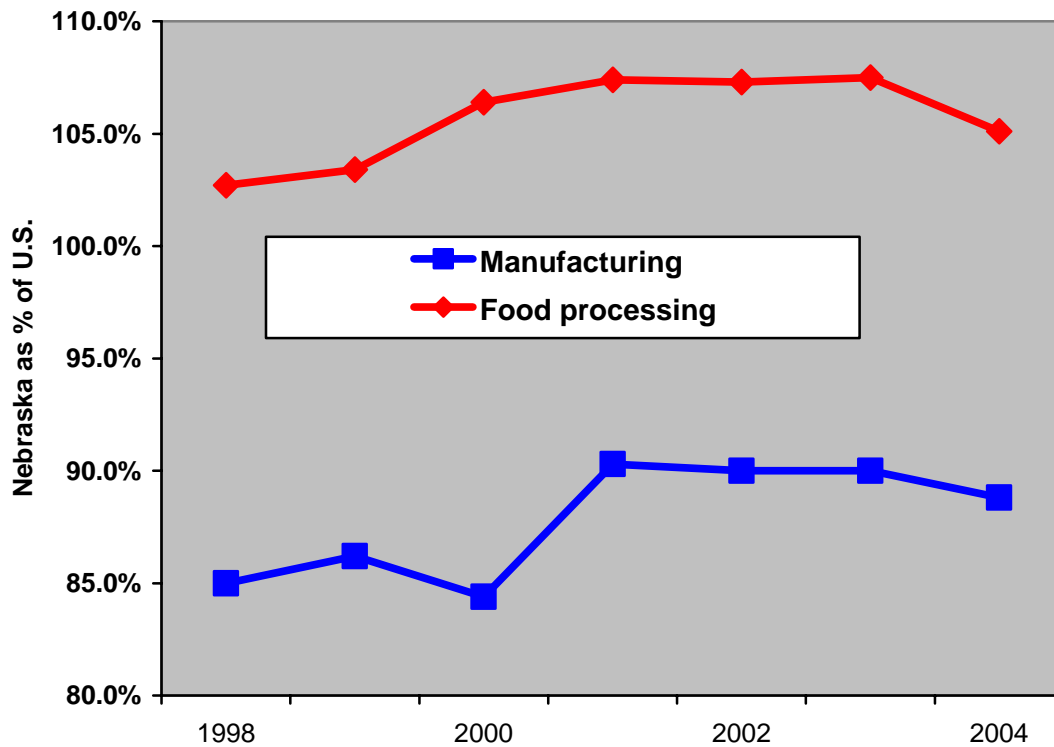


Figure 2.8 shows Nebraska wages and salaries per worker as a percent of WNC wages and salaries per worker for manufacturing and food processing. Nebraska's wages and salaries per worker began the period lower than the WNC for manufacturing. Average wages and salaries for Nebraska's food and processing workers, however, began the period in a more favorable wage position than WNC's food processing workers. Furthermore, the Nebraska wage advantage in food processing grew over the period. Between 1998 and 2004, Nebraska food and processing workers earnings grew from 102.7 percent of WNC food processing workers to 105.1 percent of WNC food processing workers. On the other hand, Nebraska manufacturing average wage and salaries as a percent of WNC were 85.0 percent in 1998 and rose to 88.8 percent in 2004.

Figure 2.8. Wages & Salaries per Worker, Nebraska as % of WNC for Manufacturing and Food Processing, 1998-2004



The state data may be masking changes at the sub-state level. Tables 2.1 and 2.2 list manufacturing and food processing statistics by Nebraska region for 1998 and 2004. The data are from the United States Census Bureau's *County Business Patterns* database. As presented, every region in the state lost manufacturing jobs over the period, with Region 9 incurring the largest loss at 19.1 percent, and Region 5 experiencing the smallest drop at 1.5 percent. None of the regions, however, suffered a percentage loss as large as the US. While losing manufacturing jobs, four regions (2, 4, 6, and 7) gained manufacturing firms and three regions (1, 3, and 8) lost manufacturing establishments. Overall, the state added a net of five manufacturing firms, an increase of 0.3 percent. In 2004 there was wide variation in the average number of employees per firm, ranging from 13.7 in Region 6 to 61.8 in Region 3. Data in Table 2.1 show that in manufacturing, the state added firms, lost jobs, and endured a decline in employment per firm.

**Table 2.1. Manufacturing Statistics by Nebraska Region, 1998-2004**

Region	1998			2004			Growth 1998-2004	
	Employment	Firms	Employment Per Firm	Employment	Firms	Employment Per Firm	Employment	Firms
1	25,331	642	39.5	21,240	621	34.2	-16.1%	-3.3%
2	18,074	304	59.5	16,727	312	53.6	-7.5%	2.6%
3	1,630	28	58.2	1,546	25	61.8	-5.2%	-10.7%
4	11,160	273	40.9	10,365	278	37.3	-7.1%	1.8%
5	2,244	79	28.4	2,211	79	28.0	-1.5%	0.0%
6	716	50	14.3	698	51	13.7	-2.5%	2.0%
7	9,118	130	70.1	7,746	149	52.0	-15.0%	14.6%
8	2,346	86	27.3	2,136	82	26.0	-9.0%	-4.7%
9	2,024	74	27.3	1,637	74	22.1	-19.1%	0.0%
State	72,640	1,666	43.6	64,303	1,671	38.5	-11.5%	0.3%

Source: US Census Bureau, *County Business Patterns*

Table 2.2 lists food processing statistics by Nebraska region for 1998 and 2004. As presented, three regions (1, 4, and 9) lost food processing jobs, while six regions (2, 3, 5, 6, 7, and 8) added food processing jobs. The variation in growth rates ranged from Region 4's 10.1 percent loss to Region 3's 136.8 percent gain. Over the same period of time, four regions (2, 4, 5, and 9) suffered a decline in the number of food processing firms, and five regions (1, 3, 6, 7, and 8) experienced an increase in the number of food processing establishments. Combined, the state added a net of four food processing firms from 1998 to 2004, an increase of 1.2 percent. In 2004 there was wide variation in the average number of employees per food processor, ranging from 12.4 in Region 6 to 301.3 in Region 5. Data for food processing are somewhat contrary to that of manufacturing, with increases in the number of jobs, firms, and average firm size.

**Table 2.2. Food Processing Statistics by Nebraska Region, 1998-2004**

Region	1998			2004			Growth 1998-2004	
	Employment	Firms	Average Firm Size	Employment	Firms	Average Firm Size	Employment	Firms
1	11,359	96	118.3	11,281	108	104.5	-0.7%	12.5%
2	3,197	39	82.0	4,611	38	121.3	44.2%	-2.6%
3	503	10	50.3	1,191	14	85.1	136.8%	40.0%
4	5,909	46	128.5	5,314	44	120.8	-10.1%	-4.3%
5	6,072	32	189.8	6,327	21	301.3	4.2%	-34.4%
6	176	13	13.5	224	18	12.4	27.3%	38.5%
7	4,939	35	141.1	6,261	35	178.9	26.8%	0.0%
8	3,954	27	146.4	3,969	28	141.8	0.4%	3.7%
9	747	25	29.9	694	21	33.0	-7.0%	-16.0%
State	36,855	323	114.1	39,871	327	121.9	8.2%	1.2%

Source: US Census Bureau, *County Business Patterns*

### III. Analysis of Job Gains and Losses

Employment data in the previous tables show a significant increase in Nebraska's relative position in the manufacturing sector outside food processing and in food processing. In order to determine the impact of significant changes in a state's economic environment such as tax incentives or export

aggressiveness, it is essential that the researcher sort the growth that was produced simply 1) by an expanding national economy, 2) by having a favorable mix of industries, and 3) by competitive factors such as incentives and export policy. Shift-share analysis is a technique that sorts growth into these three elements and is now used to examine this change (Hanham, 2000).

Essentially, shift-share analysis accounts for the competitiveness of a state's industries. This analysis decomposes employment changes within an economy over a specific period of time into mutually exclusive factors. By interpreting data provided by shift-share, policymakers can explore the advantages, or disadvantages, that their local area enjoys, as well as identify growth or potential growth industries that are worthy of further expansion.

Shift-share analysis decomposes employment growth (or decline) in a state over a given time period into three components:<sup>16</sup> (1) *a national growth effect*, ( $NG_{ij}$ ) which is that part of the change in employment in an area ascribed to the rate of growth of employment in the nation as a whole, (2) *an industry mix* ( $IM_{ij}$ ) effect, which is the amount of change the state or region would have experienced had each of its industries grown at their national rates, less the national growth effect, and (3) *a competitive effect*, ( $C_{ij}$ ) which is the difference between the actual change in employment, and the employment change to be expected if the industrial sector grew at the national rate. It is this last element that is ascribed to local development policies. The sum of these three effects equals the actual change in total employment within an area over a prescribed time period. Equations (1), (2), and (3) show how each component is calculated.

$$(1) N_{\text{manufacturing, NE}} = E_{\text{manufacturing, NE}} * n$$

where  $E_{\text{manufacturing, NE}}$  is the number of manufacturing employees in Nebraska in 1998 and  $n$  = growth rate across all industrial sectors in the United States between 1998 and 2004.

$$(2) IM_{\text{manufacturing, NE}} = E_{\text{manufacturing, NE}} * (n_{\text{manufacturing}} - n)$$

where  $n_{\text{manufacturing}}$  is the growth rate in US manufacturing between 1998 and 2004.

$$(3) C_{\text{manufacturing, NE}} = E_{\text{manufacturing, NE}} * (r_{\text{manufacturing, NE}} - n_{\text{manufacturing}})$$

where  $r_{\text{manufacturing, NE}}$  is the growth rate in Nebraska manufacturing between 1998 and 2004.

The shift-share elements can be calculated for portions of the Nebraska manufacturing sector and for each region. For example, the preceding data indicate that Nebraska had a relative advantage to the US in both manufacturing jobs and in food processing jobs. Thus, one could calculate the shift-share elements for the manufacturing sector and for food processing by region. Tables 2.3 and 2.4 present the shift-share analysis of the manufacturing sector and the food processing industry for Nebraska for the period 1998 and 2004.

According to data in Table 2.3, Nebraska lost 8,337 manufacturing jobs outside food processing between 1998 and 2004. Using shift-share analysis, this sector should have gained 3,175 manufacturing jobs due to an expanding national economy and lost 17,625 manufacturing jobs due to the state's concentration in manufacturing. Data in Table 2.3 show that the state, due to increasing competitiveness,

---

<sup>16</sup>In each of the components, the subscript "i" refers to the industry sector (e.g., manufacturing or food processing) and the "j" refers to the area (e.g., Region 2).

gained 6,113 manufacturing jobs. Moreover, every Nebraska region gained jobs due to increasing competitiveness, with this gain ranging from 0.8 percent in Region 9 to 18.4 percent in Region 5.

**Table 2.3. Shift-Share of Manufacturing Outside Food Processing, 1998-2004**

Region	Total Employment Change	National Growth	Industry Mix	Competitive Effect	
				Jobs	Percent of Region's Manufacturing Jobs
1	-4,091	1,107	-6,146	948	3.7%
2	-1,347	790	-4,385	2,248	12.4%
3	-84	71	-395	240	14.7%
4	-795	488	-2,708	1,425	12.8%
5	-34	98	-544	413	18.4%
6	-18	31	-174	124	17.4%
7	-1,372	399	-2,212	442	4.8%
8	-210	103	-569	257	10.9%
9	-387	88	-491	16	0.8%
State	-8,337	3,175	-17,625	6,113	8.4%

According to data in Table 2.4, Nebraska gained 3,016 food processing jobs between 1998 and 2004. Using shift-share analysis, this industry should have gained 1,611 manufacturing jobs due to an expanding national economy, but lost 3,062 manufacturing jobs due to the state's concentration in this industry. Data in Table 2.4 show that the state, due to increasing competitiveness, gained 4,467 food processing jobs or 12.1 percent. In fact, every Nebraska region, except Regions 4 and 9, gained jobs due to increasing competitiveness, with the change ranging from -6.1 percent in Region 4 to 140.7 percent in Region 3.

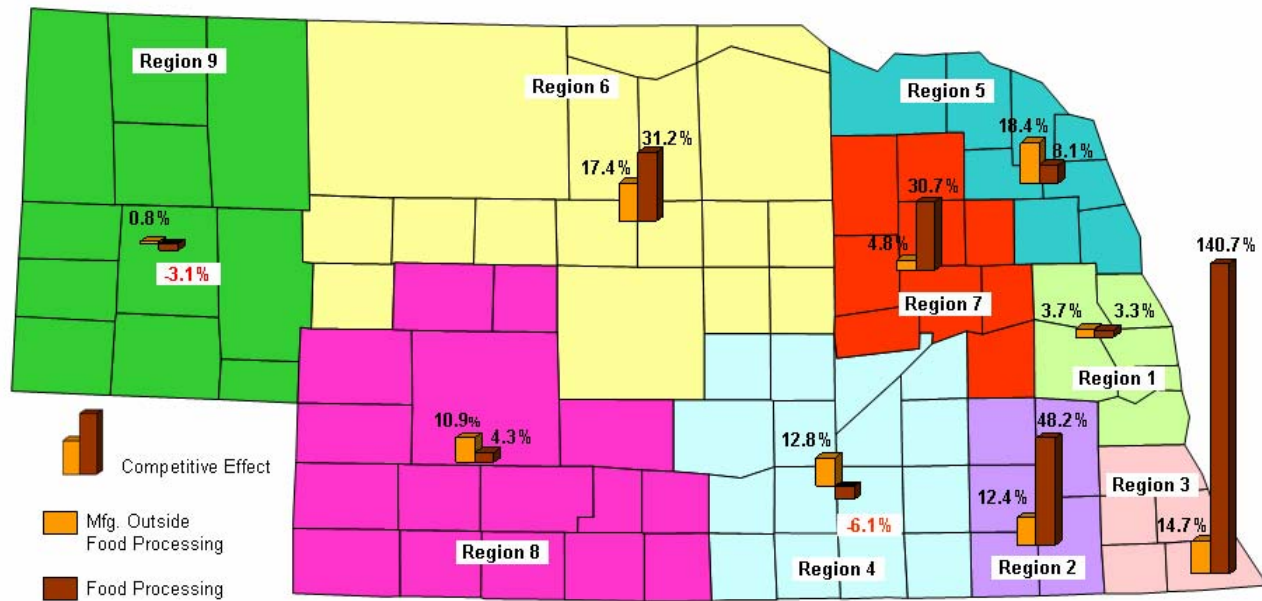
**Table 2.4. Shift-Share of Food Processing, 1998-2004**

Region	Total Employment Change	National Growth	Industry Mix	Competitive Effect	
				Jobs	Percent of the Region's Food Processing Jobs
1	-78	497	-944	370	3.3%
2	1,414	140	-266	1,540	48.2%
3	688	22	-42	708	140.7%
4	-596	258	-491	-363	-6.1%
5	255	265	-504	493	8.1%
6	48	8	-15	55	31.2%
7	1,322	216	-410	1,516	30.7%
8	15	173	-328	171	4.3%
9	-53	33	-62	-23	-3.1%
State	3,016	1,611	-3,062	4,467	12.1%

Figure 2.9 portrays the competitive effects by region for manufacturing and for food processing between 1998 and 2004. Shift-share analysis confirmed data in earlier figures and tables indicating that Nebraska experienced a disproportionate success in manufacturing and food processing jobs between 1998 and 2004. The next section examines policies that may have contributed to strong job gains, but weak output growth.



Figure 2.9. Competitive Effect by Nebraska Region, 1998-2004



#### IV. Factors Contributing to Nebraska's Manufacturing Competitiveness<sup>17</sup>

What accounts for Nebraska's competitive advantage in manufacturing and food processing jobs? In this section, we provide a brief overview of a) the various economic development incentive programs that Nebraska offers that apply to the manufacturing sector and food processing industry, and b) the statutory tax policies that apply to manufacturing and food processing firms in Nebraska.

##### A. Development Incentives

The Nebraska state government has offered programs to encourage economic development and growth for a number of years. The most notable program is the 2005 enacted *Nebraska Advantage* (LB312), which provides a variety of tax credits to businesses for new investment and job creation. This program replaces the *Employment and Investment Growth Act* (often termed LB775), which has been the dominant tax incentive program in Nebraska since 1987.<sup>18</sup>

For firms that apply for benefits that undertake a qualifying investment, *Nebraska Advantage* offers refunds on sales taxes paid on tangible personal property in connection with a proposed project, an income tax credit equal to a percentage of wages paid to new employees added by the presence of the project, and an income tax credit equal to a certain percentage of the investment made in the project. Benefits vary with investment and job creation levels. To qualify, firms must pay a wage equal to at least 60 percent of the state's average wage for all employers.

<sup>17</sup>A large portion of this section was provided by Dr. John Deskins, Assistant Professor of Economics at Creighton University.

<sup>18</sup>The bill also renamed the Employment Expansion and Investment Incentive Act as the *Nebraska Advantage Rural Development Act* and created an additional tier of benefits under that act for counties with population less than 15,000 if the company increases employment by only two jobs and invests only \$125,000. Finally, the bill granted a sales tax exemption for manufacturing machinery and equipment, defined broadly, and any repairs or other services thereto.

In addition, the *Nebraska Advantage Rural Development Act* (LB 608) passed in 2003 provides special tax relief for businesses somewhat similar to *Nebraska Advantage*, but is specifically targeted to firms in rural areas defined as counties with a population of 25,000 or less. This program has been in existence since 1987 (although the name was changed effective 2006). Nebraska also offers additional tax incentive programs such as the *Ethanol Production Credit*, which provides tax relief specifically targeted to the ethanol industry to most ethanol firms that began operations between 1999 and 2004.

Data presented here suggest that Nebraska's incentive structure has been successful at expanding manufacturing and food processing jobs. Because the wage requirement of the incentive bill is low, however, these jobs appear to be low wage, lower value added food processing jobs.

## **B. Statutory Tax Policy**

In addition to tax incentive programs, states differentiate their statutory tax rates and other tax parameters in order to affect economic activity and raise or lower business costs. Nebraska's corporate income tax offers a progressive scale with a marginal tax rate of 5.58 percent on income below \$50,000 and a rate of 7.81 percent for all income above \$50,000. This top marginal tax rate of 7.81 percent is the eighteenth highest among the states.

Several other tax parameters also deserve attention as they can significantly affect the profitability of businesses and, correspondingly, economic activity. First among these is the way that corporate income is apportioned among the states for tax purposes. Corporate profits for multi-state firms are apportioned for tax purposes to states in which they have nexus. The apportionment formulas usually consider the state's share of the firm's payroll, property, and sales. Equal weights were traditionally placed on the three factors, but many states have opted to increase the weight on sales in order to shift the corporate income tax (CIT) burden from multi-state businesses that manufacture within a state to those that manufacture out of state. Thus, higher sales factor weights may bring more economic activity within a state's borders (Edmiston, 2002). Nebraska is one of only four states that actually place a 100 percent weight on the sales factor, to provide the greatest incentive for manufacturing firms to locate or remain in the state's borders.

Combined reporting requirements are established to force multi-unit firms to file a single CIT return rather than separate returns for each unit of the firm. These rules are intended to keep multi-unit firms from shifting taxable profits out of a state. Similarly, throwback rules are designed to ensure that all income is taxed somewhere. If a multi-state firm is able to locate profits in a state that does not tax corporate income or in a state where the firm does not have nexus, income which is not taxed (known as "nowhere income") is thrown back to the home state if that state has a throwback rule. Both of these rules have become popular as states have attempted to restore shrinking corporate income tax bases in recent years. Both could drive businesses away from a state because they raise effective tax rates for many businesses (Bruce, Deskens, and Fox, forthcoming). Nebraska is among 23 states that do not impose a throwback rule, but it is among 15 states that do require combined reporting.

It is difficult to judge the economic impact of the particular tax incentive programs that Nebraska offers. A great deal of economic research has been conducted to assess the effects of various tax policies and tax incentive programs on economic activity. In general, this literature is marked by a great deal of diversity in terms of its findings regarding the degree to which tax policies affect economic activity, but a general conclusion is that taxes often have a statistically significant, but small effect (Wasylenko, 1997). Given the wide variation in particular policies across states and across times, it is difficult to accurately predict the likely effects of a specific incentive program in a particular state.

## V. Nebraska Exports<sup>19</sup>

In addition to incentive structure, elected state leaders can influence manufacturing growth via export policy. By cementing ties with leaders in other countries, Nebraska officials can dramatically expand export opportunities for Nebraska businesses. Figure 2.10 shows that Nebraska's share of manufactured exports other than food has risen dramatically from 0.16 percent in 1999 to 0.23 percent in 2005. While this growth is significant, Nebraska's share of overall US output is 0.42 percent. Thus, despite significant progress in terms of manufactured exported goods (except food), Nebraska still underperforms the rest of the nation.

Figure 2.10 shows that Nebraska's share of the export of processed food declined from 3.71 percent in 1999 to 2.69 percent in 2005. Nonetheless, Nebraska with 1.14 percent of total food production in the US continues to export more than double its expected share. It is evident from the data that the Asian embargo of US beef significantly and negatively impacted the export of Nebraska beef. In 2003 the value of exported Meat of Bovine Animals, Boneless, Fresh, or Chilled was \$179,000,000, but declined to only \$12,000,000.<sup>20</sup> In 2003, total exports from Nebraska to Japan were \$358,000,000, but plummeted to \$193,000,000 in 2004. Much of this decline was in processed food.

Figure 2.10. Nebraska Share of US Manufacturing and Food Processing Exports, 1999-2005

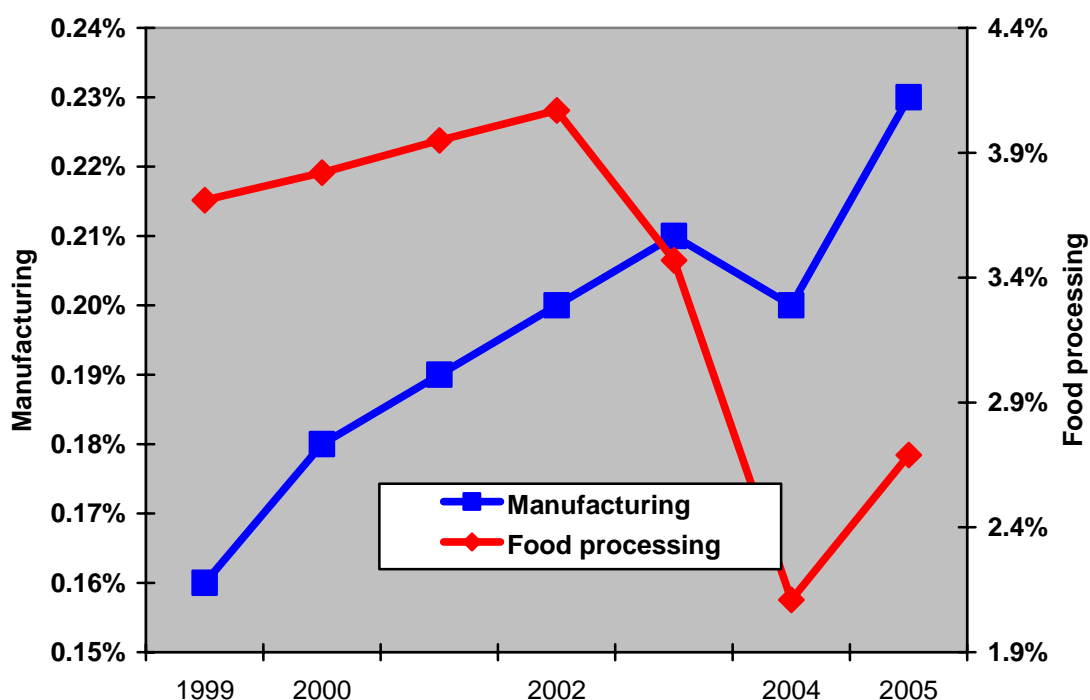
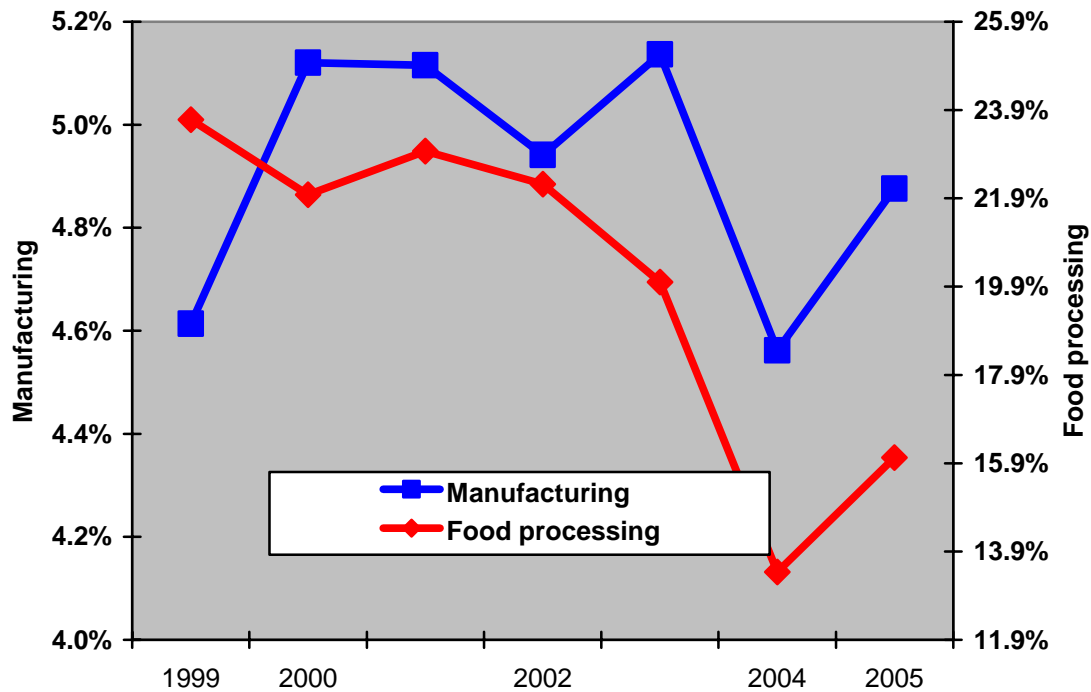


Figure 2.11 shows that Nebraska's share of WNC manufactured exports other than food has risen dramatically from 4.6 percent in 1999 to 4.9 percent in 2005. Figure 2.11 shows that Nebraska's share of the export of WNC processed food declined from 23.7 percent in 1999 to 16.0 percent in 2005. Again Nebraska's specialization in the export of beef combined with the 2003 Asian embargo of US beef imports had a differentially large and negative impact on Nebraska's food processing exports.

<sup>19</sup>Unless otherwise noted, the source of export data is the Trade Stats Express <http://ita.doc.gov/td/industry/otea/state/>

<sup>20</sup>Source: US Census Bureau. <http://www.census.gov/foreign-trade/statistics/state/data/ne.html>

Figure 2.11. Nebraska Share of WNC Manufacturing and Food Processing Exports, 1999-2005



## VI. Summary

Nebraska outperformed the rest of the nation and the WNC Region in job growth in manufacturing and in food processing between 1998 and 2004. Moreover, except for food processing in Nebraska Regions 4 and 9, this held true for all of Nebraska's nine regions. Due to Nebraska's concentration in low value added per worker manufacturing industries, however, the state's productivity and productivity growth lagged that of the US and WNC Region. This has had the impact of reducing the state's wages and wage growth compared to the nation. Compared to the WNC Region, however, food processing workers in Nebraska earned higher wages and their wage growth was higher between 1998 and 2004.

Additionally, the state's business incentive structure and export experience have had important positive impacts on the state's solid job growth in manufacturing, including food processing, but both factors have tended to contribute to the state's relative disadvantage in wages and wage growth when compared to the nation. Furthermore, export data indicate that the Asian embargo of US beef imports significantly diminished Nebraska's position in the region and nation in terms of manufacturing and food processing employment, output, productivity, and wages. In July 2006, however, Japan lifted its ban on the importation of beef that was imposed December 2003. This action, if it is followed by Japanese acceptance of U.S. beef, will be an important ingredient to Nebraska's economic health. But public opinion surveys show many Japanese continue to avoid American beef due to concerns about bovine spongiform encephalopathy.

## **Chapter 3: Agriculture**

### **Bruce Johnson**

#### **I. Introduction**

Nebraska is one of the nation's major agricultural states, ranking among the top five states in several major crop and livestock enterprises. But in addition to its significant production volume, the state's production agricultural complex is marked by considerable diversity from region to region.

Consequently, the level of economic activity and contribution by this industry can vary widely, not only from year to year, but also across sub-state regions. The analysis to follow breaks down the agricultural production sector into the nine economic regions of the state (two metro regions and seven non-metro regions). In so doing, it is possible to more clearly identify the relative patterns of agricultural production activity across the state and the associated economic implications.

#### **II. The Structure of the Industry**

As presented in Table 3.1, there remain just under 50,000 farms in the state according to the latest (2002) Agricultural Census. While over 9,000 of these farms are located in the two regions with the state's major metropolitan centers (Regions 1 and 2), more than 80 percent of the state's agricultural production units are located in the remaining seven non-metro economic regions. (See Map 1.1 in Chapter 1 for a regional map.)

The state's agricultural land acreage of more than 45 million acres is scattered across the nine regions in a diverse pattern of land use potential and economic productivity. Regions 6, 8, and 9, which constitute much of the western part of the state, account for nearly two-thirds of the total acreage, much of which is rangeland and devoted to livestock production. The seven non-metro regions comprise over 92 percent of the total agricultural land base.

Half of Nebraska's total agricultural land base is cropland. Nearly one of every five acres is located in Region 4, the South Central Region, which has over 4.1 million acres of cropland. According to the latest Agricultural Census in 2002, this same region had a third of the state's irrigated cropland acreage, over 2.56 million acres.

In short, a productive, albeit diverse, agricultural land base in combination with a sizable irrigation component (ranking Nebraska second in the nation for cropland under irrigation) is the foundation to this state's strong agricultural industry.

**Table 3.1. Number and Distribution of Farms and Land in Farms by Sub-State Economic Regions in Nebraska<sup>a</sup>**

Item and Year	Sub-State Economic Regions									Total <sup>b</sup>
	Metro		Non-Metro							
	1	2	3	4	5	6	7	8	9	
Farm Numbers										
Number										
1997	4095	4787	2956	9604	5462	6352	6530	6678	4991	51455
2002	4046	5100	3114	8728	5507	5652	6423	6040	4745	49355
Percent Distribution										
1997	8.0	9.3	5.7	18.7	10.6	12.3	12.7	13.0	9.7	100.00
2002	8.2	10.3	6.3	17.7	11.2	11.5	13.0	12.2	9.6	100.0
Land in Farms										
1,000 Acres										
1997	1493	1893	1339	5593	2524	12724	3053	8333	7496	44448
2002	1560	2073	1381	5570	2659	12563	3158	8458	8480	45903
Percent Distribution										
1997	3.4	4.3	3.0	12.6	5.7	28.6	6.9	18.7	16.9	100
2002	3.4	4.5	3.0	12.1	5.8	27.4	6.9	18.4	18.5	100
Total Cropland										
1,000 Acres										
1997	1309	1536	1011	4156	1979	2703	2442	3943	3013	22092
2002	1366	1643	1040	4109	2081	2861	2467	3928	3026	22521
Percent Distribution										
1997	5.9	7.0	4.6	18.8	9.0	12.2	11.1	17.8	13.6	100
2002	6.1	7.3	4.6	18.2	9.2	12.7	11.0	17.4	13.4	100
Total Irrigated Land										
1,000 Acres										
1997	208	298	20	2353	222	794	863	1483	690	6932
2002	252	364	25	2565	293	819	1024	1598	685	7625
Percent Distribution										
1997	3.0	4.3	0.3	33.9	3.2	11.5	12.4	21.4	9.9	100
2002	3.3	4.8	0.3	33.6	3.8	10.7	13.4	21.0	9.0	100

<sup>a</sup> Source: Census of Agriculture, Nebraska, 1997 and 2002.

<sup>b</sup> May not add to totals due to rounding.

Despite a strong agricultural production economy, about half of Nebraska's farm and ranch operators work at least part time off the farm (Table 3.2). This percentage rose markedly in all sub-state regions between the last two census years (1997 and 2002). Moreover, by the 2002 Census, nearly one-third of the state's farm and ranch operators reported they were working off-farm at least 200 days annually—essentially full-time employment apart from their own agricultural operations. All indications suggest this discernable trend toward greater off-farm employment has continued up to the present time.

**Table 3.2. Incidence and Distribution of Farm Operators Working Off-Farm by Sub-State Economic Regions**

Item and Year	Sub-State Economic Regions									Total <sup>b</sup>
	Metro		Non-Metro							
	1	2	3	4	5	6	7	8	9	
Farm Operators Working <u>Any</u> Day Off-Farm Annually:										
Number:										
1997	1949	2436	1334	3914	2274	2658	2757	2592	2159	22073
2002	2141	2783	1608	4086	2704	2618	3207	2846	2229	24222
Percent Distribution										
1997	8.8	11.0	6.0	17.7	10.3	12.0	12.5	11.7	9.8	100
2002	8.8	11.5	6.6	16.9	11.2	10.8	13.2	11.7	9.2	100
Percent of All Farm Operators in the Region:										
1997	47.6	50.9	45.1	40.8	41.6	41.8	42.2	38.8	43.3	42.8
2002	52.9	54.6	51.6	46.8	49.1	48.3	49.9	47.1	47.0	49.1
Farm Operators Working Off-Farm 200 Days or More Annually:										
Number:										
1997	1293	1603	878	2246	1371	1454	1658	1480	1146	13129
2002	1484	1956	1080	2481	1871	1605	2081	1842	1454	15804
Percent of Distribution										
1997	9.8	12.2	6.7	17.1	10.4	11.1	12.6	11.2	8.7	100
2002	9.4	12.4	6.8	15.7	11.8	10.2	13.2	11.7	9.2	100
Percent of All Farm Operators in the Region										
1997	31.6	33.5	29.7	23.4	25.1	22.9	25.4	22.2	23.0	25.5
2002	36.7	38.4	34.7	28.4	34.0	28.4	32.4	30.5	30.6	32.0

<sup>a</sup> Source: Census of Agriculture, Nebraska, 1997 and 2002.

<sup>b</sup> May not add to totals due to rounding.

The sub-state regional patterns to off-farm employment are logical, with the greatest incidence being in the state's two metro regions. It would be obvious that the greater opportunities for such employment would generally exist within the typical commuting zones of these metro centers. In addition, given greater urban demands for agricultural land, the more costly land values in these areas may preclude many operators from expanding the size of their agricultural operations into a full-time farming operation.

Across the entire state, the farm operator group as well as other members of farming/ranching households represents a significant labor force and entrepreneurial group which are contributing significantly to the other sectors of the sub-state regional economies.

### III. Agricultural Production across the State

In recent years, Nebraska has consistently ranked fourth in the nation in terms of total cash receipts from farm and ranch marketings. The combination of both crop and livestock sub-sectors has benefited the state's economy significantly over the years—not only in terms of overall volume of economic activity (in 2004, farming accounted for 6.2% of gross state product and 6.0% of personal income), but also as key countervailing economic elements to the state's agricultural economy. (For example, when feed grain prices are low for crop producers, livestock producers profit from lower feed input costs and vice versa.) Moreover, the presence of both major crop and livestock enterprises juxtapositioned geographically within the state and even within sub-state regions has created strong economic synergies—the most recent being the rapidly expanding ethanol industry that captures important production economies by being located close to both the grain (input) source and cattle feeding (end users of the by-product).

The market values of agricultural marketings by sub-state region are presented in Table 3.3 for the two most recent agricultural census years. Crop sales are heavily influenced by both market prices and weather-impacted yield levels. This is evident in 2002 which was a year of drought for several regions, including Regions 1, 3, 6, and 9. Moreover, all of these regions have a considerable portion of dryland crops which can not be carried by irrigation. Consequently, each of these regions recorded lower cash receipts for crops in 2002 than was the case in 1997. In contrast, Region 5 experienced more favorable weather patterns that increased its dryland crop production over 1997 levels. Heavy reliance on irrigation largely sustained the crop production pattern of Region 4 across these two census benchmark years.

Livestock marketings show much different distributional patterns across regions than do crop marketings. For Regions 5, 6, 7, 8, and 9 the livestock component dominates their agricultural marketing volume. Consequently, the relative profitability of the various components of the livestock industry will impact those regional economies to a far greater extent than elsewhere.

In terms of total agricultural marketings, Region 4 is the largest contributor to the state's agricultural economy, accounting for more than \$1 of every \$5 of the state's agricultural sales. At a total volume of output of some \$2 billion, that region alone ranks ahead of 18 other states in the country in terms of annual agricultural marketings. Region 4 represents a huge regional agricultural economy which acts as a powerful economic engine for the area and the state.

While Table 3.3 presents just two years of market sales activity by region, it is important to realize that the volume of agricultural marketings can, and does, vary considerable from year to year. This is evident in Figure 3.1 which shows state total agricultural sales from 1990 through 2004. The combination of weather, commodity prices, farm program support levels, etc. creates major swings in sales volume, even for the state as a whole. At sub-state regional levels, these swings can be even more pronounced in any given year.



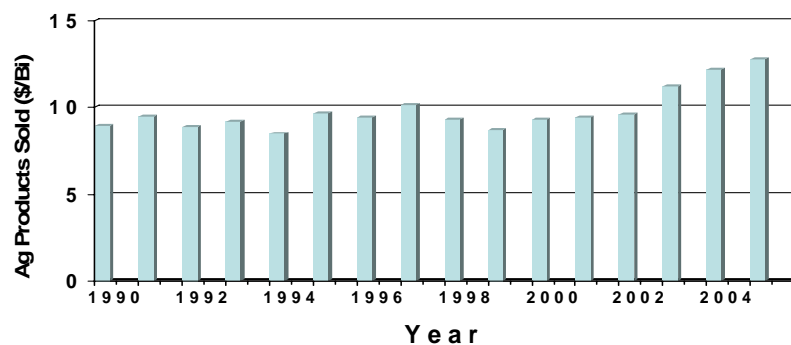
**Table 3.3. Volume and Distribution of Agricultural Production by Sub-State Economic Regions in Nebraska<sup>a</sup>**

Item and Year	Sub-State Economic Regions									Total <sup>b</sup>
	Metro		Non-Metro							
	1	2	3	4	5	6	7	8	9	
Market Value of Crops Sold										
Amount in \$1 million										
1997	302	285	158	1022	317	282	482	657	287	3794
2002	258	296	93	941	325	234	437	611	242	3437
Percent Distribution										
1997	8.0	7.5	4.2	26.9	8.4	7.4	12.7	17.3	7.6	100.0
2002	7.5	8.6	2.7	27.4	9.4	6.8	12.7	17.8	7.0	100.0
Market Value of Livestock Sold										
Amount in \$1 million										
1997	243	212	96	1097	919	919	738	1143	670	6039
2002	239	139	86	1031	1021	959	819	1294	654	6226
Percent of Distribution										
1997	4.0	3.5	1.6	18.2	15.2	15.2	12.2	19.0	11.1	100.0
2002	4.2	3.0	1.4	16.3	16.2	15.2	13.0	20.5	10.4	100.0
Market Value of All Agricultural Products Sold										
Amount in \$1 million										
1997	546	497	254	2120	1236	1201	1220	1801	957	9832
2002	497	435	179	1972	1346	1217	1256	1905	897	9704
Percent Distribution										
1997	5.6	5.1	2.6	21.6	12.6	12.2	12.4	18.3	9.7	100.0
2002	5.1	4.5	1.8	20.3	13.9	12.5	12.9	19.6	9.2	100.0

<sup>a</sup> Source: Census of Agriculture, Nebraska 1997 and 2002

<sup>b</sup> May not add to totals due to rounding.

**Figure 3.1. Market Value of All Agricultural Products Sold Annually in Nebraska 1990-2005**



## IV. Agricultural Production Patterns by Sub-State Region

### A. Crop Enterprises

The state's crop production patterns represent a unique merging of Corn Belt and central plains agriculture, producing large quantities of key crops as well as several more diverse specialty crops. Nebraska consistently ranks third nationally in corn for grain production, producing over 1.3 billion bushels in 2004. Of total corn production, over 908 million bushels (69%) were irrigated production. The combined production volume represented 11% of the total national production. Soybean production in 2004 placed Nebraska sixth nationally. Nebraska produced nearly 218 million bushels, seven percent of the nation's crop. Just over half of this crop (54%) was produced under irrigation in 2004.

As can be seen in Table 3.4, corn production occurs across the entire state, but is concentrated heavily in Region 4, accounting for about 28% of 2004 total production, and Region 8, which had nearly 18% of the total output for that year. Together, these two regions, with considerable land under irrigation, have consistently produced about half of the state's annual corn crop over the past 15 years.

Over time, production levels and percentage distributions across the regions shift slightly for a number of reasons. For example, substitution of corn production for sorghum production explains the increases in Regions 2 and 3. Severe drought impacts in 2002 resulted in sharp production cutbacks and regional shifts depending on the relative severity of the drought. Likewise, expanding soybean production and the movement from continuous corn production to corn-soybean rotations in some of the key corn production areas explains some of the regional shifts. In the future, irrigation water limitations also will likely alter regional corn production patterns to a substantial degree.

**Table 3.4. Total Annual Corn Production and Distribution for Selected Years by Sub-State Economic Regions<sup>a</sup>**

Table 1. Total Annual Corn Production and Distribution for Selected Years by Sub-State Economic Regions										
Item and Year	Metro		Non-Metro							Total <sup>b</sup>
	1	2	3	4	5	6	7	8	9	
Corn Production/Grain (million bushels)										
1990	54.2	33.0	23.3	296.1	749.1	89.8	140.8	179.8	29.8	925.8
1992	86.7	43.1	32.5	328.4	106.8	82.6	179.2	174.7	33.2	1066.5
1994	81.9	53.6	35.9	345.5	103.1	99.1	176.1	217.4	33.8	1146.6
1996	76.5	51.3	34.6	378.9	102.4	106.6	171.1	2187.7	39.2	1179.4
1998	82.3	56.2	39.3	370.9	109.3	102.7	181.1	242.4	42.6	1226.8
2000	73.6	56.6	36.8	302.0	90.2	80.9	135.8	194.4	43.9	1014.3
2002	56.0	51.7	16.4	300.8	83.8	79.1	128.3	186.4	35.4	938.0
2004	98.7	88.0	58.3	365.4	139.0	104.0	190.2	232.7	43.0	1319.5
Distribution of Production (percent distribution)										
1990	5.8	3.6	2.5	32.0	8.5	9.7	15.2	19.4	3.2	100.0
1992	8.1	4.0	3.0	30.8	10.0	7.7	16.8	16.3	3.1	100.0
1994	7.1	4.7	3.1	30.1	9.0	8.6	15.4	19.0	3.0	100.0
1996	6.3	4.6	2.9	32.1	8.7	9.0	14.5	18.5	3.3	100.0
1998	6.7	4.6	3.2	30.2	8.9	8.4	14.8	19.8	3.5	100.0
2000	7.3	5.6	3.6	29.8	8.9	8.0	13.4	19.2	4.3	100.0
2002	6.0	5.5	1.8	32.1	8.9	8.4	13.7	19.9	3.8	100.0
2004	7.5	6.7	4.4	27.7	10.5	7.9	14.4	17.6	3.2	100.0

<sup>a</sup> Source: Nebraska Agricultural Statistics Service. National Agricultural Statistics Service (NASS), USDA.

<sup>b</sup> May not add to totals due to rounding.

The corn production patterns across the state are particularly relevant to this state's rapidly growing ethanol industry. The location of processing plants has, and will continue to be, heavily influenced by geographic proximity to corn production areas. Particularly, the future construction of larger-volume

facilities (100 million gallon plants versus less than 50 million gallons per year plants) will tend to be located in the major corn production regions. Other factors can not be ignored, including the geographic proximity to livestock consumption of feed by-products and the relative sustainability of corn production volume into the future as impacted by ever-changing climatic patterns and irrigation water limitations (a key factor, as about 70 percent of corn production is under irrigation).

While production pales with respect to corn production, soybeans represent the state's second largest crop with nearly 220 million bushels produced in 2004 (Table 3.5). Production has been steadily increasing since the early 1990s as improved soybean varieties were adopted and more cash-grain producers converted to the more conventional corn-soybean crop rotation pattern of the eastern Corn Belt states. These trends are particularly evident in Region 4 where soybean production increased more than 250 percent since 1990. All indications would suggest that soybean production will continue to increase, given lower fertilizer and irrigation water requirements than that of corn.

The regional distributions of both irrigated and dryland components of corn and soybean production as well as distribution of other major crops in Nebraska are presented in Table 3.6.

The state ranked sixth nationally in alfalfa hay production in 2004 with over 4.4 million tons produced. Virtually all areas of the state contribute to this output, meeting the needs of the in-state livestock industry as well as exporting to other forage-short states. No discernible shifts in production among the regions are evident over the past 15 years.

Nebraska consistently ranks tenth nationally in total annual wheat production. Although wheat production occurs in all regions, Regions 8 and 9 account for the bulk of the production. Prolonged multi-year droughts in those regions have reduced their shares in recent years.

While the Panhandle Region (Region 9) appears as only a modest contributor to some of the state's major crops, it remains a significant and unique cropping region. As noted in Table 3.6, it accounts for the bulk of the state's dry edible bean production for which Nebraska ranked third nationally in 2004. Likewise, it produces all of Nebraska's Great Northern beans and makes Nebraska the number one producing state. Other specialty crops (such as pinto beans, millet, sugar beets, sunflowers, etc.) are grown in the Panhandle Region. It should be noted that much of this region's production represents important crops for human consumption which involves relatively greater value added processing in the region than that of some of the state's larger crop enterprises. Thus, the relative economic impact per dollar of agricultural crop production in the Panhandle is likely to be higher than its regional counterparts.

**Table 3.5. Total Annual Soybean Production and Distribution for Selected Years by Sub-State Economic Regions<sup>a</sup>**

Item and Year	Sub-State Economic Regions									Total <sup>b</sup>
	Metro		Non-Metro							
	1	2	3	4	5	6	7	8	9	
Soybean Production/Grain (million bushels)										
1990	15.2	7.7	8.4	15.5	15.3	2.4	14.0	2.9	0.2	81.4
1992	21.1	11.3	11.3	14.8	20.4	2.4	19.5	2.6	0.1	103.3
1994	24.4	14.6	14.0	20.3	26.0	5.0	25.5	3.0	0.1	132.9
1996	21.8	16.6	14.0	19.36	26.4	5.7	27.4	4.6	0.1	136.2
1998	23.3	193.6	13.5	31.9	28.9	9.0	32.2	6.6	0.1	164.9
2000	21.7	16.6	11.8	44.4	25.6	10.1	30.2	13.3	0.2	173.7
2002	20.6	17.4	8.4	47.5	26.6	9.5	31.5	14.5	0.1	176.2
2004	25.8	25.4	17.7	54.9	29.3	10.3	36.7	18.1	0.1	218.4
Distribution of Production (percent distribution)										
1990	18.7	9.4	10.3	19.0	18.8	3.0	17.2	3.5	0.0	100.0
1992	20.4	11.0	10.9	14.4	19.7	2.3	18.8	3.0	0.0	100.0
1994	18.4	11.0	10.6	15.3	19.6	3.7	19.2	2.3	0.0	100.0
1996	16.0	12.2	10.3	14.4	19.4	4.2	20.1	3.4	0.0	100.0
1998	14.1	11.9	8.2	19.3	17.5	5.4	19.5	4.0	0.0	100.0
2000	12.5	9.6	6.8	25.5	14.8	5.8	17.4	7.7	0.0	100.0
2002	11.7	9.9	4.9	26.9	15.1	5.4	17.9	8.2	0.0	100.0
2004	11.8	11.6	8.1	25.1	13.4	4.7	16.9	8.3	0.0	100.0

<sup>a</sup> Source: Nebraska Agricultural Statistics Service. National Agricultural Statistics Service (NASS), USDA.

<sup>b</sup> May not add to totals due to rounding.

**Table 3.6. % Distribution of Annual Production of Crop Enterprises for Selected Years by Sub-State Economic Regions<sup>a</sup>**

Crop and Year	Sub-State Economic Regions									Total <sup>b</sup>
	Metro		Non-Metro							
	1	2	3	4	5	6	7	8	9	
Dryland Corn										
1990	22.5	2.3	10.7	4.2	28.9	3.5	24.1	3.7	0.2	100.0
1995	17.1	6.1	9.7	10.2	27.0	3.89	20.5	5.5	0.1	100.0
2000	19.7	10.3	12.8	9.4	24.0	1.6	15.6	5.7	0.9	100.0
2004	17.5	12.0	13.5	8.4	25.3	1.3	16.8	5.0	0.1	100.0
Irrigated Corn										
1990	1.3	3.9	0.3	39.6	2.9	11.4	12.8	23.8	4.0	100.0
1995	2.3	3.9	0.2	40.0	3.0	10.2	12.9	23.9	4.0	100.0
2000	2.7	3.8	0.2	37.3	3.3	10.3	12.6	24.1	5.6	100.0
2004	3.0	4.3	0.3	36.4	3.9	10.8	13.3	23.3	4.7	100.0
Dryland Soybeans										
1990	25.3	9.4	15.7	6.7	24.7	1.3	16.5	0.4	0.0	100.0
1995	19.5	11.9	16.1	8.2	24.4	1.8	17.8	0.3	0.0	100.0
2000	18.1	14.1	14.7	10.0	24.0	1.6	16.4	1.1	0.0	100.0
2004	20.0	16.3	16.7	8.3	22.1	0.8	15.2	0.6	0.0	100.0
Irrigated Soybeans										
1990	7.0	9.5	0.7	40.8	8.5	6.0	18.5	9.1	0.1	100.0
1995	8.1	8.4	0.6	32.4	10.0	9.4	24.2	6.7	0.1	100.0
2000	4.8	6.4	0.4	39.9	6.1	9.8	19.1	13.4	0.0	100.0
2004	4.7	7.6	0.5	39.9	5.8	8.1	18.4	15.0	0.0	100.0
Dryland Alfalfa Hay										
1990	8.8	5.8	4.4	11.5	21.1	16.9	15.08	12.0	3.7	100.0
1995	6.6	5.7	3.4	13.3	20.0	18.4	14.9	12.9	4.8	100.0
2000	6.3	4.6	3.3	13.1	22.2	15.0	15.4	14.7	15.5	100.0
2004	6.7	6.4	4.5	13.3	25.4	12.1	16.9	12.9	1.8	100.0
Irrigated Alfalfa Hay										
1990	1.2	2.0	0.1	15.5	3.3	14.9	9.4	27.5	26.0	100.0
1995	0.3	0.8	0.0	12.7	2.7	21.7	7.2	24.9	29.7	100.0
2000	0.2	0.9	0.1	13.3	2.5	19.1	6.6	26.5	30.7	100.0
2004	0.2	1.1	0.0	16.2	3.3	17.7	10.1	24.3	27.2	100.0
Dryland Wheat										
1990	2.1	10.7	4.2	16.7	0.2	1.6	1.3	37.0	26.3	100.0
1995	0.5	4.7	1.4	10.9	0.0	1.4	0.5	41.4	39.3	100.0
2000	0.4	4.3	1.7	9.7	0.1	1.2	0.2	39.1	43.4	100.0
2004	0.7	9.1	4.3	15.4	0.1	1.2	1.3	28.5	39.5	100.0
Dry Edible Beans										
1990	0.0	0.0	2.4	0.0	0.0	0.0	0.0	26.5	71.1	100.0
1995	0.0	0.0	0.3	0.0	0.0	2.8	0.0	29.2	67.8	100.0
2000	0.0	0.0	0.0	0.0	0.0	5.2	1.5	17.0	76.2	100.0
2004	0.0	0.0	6.9	0.0	0.0	0.0	0.0	23.7	69.3	100.0

<sup>a</sup> Source: Nebraska Agricultural Statistics Service. National Agricultural Statistics Service (NASS), USDA.

<sup>b</sup> May not add to totals due to rounding.

## B. Livestock Enterprises

The state's livestock industry is huge by several measures. Nebraska ranked second in the nation in 2004 for cash receipts from all meat animals and also for cash receipts from cattle and calves. It ranked sixth nationally in cash receipts from hogs and pigs in 2003.

All regions of the state participate in the state's livestock industry, albeit highly-variable configurations of enterprises have been adapted to the particular resource base and economies of the region (Table 3.7). The beef cattle industry is by far the major livestock component, accounting for about 85 percent of the cash receipts from livestock and livestock product sales. Virtually all of the beef cattle industry is located in the non-metro economic regions of the state. More than two-thirds of the beef cow herds and calf production is situated in the major forage regions of the state (Regions 6, 8, and 9). Consequently, general economic conditions in these regions are heavily influenced by the economic cycles and events of the nation's cattle industry. Other non-metro regions, in closer proximity to feed grains, participate more heavily in the fed-cattle component of the industry. As noted earlier, this combination of feed grain production and livestock enterprises represents a valuable countervailing (and thereby stabilizing) economic aspect for these regions over time. With the rapidly expanding ethanol industry, this crop/livestock combination represents a further complementary dynamic that is the envy of the eastern Corn Belt states.

While a lesser magnitude of volume, the state's hog industry also remains a valuable contributor to nearly all of the regional economies. Not only does the hog industry act in a similar fashion to the cattle industry as a countervailing economic force with feed grain production, but it also tends to be in a countervailing force with the cattle industry. For example, when beef demand was negatively impacted by fears of mad cow disease (BSE), demand for pork increased, thus enhancing producer profitability. Those economic regions of the state which have this mix of both cattle and hog production appear to have experienced more stable farm income levels over time.

**Table 3.7. Distribution of Annual Production of Major Livestock Enterprises by Sub-State Economic Regions, 2004<sup>a</sup>**

Livestock And Year	Sub-State Economic Regions									Total <sup>b</sup>
	Metro		Non-Metro							
	1	2	3	4	5	6	7	8	9	
Cattle (Percent of Total)										
All Cattle	2.8	2.7	1.8	14.8	11.0	24.8	9.9	19.4	12.8	100.0
All Beef Cows	1.7	2.9	2.3	12.5	6.5	35.2	7.2	17.9	13.7	100.0
Calf Crop	1.9	3.2	2.5	11.9	6.3	34.6	6.9	18.9	13.8	100.0
Milk Cows	7.0	15.9	6.0	9.4	23.3	15.1	19.1	3.4	0.8	100.0
Milk Production	8.7	18.0	7.0	11.2	25.2	17.3	7.5	3.3	1.8	100.0
Hogs (Percent of Total)										
All Hogs and Pigs										
Total Numbers	7.7	7.4	3.3	17.4	19.4	14.7	20.4	8.5	1.2	100.0
Numbers Sold	4.2	9.2	4.2	15.5	16.9	11.8	35.4	2.6	0.1	100.0
Annual Sows Farrowed	5.8	7.0	4.9	17.9	19.6	14.3	21.7	7.5	1.3	100.0
Pig Crop	5.8	7.0	4.9	17.9	19.9	14.1	21.6	7.4	1.3	100.0

<sup>a</sup> Source: Census of Agriculture, Nebraska, 2002. Estimated derived from county census data.

<sup>b</sup> May not add to totals due to rounding.

## V. Regional Income Dynamics of Production Agriculture

While total production volume in both production units and dollar value of Nebraska agriculture is impressive, the key economic factors are the earnings components of the industry and how these are configured across the sub-state economic regions and over time. These components are farm labor earnings, proprietor income, and corporate farm income.

Analysis of the earnings components over time shows considerable year-to-year variation for the state (Table 3.8.) While total annual cash receipts from farm marketings have ranged from less than \$8.5 billion to more than \$12 billion over the 15-year period (1990-2005), the net earnings totals show far

greater annual variation—from a low of \$813 million in 2002 to nearly \$3.4 billion in 1996 and again in 2004. For the 15-year period, net income earnings averaged \$2.186 billion and represented 22.8% of cash receipts from farm marketings.

Regional allocation of the net earnings components were estimated for two of the years—2000, which represented one of the lowest net earnings years, and 2004, which was one of the highest earnings years for Nebraska’s agricultural production sector. The latter is considered by some to be the *perfect storm* when virtually all aspects of agricultural production were favorably aligned for profitability.

The percentage distributions of these net earning across regions are presented in Figure 3.2. Different regional configurations occur depending on the year and the relative economic forces at play from region to region. Still, however, the regional percentage shares from poor income years to favorable income years (as these two years represent) do not show extreme variability. Despite differences, the sub-state regions still tend to follow rather similar economic paths regarding agricultural earnings over time.

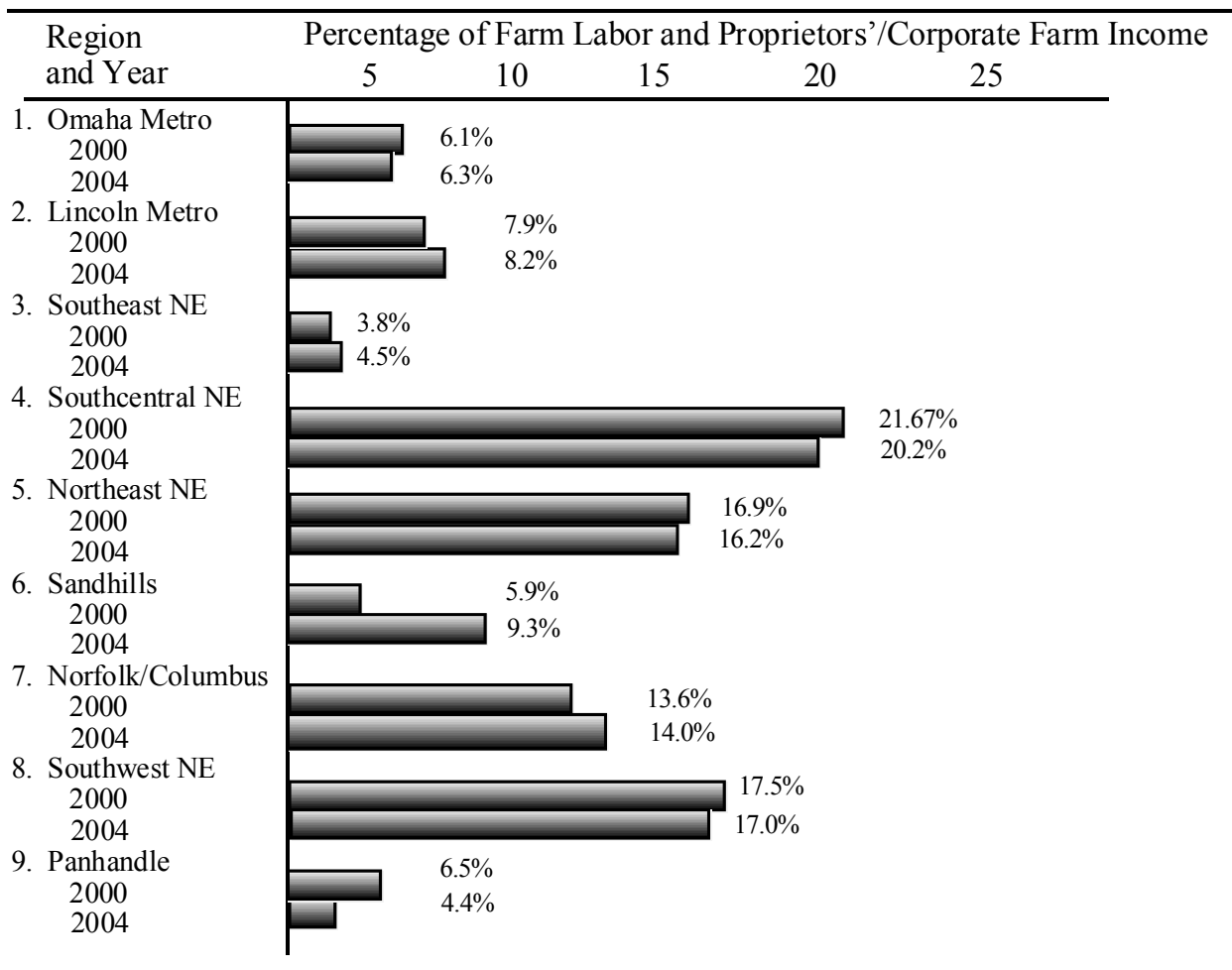
The estimated total and per-farm dollar contributions of production agriculture to the regional economies differ greatly (Table 3.9). Total earnings captured by the three components ranged from \$53 million in Region 3 (Southeast Nebraska) in 2000 to \$680 million in Region 4 (South Central Nebraska) in 2004. When expressed on an average per farm unit base for the regions, the differences are even more evident. The 2004 earnings estimates more than doubled over 2000 earnings in all but Region 9, the Panhandle, where the prolonged multi-year drought has been most severe. In Region 6, the Sandhills, the per farm unit change from 2000 to 2004 was more than threefold. Moreover, the level of average per farm earnings in any given year varies greatly from one region to the next.

**Table 3.8. Historical Cash Receipts from Farm Marketings and Farm-related Income Earnings, Nebraska<sup>a</sup>**

Year	Cash Receipts from Farm Marketings \$ million	Total Income Earnings (Farm Labor, Proprietor, and Farm Corporation Earnings)	
		\$ million	Percent of Cash Receipts
1990	8,938	2,638	29.5
1991	9,492	2,337	24.6
1992	8,898	2,610	29.3
1993	9,187	2,046	22.3
1994	8,492	2,273	26.7
1995	9,640	1,516	15.7
1996	9,431	3,398	36.0
1997	10,128	2,350	23.2
1998	9,311	2,105	22.6
1999	8,723	1,621	18.6
2000	9,313	1,376	14.8
2001	9,442	1,614	17.1
2002	9,650	813	8.4
2003	11,187	2,725	24.3
2004	12,193	3,368	27.6
Annual Average 1990-2004	9,602	2,186	22.8

Source: Estimates by Bureau of Economic Analysis (BEA), US Department of Commerce.

Figure 3.2. Estimated Percentage Distribution of Nebraska's Total Farm Labor and Farm Proprietors'/Corporate Farm Income for 2000 and 2004



Source: Bureau of Economic Analysis (BEA) U.S. Department of Commerce. Unpublished county level estimates aggregated to regional shares.

The implications of the above for regional economies are several. First, the agricultural production economy is a major economic agent within each of the non-metro regions. Second, the magnitude of earnings varies widely from year to year such that regional economies can be highly volatile from one year to the next. Third, on a per-farm unit basis there is considerable variation from one part of the state to the next. To identify these variations is critical in assessing the overall economic performance of the states' sub-state economic regions. In the summary to this report, Chapter 8, the future prospects of agriculture in each of the non-metro regional economies are explored in more detail.



**Table 3.9. Total Farm Labor, Proprietor Income, and Corporate Farm Income by Sub-State Economic Regions, 2000 and 2004**

Economic Region and Year		Farm Labor and Proprietors'/Corporate Farm Income		
		Total Dollar Volume <sup>a</sup> (million dollars)	Average Income per Farm Unit <sup>b</sup> (dollars)	Percentage of Total Regional Personal Income
1. Omaha Metro	2000	84.2	20,700	0.4
	2004	211.6	52,600	0.8
2. Lincoln Metro	2000	109.1	22,100	1.2
	2004	277.0	52,700	2.6
3. Southeast Nebraska	2000	53.0	17,500	5.6
	2004	150.1	47,000	12.9
4. South Central Nebraska	2000	299.2	32,600	5.9
	2004	680.0	82,000	11.1
5. Northeast Nebraska	2000	233.5	42,600	13.0
	2004	545.1	98,600	25.1
6. Sandhills	2000	81.4	13,600	7.6
	2004	312.6	59,000	23.0
7. Norfolk/Columbus	2000	188.2	29,100	6.8
	2004	472.1	74,100	14.3
8. Southwest Nebraska	2000	241.0	37,900	8.9
	2004	572.6	100,100	18.0
9. Panhandle	2000	89.7	18,400	4.4
	2004	147.1	31,800	6.2
TOTAL	2000	1379.4	27,400	2.9
	2004	3368.1	69,700	6.0

<sup>a</sup> Source: Estimates derived from county-level estimates by Bureau of Economic Analysis US Department of Commerce.

<sup>b</sup> Derived by dividing total earnings from total farm unit numbers interpreted from 1997 and 2002 census reports.

## **Chapter 4: Tourism**

### **Eric Thompson and Cheryl Burkhart-Kriesel**

#### **I. Introduction**

The tourism industry is another potential pillar of economic growth for non-metropolitan Nebraska. While Nebraska is not a major tourism destination, the industry has expanded briskly in selected regions of non-metropolitan Nebraska. This growth has occurred not just in terms of visits to tourist attractions, but in terms of spending by travelers who have come a sufficient distance to require lodging. Spending on lodging can be tied directly to key measures of tourism activity such as attraction visits.

The tourism industry has brought, and can continue to bring, new income to non-metropolitan Nebraska, supporting the overall economy. Tourism also offers opportunities for entrepreneurs, but it is also true that the tourism industry has many part-time and seasonal jobs. Such jobs offer opportunity for individuals who wish to work part-time or provide extra earnings opportunities to other workers looking to supplement their income, but are not the same as full-time, full-year jobs.

Tourism, therefore, can be part of a group of growing basic industries in non-metropolitan Nebraska. Such part-time employment, however, by itself cannot be the basis for a non-metropolitan economy.

#### **A. A Focus on Lodging**

The tourism sector encompasses a variety of hospitality industries such as lodging, recreation, entertainment, and eating and drinking places. The retail sector and service stations also are directly impacted by tourist spending. Of course, many of these sectors also have local customers, so there is a challenge in isolating the portion of industry activity associated with tourism. This may even be true for tourist attractions such as parks, monuments, museums, and the like. Many visitors may come from nearby areas.

One way to isolate activity from tourists traveling at a distance and bringing new income to the area is to focus on growth and change in the lodging industry, as this would more clearly relate to visitors from outside the area. In this chapter we focus on growth in lodging industry sales as a measure of tourism activity.

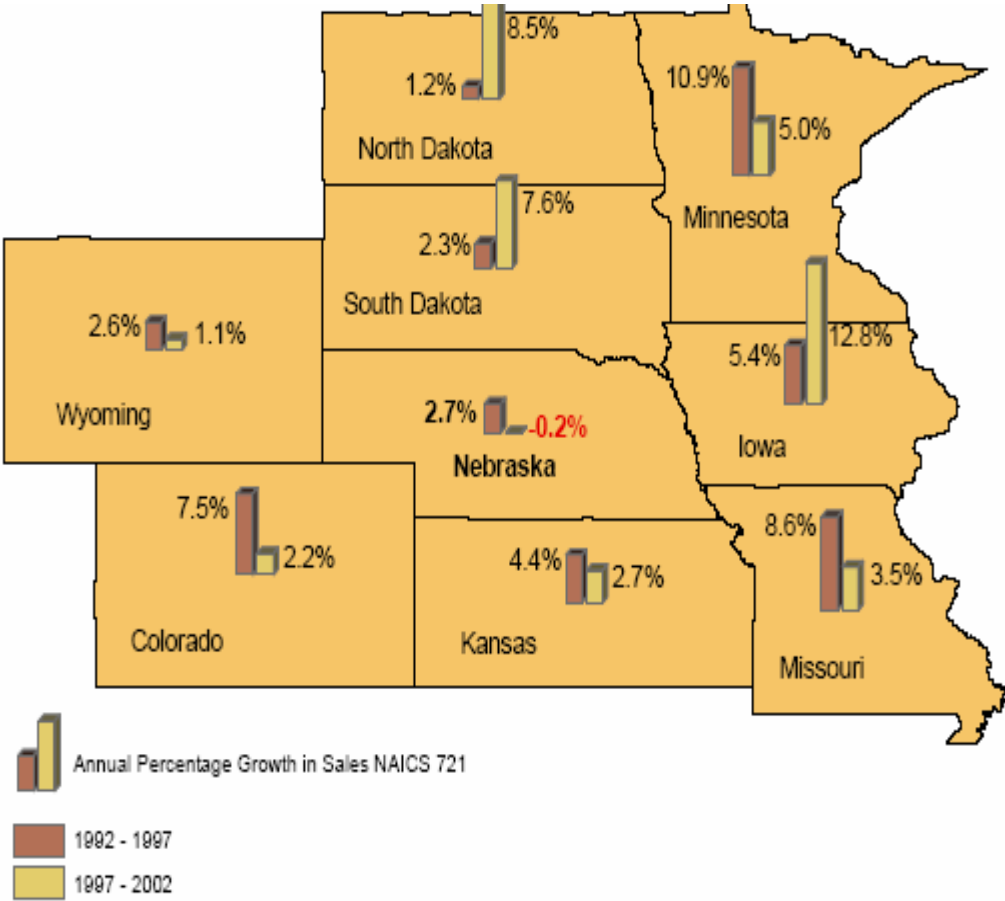
Even with a focus on lodging, it is still possible to measure or estimate the impact of tourists on related industries such as recreation, entertainment, eating and drinking places, and retail. The Nebraska Department of Economic Development and other agencies examining tourism in Nebraska have developed spending profiles of tourists in a variety of industries, including lodging. These relationships can be used to translate estimates of lodging revenue into estimates of tourism throughout the sector.

#### **II. Growth in Lodging Sales: Nebraska and Neighboring States**

The Nebraska tourism industry expanded at a solid pace during much of the 1990s, but the late 1990s and early 2000s were a period of flat sales. This pattern is evident in Figure 4.1 and Table 4.1, which illustrate growth in both real (inflation-adjusted) lodging sales in Nebraska, the West Central Region, the United States, and surrounding states during the 1992-2002 period. Such data on lodging sales are only available for states from a single, consistent source as part of the Economic Census which is conducted by the US Bureau of Census every five years. The most recent censuses were taken in 1992, 1997, and

2002 and then adjusted using consumer price indices.<sup>21</sup> The US Bureau of Census also was the source for population data for the same years.

Figure 4.1. Average Annual Growth in Real Net Taxable Lodging Sales (real 1982-84 dollars) in Nebraska and Surrounding States



Source: Nebraska Department of Economic Development.

Results in Figure 4.1 and Table 4.1 show the tepid growth in the Nebraska lodging industry (NAICS 721) during the 1997 to 2002 period. Despite average population growth, Nebraska had the lowest rate of growth in lodging sales. Real (inflation-adjusted) sales grew at a solid 2.7% annual pace during the 1992 to 1997 period, but declined from 1997 to 2002. All other surrounding states added real lodging sales from 1997 to 2002, despite the recession in the national economy during the year 2001.

Growth in the lodging industry was rapid in most states surrounding Nebraska. As a result, growth in the West North Central Region overall was substantially faster than growth nationwide. States such as Iowa and Minnesota led the way, with rapid growth throughout the 1992 to 2002 period. Lodging sales grew rapidly in the Dakotas from 1997 to 2002. Lodging sales also grew somewhat faster in Kansas than in Nebraska, though the differences are not nearly as large.

Table 4.1. Average Annual Growth in Real Net Taxable Lodging Sales in Nebraska, the West North Central Region and

<sup>21</sup> Repeated efforts were made to utilize taxable sales data from surrounding states in order to develop a more recent, and more frequent, time series of data on lodging sales. Persistent methodological differences between records in different states made this infeasible. The Economic Census was the only consistent source.

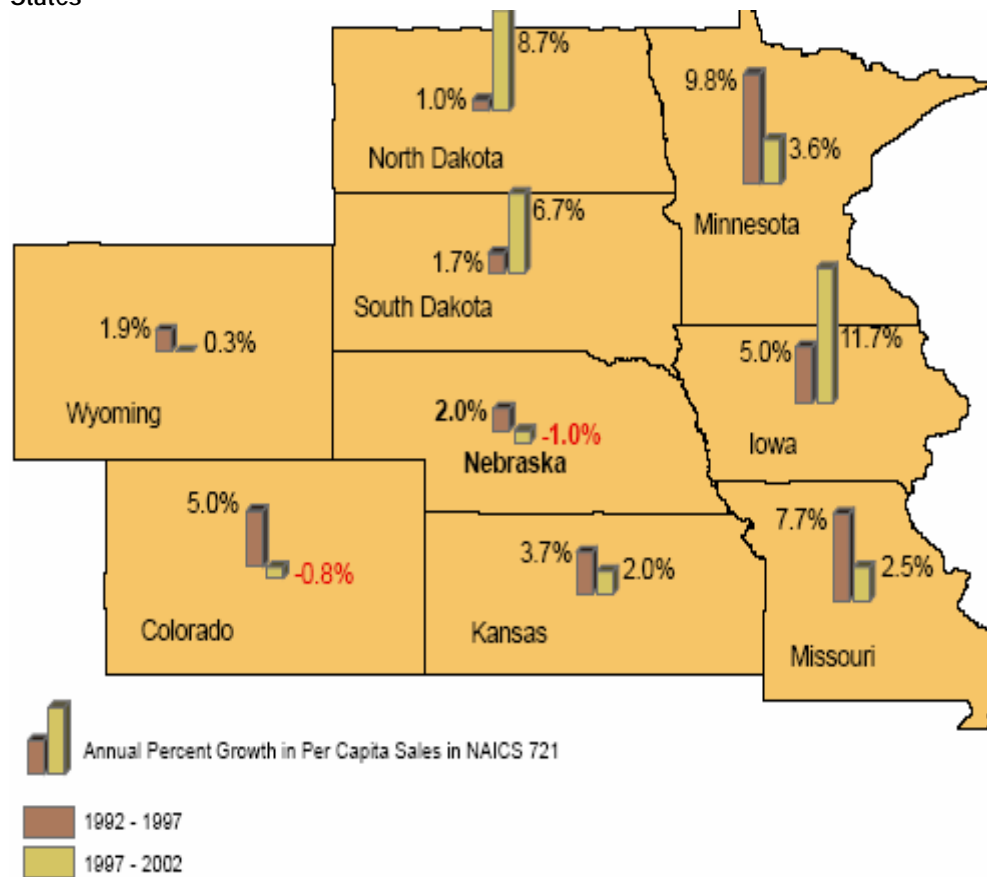
## the United States, 1992-2002

	Total Population (millions)			Annual Percentage Growth in Total Population	
	1992	1997	2002	1992-1997	1997-2002
Nebraska	1.60M	1.66M	1.73M	0.7%	0.9%
WNC Region (excl. CO and WY)	17.94M	18.59M	19.47M	0.7%	0.9%
United States	255.00M	267.80M	288.40M	1.0%	1.5%
	Lodging Sales in NAICS 721 (millions of real (1982-84) dollars)			Annual Percentage Growth in Sales in NAICS 721	
	1992	1997	2002	1992-1997	1997-2002
Nebraska	\$155.4M	\$177.6M	\$176.2M	2.7%	-0.2%
WNC Region (excl. CO and WY)	\$2,148.4M	\$3,068.9M	\$3,959.2M	7.4%	5.2%
United States	\$49,325.7M	\$61,344.2M	\$71,205.2M	4.5%	3.0%

Source: US Bureau of Census, and Nebraska Department of Economic Development.

Population growth was not the reason for slower growth in lodging sales in Nebraska. Population grew steadily in Nebraska during the period, matching regional growth rates. As is evident in Table 4.2 and Figure 4.2, lodging sales per capita also grew more slowly in Nebraska than in surrounding states, the West North Central Region, and the United States. Results in Table 4.2 also indicate that Nebraska is at a lower level of per capita lodging sales than the West North Central Region or the nation. This result may reflect lower room rates for lodging in Nebraska.

Figure 4.2. Growth in Per Capita Net Taxable Lodging Sales (real 1982-84 dollars) in Nebraska and Surrounding States



Source: US Bureau of Census and Nebraska Department of Economic Development.

**Table 4.2. West North Central Employment Per Capita Sales 1992-2002**

	Per Capita Sales in NAICS 721 (millions of real (1982-84) dollars)			Annual Percent Growth in Per Capita Sales in NAICS 721	
	1992	1997	2002	1992-1997	1997-2002
NE	\$97	\$107	\$102	2.0%	-1.0%
WNC Region (excl. CO and WY)	\$120	\$165	\$203	6.6%	4.3%
US	\$193	\$229	\$247	3.4%	1.5%

Source: US Bureau of Census and Nebraska Department of Economic Development.

### III. Tourism and Nebraska's Economic Base

Data in Tables 4.1 and 4.2 and Figures 4.1 and 4.2 indicate that Nebraska overall has lower per person lodging spending than the region and nation. Real per person spending also was stagnant from 1997 to 2002, while it grew elsewhere. These figures refer to real spending after adjusting for inflation. Nominal spending, it should be noted, did rise during the 1997 to 2002 period. Also, it is worth noting that lodging sales have picked up in recent years and have gained rapidly in 2005 and 2006.

But even during the 1997 to 2002 period, these declining aggregate results do not reflect the success of many individual tourism attractions in the state. In an industry such as tourism that naturally involves spending outside the local area, results in Tables 4.1 and 4.2 and Figures 4.1 and 4.2 simply suggest that Nebraska loses more tourist dollars to other states than it gains. But the tourism industry is a basic industry to Nebraska; that is, it brings money to non-metropolitan regions. Further, an expanding tourism industry could continue to bring new spending to non-metropolitan Nebraska.

What factors help grow tourism activity in non-metropolitan Nebraska? There are at least two. The first is visitors coming to attractions and recreation lakes in the non-metropolitan parts of the state. The second is spending on lodging, restaurants, etc. of travelers passing through the state. Thousands of vehicles drive through the state on interstate roads every day. Below, we provide further evidence of the link between these factors and rural tourism.

We developed a statistical model to directly test the relationship between lodging revenues and 1) visits to attractions and 2) travel through Nebraska. The model uses the regression technique where real lodging revenue is a function of relevant variables such as attraction visits, highway travel, population, and year. The population variable accounts for the relationship between the size of the local area and hotel visits, apart from any tourism activity. The size of the local area matters because many visitors come to the area to see relatives or, in the case of business travelers, to see customers. The regression model will isolate the impact of tourist attractions and travel through the area from business travel and visits to relatives.<sup>22</sup> The impact of attractions is the critical focus as this is the key to building the industry in the state. Business travel and visits to relatives are an incidental to overall economic and demographic growth in the state.

We utilized data on county lodging tax revenues and visits to attractions in each non-metropolitan county over the 1993 to 2004 period. These data are available from the Nebraska Department of Economic Development, which tracks the tourism industry in Nebraska. Lodging tax revenue is only available for counties that have a local lodging tax. For ease of comparison, we converted lodging tax revenue into estimates of lodging sales in each county.<sup>23</sup>

<sup>22</sup> The regression model also adjusts for the year in which each observation occurs, in order to account for the trend that incomes and travel tend to rise over time.

<sup>23</sup> While most Nebraska counties utilize a 2% lodging revenue tax rate, some counties use other rates and other counties changed rates during the 1993 to 2004 period. To facilitate comparisons between counties and across time, we converted

The regression model identified a positive relationship between attraction visits and lodging revenue. Table 4.3 reports this relationship. Each additional visit to an attraction in a Nebraska county yields another \$1.88 in lodging revenue in that county. While this amount may seem low, the reader should remember that many visitors to Nebraska attractions are from the local area. Further, many other visitors to Nebraska attractions are relatives of local residents, who stay with their relatives rather than at a hotel. As a result, most visitors to Nebraska attractions do not spend anything on lodging, and an average spending of \$1.88 per visitors is quite reasonable.

Interstate highway travel through the state did not have a statistically significant impact on lodging sales. This result is counterintuitive and may simply reflect that we were only able to gather data on total traffic levels on interstate highways. We were not able to distinguish between local traffic and vehicles traveling through Nebraska.

**Table 4.3. Relationship between Indicators and Lodging Revenues**

Variable	Marginal Impact on Lodging Revenue
Attendance	\$1.88 in county lodging revenue for one more in attendance at county attraction
Travel	\$0.00 in lodging revenue for one more car traveling through county on an interstate highway (i.e., there was no statistically significant effect).

Source: Author's statistical estimation.

Results in Table 4.3 indicate that attraction-based tourism makes a substantial contribution to the non-metropolitan Nebraska economy in any given year. Even just the direct impact to the lodging industry would be substantial, given the millions of attraction visitors in Nebraska in any given year. There are additional impacts in other tourism-related industry as well, such as eating and drinking places, service stations, and retail.

A 1989 survey examined the spending by visitors to Nebraska in major categories such as lodging, retail, and food. The study found that 31% of spending occurred in lodging, If we assume that the distribution of tourist spending has remained constant over the last decade and a half, we can apply this spending ratio to the initial ratio of \$1.88 and estimate that each additional person in attendance at a county tourist attraction would lead to an additional \$6.06 in tourist spending on lodging, retail, food and drink, and other miscellaneous items.

#### IV. Growth and Economic Base in the Regions of Nebraska

Growth in the tourism industry in Nebraska as a whole has not kept pace with industry growth in most surrounding states. This statewide experience, however, may not represent the progress being made in particular areas of Nebraska. In this section, we examine the size and progress of the tourism industry in non-metropolitan Nebraska. Our measure, as before, is the size of the lodging industry.

Figure 4.3 contains data on 2005 real taxable lodging sales per person in the seven non-metropolitan regions. These data come from a different data sources than data used in Figures 4.1 and 4.2. The source is the lodging sales data collected and distributed by Nebraska counties. Regional totals were built from county tax data.

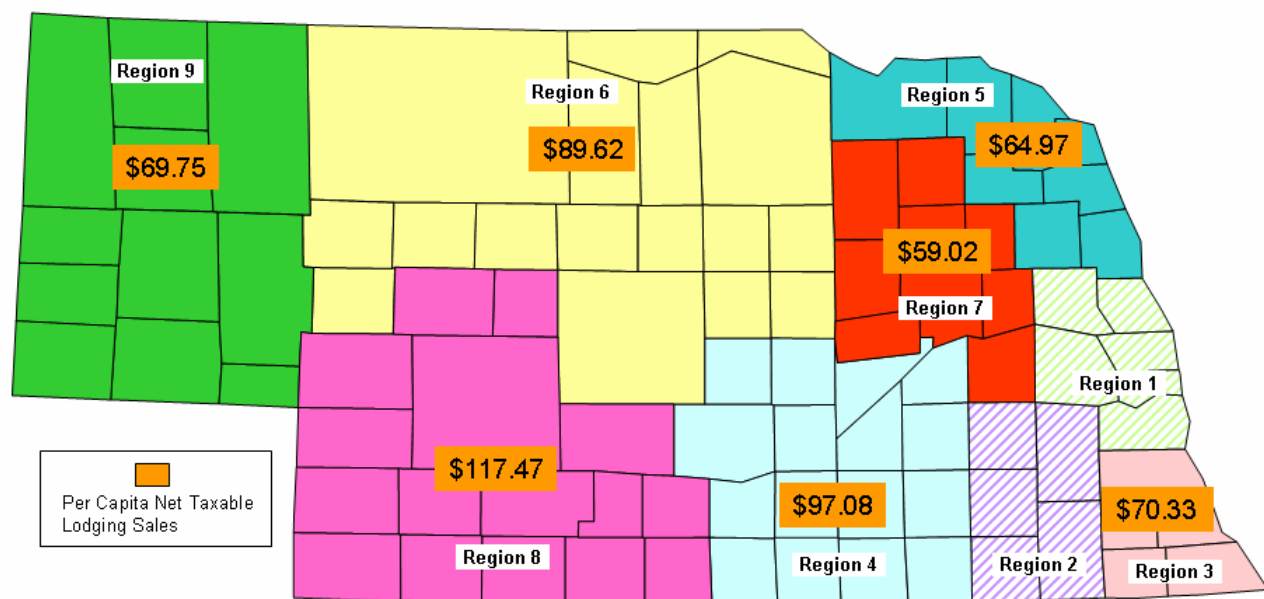
---

lodging tax revenues into estimates of lodging revenues. This was accomplished by dividing lodging tax revenues by the lodging tax rate for each county in a particular year. Estimated lodging tax revenue was then adjusted using the consumer price index to yield real taxable lodging sales.

These data illustrate how much lodging activity is occurring adjusted for local population and economy. Region 8 has the highest level of per capita lodging sales. This result is expected given that the region not only contains hundreds of miles of Interstate 80, but also has large recreation lakes (such as Lake McConaughy), and major tourism attractions. The next ranked region in terms of per capita taxable lodging sales is Region 4, which also contain major sections of Interstate 80, as well as major attractions, and the Tri-Cities of Hastings, Kearney, and Grand Island. The most interesting case may be the third ranked region, Region 6. The Sandhills Region has nearly as much lodging sales per person as Region 4.

The remaining regions have similar levels of per capita lodging sales. Perhaps the most interesting of these is Region 3, which contains tourist attractions in the Nebraska City area. This area might have been expected to be ranked higher given all the local developments.

Figure 4.3. 2005 Per Capita Net Taxable Lodging Sales in Nebraska Regions



Source: US Census Bureau and Nebraska Department of Economic Development.

Recent growth in tourism activity around Nebraska City is more evident in Figure 4.4, which shows growth in real taxable lodging sales in the seven non-metropolitan Nebraska regions. Data are presented for the 1990 to 2005 period.

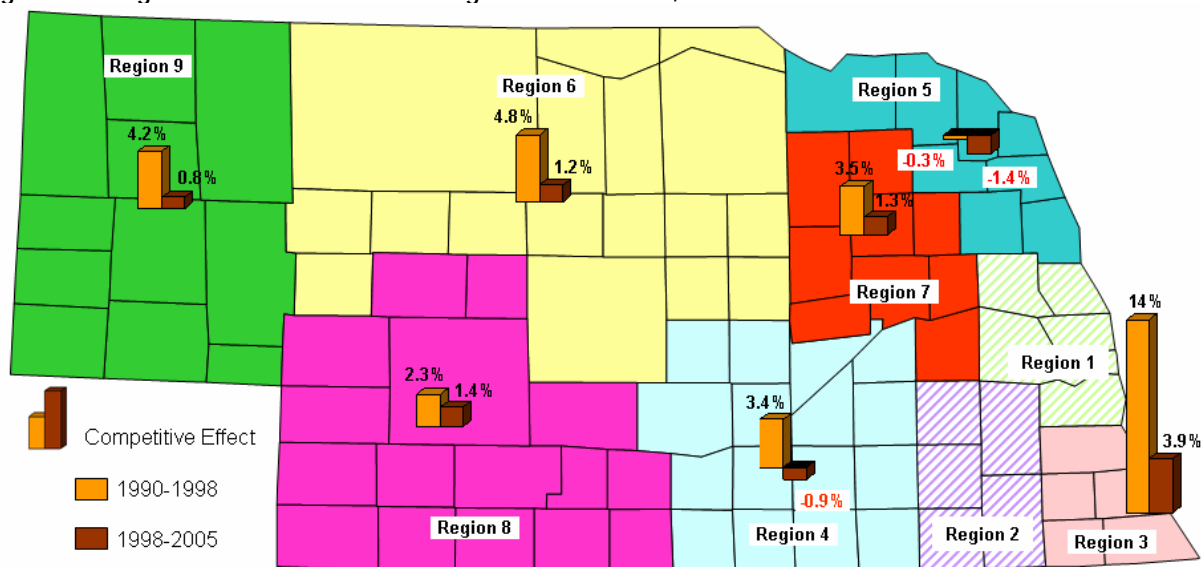
To conform to data provided in other chapters, we present data before and after 1998. Lodging tax data are available all the way back to 1990, so we are able to present growth data for 1990 to 1998 as well. This provides a longer-term perspective to supplement more recent growth. As was also evident in the statewide data, there was throughout the state a decline in the growth rate after 1998.

Results from the two periods illustrate consistency in regional patterns of growth. In particular, the fastest growing regions from the 1990 to 1998 period also were among the fastest growing from 1998 to 2005. These are Regions 3 and 6.

It also should be noted that growth was consistently solid in Regions 7, 8, and 9. Growth in Region 9, the Western Panhandle, is another example of how tourism has expanded among the more sparsely populated areas of Western Nebraska. The solid growth in Region 8 is consistent with the recreation

lakes in the region. Only Region 5, which contains border counties in Northeast Nebraska, struggled throughout the 15-year period.

Figure 4.4. Regions within Nebraska Average Annual Growth, 1990 to 2005



Source: US Census Bureau and Nebraska Department of Economic Development.

Figures 4.3 and 4.4 illustrate that tourism trends vary in the different areas of Nebraska. This is even more evident in Table 4.4. Table 4.4 also presents real per capita taxable lodging sales, in this case for selected Nebraska counties. The table lists the top ten counties in terms of taxable sales per person. This is the county “tourism dependency index” utilized by the Nebraska Department of Economic Development. The table also illustrates the growth rate in real taxable sales per person in each county from 1990 to 2005. Note that four of the top ten counties are located in either Region 4 or Region 8. All of these four (Keith, Lincoln, York, and Buffalo) are located along Interstate 80. Many of the four have major attractions. For example, Buffalo County has the University of Nebraska-Kearney and the Tri-Cities arena, and Keith County has Lake McConaughy. None of these counties had a particularly rapid rate of growth in real taxable lodging sales per person over the last 15 years. Mature attractions and years of severe drought, in the case of Lake McConaughy, may have limited potential to drive additional growth.

Table 4.4. County Tourism Dependency Index: Top Ten Ranked Nebraska Counties

	Region	2005			1990-2005 Annual Growth
		Real Taxable Lodging Sales	Population	Sales per Person	
Keith	8	\$3,015,685	8,330	\$362.03	0.7%
Thomas	6	\$197,676	623	\$317.30	<sup>1</sup>
Cheyenne	9	\$2,815,044	9,993	\$281.70	7.5%
Cherry	6	\$1,542,197	6,098	\$252.90	4.4%
Lincoln	8	\$7,573,248	35,636	\$212.52	1.2%
York	4	\$2,606,695	14,397	\$181.06	2.4%
Buffalo	4	\$7,771,842	43,572	\$178.37	1.0%
Dawes	9	\$1,432,651	8,636	\$165.89	2.7%
Otoe	3	\$2,072,162	15,509	\$133.61	9.8%
Brown	6	\$450,723	3,328	\$135.43	4.8%

Source: US Census Bureau and Nebraska Department of Economic Development.

<sup>1</sup> Taxable sales data not available for 1990.



The other six counties are located in the regions that were identified in Figure 4.4. Otoe County in Region 3 grew rapidly over the last 15 years. This occurred primarily due to the development of attractions in Nebraska City, specifically the Lied Center and the Arbor Day Farm. Another factor was the expansion of Nebraska Highway 2 to a four-lane facility. Several new hotels were built in Otoe County along the highway to serve interstate travelers.

Two of the top ten tourism dependent counties were located in Region 9, the Western Panhandle. Cheyenne County is located along Interstate 80 but also benefits from the presence of Cabela's home retail facility. Both Chadron State Park and Fort Robinson State Park are also located in the Panhandle, in Dawes County.

The largest number of top tourism dependent counties is located in Region 6, the Sandhills Region. In this region each county features unique opportunities for nature and adventure-related travel. Thomas County has the Nebraska National Forest at Halsey, which now includes a limited number of off-roading sites and canoeing along the Middle Loup River. In Cherry County there is canoeing along the nationally-designated scenic Niobrara River, fishing at Merritt Reservoir, two national wildlife refuges, as well as biking along the Cowboy Trail. Brown County pulls in tourists for canoeing along the Niobrara as well as some unique fishing opportunities—trout along both Pine and Plum Creek and pan fish at Keller State Park and area Sandhills lakes.

Thus, many of the most tourism-dependent counties are located in sparsely populated areas of Nebraska and rely on recreation and nature-based visitors. These are also the fastest growing of the tourism-dependent counties. This provides insight into the future for tourism in many of the non-metropolitan Nebraska regions. Below, we review these prospects in four of the seven non-metropolitan regions with either the highest or lowest rates of growth.

### **A. Southeast Nebraska (Region 3)**

Region 3 was the fastest growing region in terms of lodging sales from 1990 to 2005. It benefited from both major expansion of lodging facilities and new attractions around Nebraska City and the placement of new lodging facilities along a widened Nebraska Highway 2. The region has done well to benefit from these developments. The new attractions and the expanded highway have been in place for a few years now, so the potential for future rapid growth may be diminished. Note that the rate of real per capita sales growth slowed to a solid 3.9% rate from 1998 to 2005. Similar growth should be possible in the next five to ten years, but not the rapid growth seen from 1990 to 1998. Growth should be driven from several sources. First, a few new lodging facilities may continue to be built along Highway 2. One is under construction in 2006. Second, there is potential for additional growth in the Nebraska City area through increasing meetings and conventions or through getaway weekends for families and couples from Omaha and Lincoln. More generally, Region 3 has a solid basis for tourism development. It has a number of major attractions and is located in proximity to several larger cities. Tourism should continue to be a growth industry for the region for years to come.

### **B. Northeast Nebraska (Region 5)**

Real taxable lodging sales declined in Region 5 throughout the 1990 to 2005 period. This may have occurred because Region 5 is adjacent to larger cities in neighboring states. Lodging activity may have migrated toward these largest cities over the period. There also are major interstate highways that pass near the region but are located in Iowa and South Dakota, rather than in Region 5. Many lodging facilities prefer to locate adjacent to highways. None of the other seven non-metropolitan regions in Nebraska faced these two factors that would tend to limit the lodging industry.

### **C. Sandhills Region (Region 6)**

In the 17 county area of the Sandhills Region, three counties were ranked in the top ten on the tourism dependency index: Cherry, Thomas, and Brown. Most people can easily understand why Cherry County is on the list. It has catered to tourists tubing and canoeing on the Niobrara for many years. It is also well known as a destination for fishing (Merritt Reservoir and area lakes) as well as for Smith Falls, Bowring State Historical Ranch, and two national wildlife refuges.

Thomas County, on the other hand, may be a bit of a surprise to some as being a tourism dependent county. This may be the classic example of a small change in the number of lodging establishments making a big difference in generating lodging tax, especially in a county with a population under 1000. In the past Thomas County has seen the benefits of tourism from the Halsey National Forest, but a recent change in policy to allow limited off-roading opportunities may be supporting increased tourist stays. In addition, a new large motel and adjacent café have located on Highway 83 just outside Thedford. As one of the few motels in the area able to handle bus traffic, one can only speculate that this single establishment is finding its market niche along Highways 2 and 83. It also may be the case where local business lodging (e.g., lodging for railroad workers) contributes significantly to the lodging tax.

For Brown County, a newly created conference facility in Ainsworth and increased promotion of area natural resource amenities are undoubtedly reasons behind its listing as one of the top ten tourism dependent counties of the state. Tourism and lodging activity should continue to grow as a portion of individual tourists and meetings continue to seek rural amenities and recreation opportunities.

### **D. Western Panhandle (Region 9)**

The 11 western counties can be broken down into three specific tourism centers, each with their own set of characteristics: 1) Sidney-Cabela's I-80; 2) Scotts Bluff-Chimney Rock/Scotts Bluff National Monument; and 3) Chadron-Fort Robinson/Black Hills.

It should be no surprise that Cheyenne County is ranked third in the tourism dependency index with an annual growth rate of 7.5% from 1990 to 2005, only following Otoe County's 9.8% jump. As one of the major tourism destination in the state, Cabela's retail store in Sidney has been the driving force behind virtually all of the development clustered around the Sidney interchange, including the jump from 220 rooms in 1996 to 550 rooms in 2006 (Person, 2006).

Although not listed in the dependency index, the Scotts Bluff county area is a consistent tourism destination due to the proximity of three national monument visitor centers, Scotts Bluff, Agate Fossil Beds, and Chimney Rock. The location of the Oregon Trail, Mormon Trail, and Pony Express route also supports the historical importance of the area, again catering to history enthusiasts.

In the Northern Panhandle, Chadron State Park and Fort Robinson State Park are predominant tourist destinations supporting Dawes County's inclusion in the tourism dependency index with an annual growth rate of 2.7% from 1990 to 2005. Dawes County also is strategically positioned as a gateway to the South Dakota Black Hills.

With the exception of Cabela's, virtually all of the major tourism attractions in the region are publicly owned. Private ventures that directly complement tourism are often slow to develop, but some businesses, such as bed and breakfasts and ranch adventures, are being created in the region. The recent expansion of the four-lane Heartland Express from Kimball to Scottsbluff should cater to visitors who trek from I-80 north to the Black Hills, increasing the likelihood of this corridor being used more frequently in the future. Consistent growth should be expected in the region due to its strategic location

along several major tourism corridors that lead to the Black Hills, Yellowstone, and, to the south, the Colorado Rockies.

## **V. Conclusion**

The tourism industry in Nebraska is not as large relative to population as in some other states. The tourism industry also has not grown in Nebraska as rapidly as in most surrounding states, particularly since the late 1990s. Growth in Nebraska tourism has rebounded solidly in 2005 and 2006. The industry also has expanded from 1990 to 2005 in five of the seven non-metropolitan areas of Nebraska, and growth is particularly notable in the Nebraska City area in Southeast Nebraska and in the Sandhills Region. Growth also was strong in the Western Panhandle during the 1990s.

This growth was linked to activity at Nebraska tourist attractions. We identified a statistically significant link between growth in attendance in Nebraska's tourist attractions and the expansion of lodging sales in the state. These attractions, in addition to serving local markets, are bringing new spending to the state on lodging and in related industries such as retail and dining.

In the 2004 Nebraska Tourism Industry Plan (Collins, 2004), seven statewide recurring tourism issues were identified: outdoor commercial advertising, tour development, nature-based tourism, arts-heritage-culture tourism, Nebraska Welcome Centers, tourism funding legislation, and agricultural tourism. Three of the seven issues focus on unique tourism venues. It would appear, based on the information presented, that in the state's most rural areas, businesses catering to nature, arts-heritage-culture, and agricultural tourism are finding a niche in the tourism market.

Results from data analysis also create questions with policy implications: What contributed to Nebraska being outpaced by Iowa, Kansas, South Dakota, North Dakota, and Minnesota from 1997-2002 in per capita growth of net taxable lodging sales? How does Nebraska compare to these states in per capita expenditures of public dollars on tourism promotion? The 2004 Nebraska Tourism Industry Plan presented three development strategies (outdoor commercial advertising, tour development, and Nebraska Welcome Centers) as recurring public issues during the plan's statewide public input sessions. Have similar strategies also been effective in these neighboring states or were other methods more successful in capturing tourism dollars?

Overall, these research findings suggest that tourism is one pillar of economic growth even in some of the most lightly populated areas of Nebraska. Entrepreneurs in these regions have managed to grow the Nebraska tourism industry through developing attractions and developing the lodging, dining, and retail activities needed to serve tourists.

## Chapter 5: Trucking

### Christopher Decker

#### I. Introduction

This chapter focuses on the freight trucking industry (NAICS code 484) within the state of Nebraska. Given that there are approximately 8,000 licensed motor carriers as well as two of the top ten major truck freighting companies (Werner Enterprises and Crete Carrier Corp.) located within its borders, this industry is one of the most dynamic sectors in the state. The Nebraska Department of Economic Development (DED) has targeted this sector as being key to the future success of the state's economy.

Substantial efforts have been made recently by the DED, in conjunction with the Nebraska Trucking Association, to bill Nebraska as a natural warehousing and distribution center for the nation, exploiting a number of characteristics favorable to trucking and transportation in the state. According to a recent study of Nebraska transportation and logistics potential, the state is well-poised to continue to develop healthy job and income growth through this sector.

First, the transportation infrastructure is favorable, with its nearly 500 mile Interstate 80 east-west stretch across the state and nearly 23,000 miles of north-south routes that can support continued north-south flow of goods along the so-called NAFTA trade corridor.

Second, the state's geographic location is advantageous to transportation, both north and south and east and west. It has been estimated, for instance, that one day's worth of truck travel will reach 26 percent of the continental United States' population and households.<sup>24</sup>

Finally, while Nebraska has among the highest labor force participation rates in the nation, there are workers with an appropriate background and interest in working in the trucking industry in many rural areas of the state. Much of this labor is available because individuals are closely tied to the area, are reluctant to re-locate, are finding agricultural employment more difficult to obtain, and have limited interest in work in the retail or personal service industry. Trucking is a favorable alternative for many such individuals. All these advantages may help explain why major companies such as Wal-Mart, Farmland Foods, Oriental Trading Company, and Iams have established and/or expanded major distribution centers within Nebraska.

This industry contributes substantially to the economic export base of Nebraska. The majority of trucking firms in the state are primarily classified as long-distance haulers of general freight (NAICS 48412). For instance, in 2004, the long haul freight industry in Nebraska generated \$189 million in revenues, compared to \$77 million for the local general freight trucking market (NAICS 48411), about 71 percent of all general freight trucking in the state.

The primary source of data explored here is the US Census Bureau's *County Business Patterns* (CBP) data. This dataset has a number of advantages; it offers substantial geographic and sectoral detail on a number of key economic variables including payroll employment and number of establishments. As with any regionally oriented data source, there are instances where the Census Bureau has suppressed data in compliance with disclosure restrictions. Unlike other sources, CBP provides some clues as to the

---

<sup>24</sup> See "Nebraska: America's Emerging Logistics Center," *Inbound Logistics*, March 2006.

relative size of employment for those sectors for which data were suppressed, thus allowing researchers to at least estimate reasonable employment values for those sectors.<sup>25</sup>

There are some limitations to these data. First, the employment numbers count only hired employees, not sole proprietorships. Therefore, the numbers could be under-reporting the employment picture in a given county, especially for those sectors that tend to have a large number of non-employer businesses. Second, CBP only measures private employment. Third, while the CBP provides valuable information on NAICS 484, more sectoral detail is difficult to obtain; we don't have a good picture of the generalized truck freight industry versus specialized trucking, nor do we get a good sense as to the distinction between local versus long-distance trucking. Finally, the CBP data tend to be released with a significant lag. For instance, the latest data currently available by NAICS classification covers the period 1998 to 2004. Fortunately, data supplied by the Nebraska Department of Revenue, also only currently available through 2004, offers some additional sectoral detail, and includes revenues and establishment counts from all employers, including sole proprietorships.

This chapter investigates how the trucking industry in Nebraska compares with its broader geographic region and with the United States by focusing on employment and establishment levels, growth rates, and location quotients (LQs), which provide a picture of the sector's export potential (to other states). We then turn to a detailed analysis of the seven non-metropolitan regions within Nebraska to identify where most of the activity has occurred and where growth areas appear to be for the trucking sector in Nebraska.

## **II. Employment, and Establishment Growth: Nebraska, Neighboring States, and the West North Central Region of the United States**

Tables 5.1 and 5.2 as well as Figure 5.1 summarize how Nebraska's trucking sector compares with the neighboring states and the nation as a whole. According to CBP, 2004 employment in NAICS 484 was 18,303 in Nebraska, up from 15,919 in 1998, an average annual increase of 2.35 percent, much faster than the 1.23 percent increase for the US as a whole and the 1.53 percent increase in the West North Central Census Region (comprising Iowa, Kansas, Minnesota, Missouri, South Dakota, North Dakota, and Nebraska). Moreover, all other states except Iowa experienced much slower trucking job growth than Nebraska. South Dakota and North Dakota even experienced substantial declines in trucking employment (Figure 5.2). Clearly, trucking in the state is gaining substantial prominence in this region as well as the nation as a whole.<sup>26</sup>

It is also important to address how trucking is contributing to Nebraska's overall employment growth picture. Table 5.1 shows that trucking employment growth has outpaced total Nebraska private employment growth, which averaged roughly 1.21 percent over the same time period. Table 5.2 shows that this has resulted in trucking accounting for 2.36 percent of total private Nebraska employment as of 2004, up from its 1998 share of 2.21 percent. This share of employment is much larger than that of the US (at 1.24 percent) and the West North Central Region (at 1.69 percent).

---

<sup>25</sup> For instance, for Merrick County Nebraska employment data in NAICS 484 are suppressed. CBP does provide a code "A" indicating that employment in this sector for this county would range from 0 to 10 employees. We use such codes to proxy employment in counties, usually by taking the median value, in this case five employees, following standard practice. While this does introduce some distortions into the data causing county employment numbers to not necessarily add to the corresponding state totals, counties where data are suppressed tend to be relatively small, thus significantly limiting the potential distortions.

<sup>26</sup> Note that the numbers presented here differ from those presented in the introduction mainly because the data sources differ and cover a different period of time. The patterns shown in both datasets are similar. Both show that Nebraska's employment growth in the trucking industry has outpaced both the broader region and the nation as a whole.

Figure 5.1. Gross Receipts: Local versus Long Distance Truck Freight Hauls, 2004



A similar story appears when considering establishments, suggesting that it's not only that existing companies are hiring more truckers, but that more companies are entering this state as well. Figure 5.2 reveals that between 1998 and 2004, the number of trucking establishments in Nebraska increased 2.77 percent on average, following only Colorado and Wyoming in the immediate region.<sup>27</sup> When compared to Iowa, for example, where employment in NAICS 484 has increased substantially, the number of new establishments has grown more slowly (1.42 percent on average between 1998 and 2004). Iowa's trucking firms appear to be getting larger while Nebraska's trucking companies are getting smaller. Des Moines has recently become a major hub for UPS, for instance. Nebraska, while not without large carriers, appears to be creating more smaller companies largely due to the demographic forming these new trucking activities. Relatively young individuals may be choosing to stay closer to their rural roots, are finding agricultural employment difficult to obtain, and are opting to enter truck freighting.

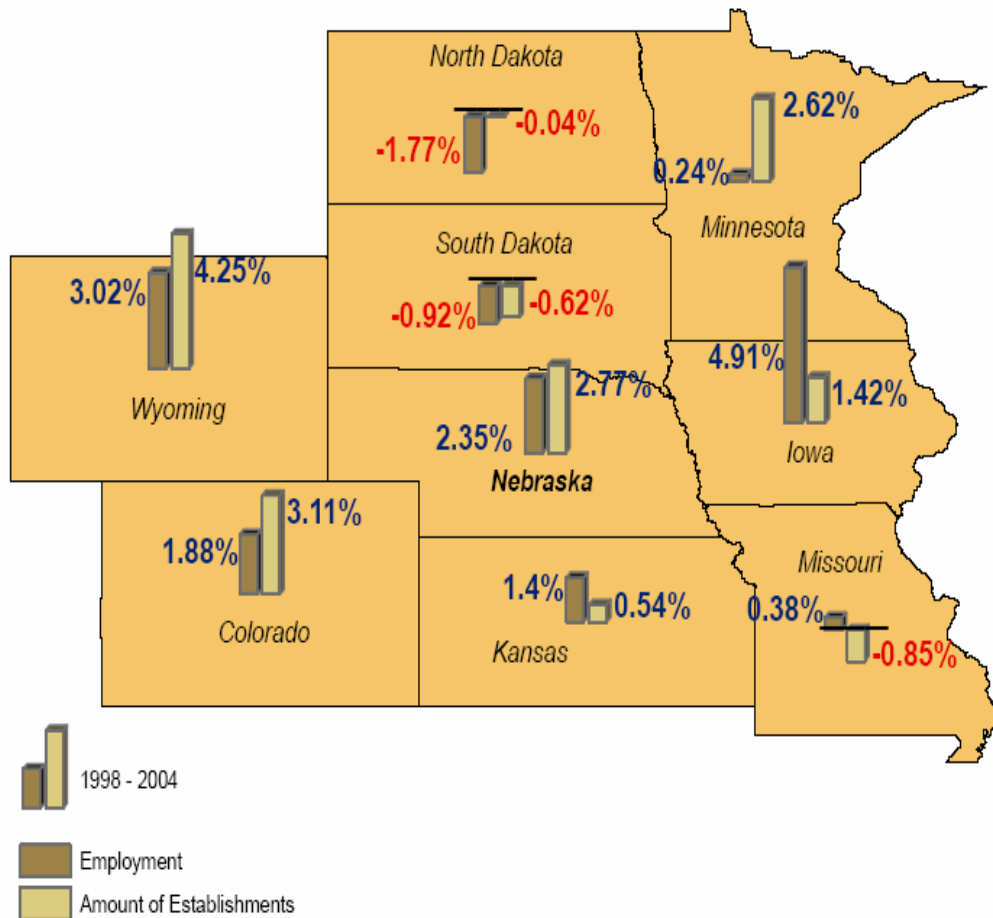
Table 5.1. West North Central Region Average Annual Growth, 1998-2004

	Total Private Employment			Total Establishments		
	1998	2004	% GR	1998	2004	% GR
NE	720,252	774,311	1.21	48,655	50,928	0.76
WNC (excl. CO and WY)	8,136,169	8,520,701	0.77	526,214	556,540	0.94
US	108,117,731	115,074,924	1.04	6,941,822	7,387,724	1.04
	Employment in NAICS 484			Establishments in NAICS 484		
	1998	2004	% GR	1998	2004	% GR
NE	15,919	18,303	2.35	1,492	1,758	2.77
WNC (excl. CO and WY)	131,578	144,115	1.53	13,154	13,909	0.93
US	1,327,086	1,428,458	1.23	107,868	113,926	0.91

Source: U.S. Bureau of Census, *County Business Patterns*.

<sup>27</sup> Note, however, that the number of such establishments in Wyoming is small. Wyoming has witnessed substantial growth, but the number of such establishments is 534. In Nebraska, the number of trucking companies is more than three times that number at 1,763.

Figure 5.2. Average Annual Growth in Establishments and Employment NAICS 484, Midwestern States: 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*.

This trend in Nebraska appears to be having an effect on the overall composition of establishments operating in the state. In 2004, the number of trucking companies accounted for 3.45 percent of total state establishments, up nearly a half of percent from 1998. Hence, while NAICS 484's employment share has increased, NAICS 484's establishment share has increased to a greater degree. The implication is that these smaller trucking firms are contributing more to the state's economy relative to 1998.

Table 5.2 West North Central Region Employment Share of Total, 1998-2004

	Employment in NAICS 484			Establishments in NAICS 484		
	1998	2004	Increase	1998 Share	2004 Share	Increase
NE	2.21	2.36	0.15	3.07	3.45	0.38
WNC (excl. CO and WY)	1.62	1.69	0.07	2.50	2.50	0.00
US	1.23	1.24	0.01	1.55	1.54	-0.01

Source: U.S. Bureau of Census, *County Business Patterns*.

### III. Trucking and Nebraska's Economic Base

In addition to an industry's share of economic activity and growth in a state, it is common to investigate the industry's location quotient or LQ. For a given economic concept (usually employment), an LQ for industry k in a particular region i, is defined as:

$$LQ_i = \frac{share_{k,i}}{share_{k,j}}.$$

LQs are one means of illuminating the composition of a particular region's export-oriented activities. If an LQ for a given industry  $k$  is greater than one, then the industry's share of some economic variable in region  $i$  is larger than that same industry's share in a more geographically defined area  $j$ . The implication of such a result is that there is more economic activity in industry  $k$  within region  $i$  than that region can absorb locally. Therefore, some of that industry's production must be being exported outside region  $i$  and contributes to the region's economic base.

Table 5.3 presents location quotients for NAICS 484 using Nebraska as region  $i$  and neighboring states (including Nebraska), the West North Central Region (again including Nebraska), and the United States as a whole as region  $j$ , respectively. LQs were constructed using both private employment and number of establishments. The data suggest that the trucking industry in Nebraska is a major contributor to the state's economic base.

**Table 5.3. Location Quotients: Nebraska to Regional Neighbors, the WNC, and US, 1998-2004**

	Employment in NAICS 484			Establishments in NAICS 484		
	1998	2004	Increase	1998	2004	Increase
NE	1.36	1.42	0.06	1.34	1.58	0.24
WNC (excl. CO and WY)	1.37	1.40	0.03	1.23	1.38	0.15
US	1.8	1.90	0.10	1.97	2.24	0.27

In all three cases, it is clear that Nebraska's trucking industry is servicing both a broader regional and national market. Moreover, we've observed increases in the LQs over the period 1998 to 2004 in both employment and number of establishments. While it appears that the average size of a trucking establishment declined in Nebraska in recent years, these entities are still serving a regional and national market and Nebraska's contribution to that market is growing. Further, the trucking industry is part of the economic base of the Nebraska economy, an independent source come into the state economy.

#### **IV. Employment, and Establishment Growth: Regions within Nebraska<sup>28</sup>**

We next turn our attention to where within the state most of the activity in trucking is occurring. Table 5.4 presents CBP data measuring employment and establishment growth in the nine regions comprising the state. We see that in Regions 4 (Grand Island, Kearney, and Hastings), 5 (near Sioux City, Iowa and Vermillion, SD), and 9 (Western Panhandle and Scotts Bluff), employment growth in NAICS 484 outpaced overall private employment growth. In Region 5, where overall private employment declined 2.24 percent on average between 1998 and 2004, 287 new trucking jobs were added to the payroll for an average annual increase of over 4 percent. Even in some regions where trucking employment grew more slowly than the state average, the sector did much better than total private employment in that region. In Region 7 (Columbus and Norfolk) where there was only a slight increase in total private employment between 1998 and 2004, trucking employment increased 2.14 percent on average. Regions 3 (Southeast Nebraska) and 6 (the Sandhills Region) witnessed declines in trucking employment, and Region 8 (North Platte, Lexington, and Ogallala) posted minimal gains. Regions 3 and 6 are relatively small in terms of overall employment and in trucking employment. Region 8 is a mystery, particularly because Interstate 80 runs through this region. The numbers for this region may be somewhat misleading, as they only cover through 2004. Consultation with members of the Nebraska Trucking Association revealed

<sup>28</sup> We restrict our attention to the seven rural regions of the state. Regions 1 (Omaha) and 2 (Lincoln) have been omitted from the following tables. These figures are available upon request.



that there has been some substantial increase in shipping activities in the region, due to the opening of a Wal-Mart there. Hence, later data should show an up-tick in trucking activity.

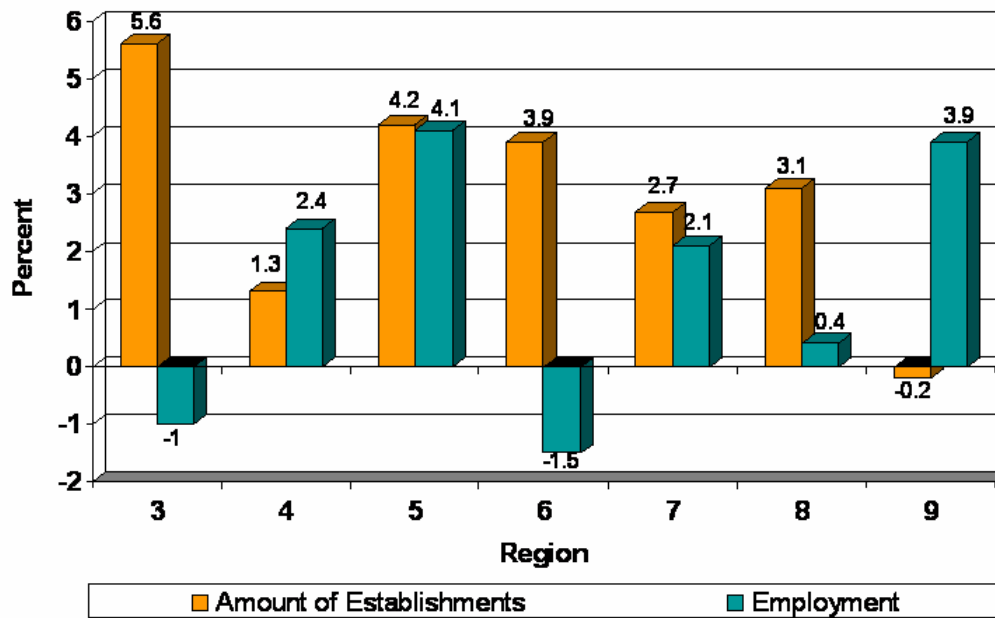
**Table 5.4. Regions within Nebraska Average Annual Growth, 1998-2004**

Region	Total Private Employment			Total Establishments		
	1998 Level	2004 Level	% GR	1998 Level	2004 Level	% GR
3	9,680	10,424	1.24	1,163	1,117	-0.67
4	81,539	83,591	0.42	6,729	6,827	0.24
5	25,786	22,507	-2.24	2,130	2,063	-0.53
6	11,435	12,079	0.92	1,844	1,790	-0.49
7	45,881	46,647	0.28	3,629	3,653	0.11
8	35,334	37,311	0.91	3,659	3,694	0.16
9	26,508	28,121	0.99	2,864	2,795	-0.41
Total Non-metro Nebraska	236,163	240,680	0.32	22,018	21,939	-0.06
Region	Employment in NAICS 484			Establishments in NAICS 484		
	1998 Level	2004 Level	% GR	1998 Level	2004 Level	% GR
3	150	142	-0.97	39	54	5.57
4	2,509	2,894	2.40	274	296	1.30
5	1,053	1,340	4.09	115	147	4.18
6	407	372	-1.49	90	113	3.87
7	1,254	1,424	2.14	184	216	2.71
8	604	619	0.41	100	120	3.09
9	573	721	3.89	111	110	-0.15
Total Non-metro Nebraska	6550	7,510	2.30	913	1,056	2.45

Source: U.S. Bureau of Census, *County Business Patterns*.

In terms of NAICS 484's share of overall private employment, Regions 4, 5, 7, 8, and 9 have picked up substantial share in these regions (Table 5.5). Region 5 stands out, where NAICS 484's share has increased from 4.08 percent to 5.95 percent. Much of this increase may be attributable to a number of events. First, there has been increased north-south freighting from Ontario, Canada where trucking firms have found it advantageous to freight by traveling over the Great Lakes and entering the US through Minnesota, thus following the north-south Interstate 29 Route.

Figure 5.3. Average Annual Growth in Establishments and Employment NAICS 484, Nebraska Regions: 1998-2004.



Source: U.S. Bureau of Census, *County Business Patterns*.

Also, recently Tyson has constructed substantial warehousing facilities in the Sioux City area, increasing the demand for distribution services.<sup>29</sup> Even in regions where NAICS 484's share has declined, the reductions have been small. See, for instance, Region 6 (Sandhills). Trucking employment there has fallen from 3.6 percent in 1998 to 3.1 percent in 2004.

The state trend of smaller trucking establishments appears to be reflected in Regions 3, 6, 7, and 8. According to CBP data presented in Table 5.4, the number of trucking establishments has grown substantially in all regions except Region 9, including Regions 3, 6, and 8 which experienced employment declines. For instance, Region 6, the Sandhills Region, which lost trucking jobs, increased the number of trucking establishments by 23, about a 3.9 percent increase on average.

In a few regions, the average size of trucking establishments appears to have increased. For instance, Region 4, which experienced an increase in employment of about 2.4 percent per year between 1998 and 2004, witnessed only a 1.3 percent annual increase in establishments over the same period. It would appear that here and in Region 9 there were increases in the number of establishments as well as increases in the average size of such establishments. In the remaining regions establishment growth has outpaced employment growth, suggesting that the average size of trucking establishments is decreasing.

As far as NAICS 484's share of total private employment and establishments by region, consider Table 5.5 and Figure 5.4. Regions 4, 5, 6, 7, and 9 all have employment shares in NAICS 484 that exceed the overall state share. Moreover, four of seven regions experienced an increase in NAICS 484's share of total private employment between 1998 and 2004. Across all regions, when a decline in share was recorded (such as in Regions 3, 6, and 8), the declines were relatively small.

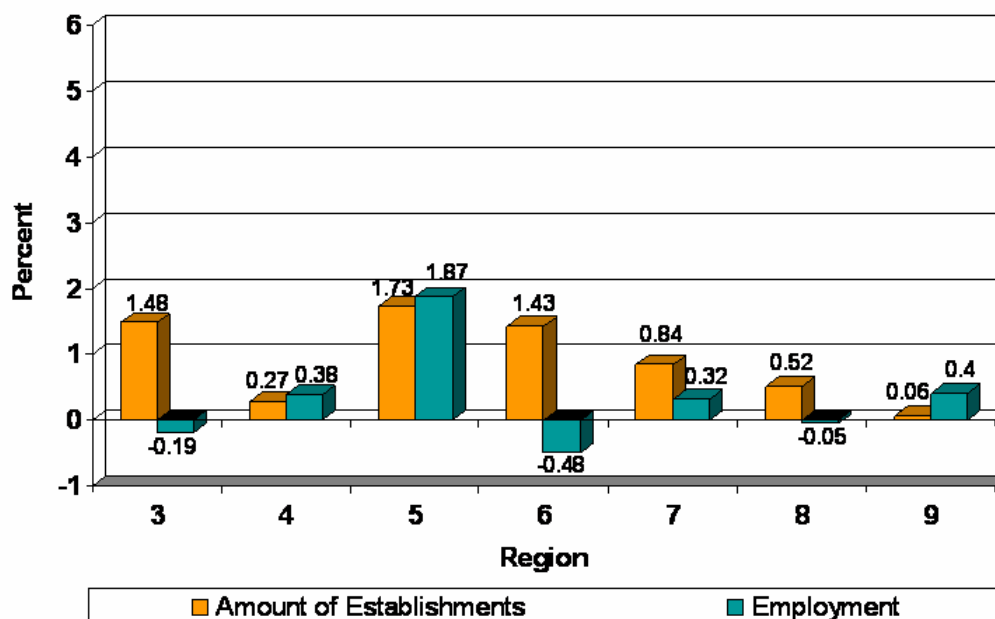
<sup>29</sup> Much of this information was supplied to us via conversations with the Nebraska Trucking Association.

**Table 5.5. Within Nebraska Employment Share of Total, 1998-2004**

	Employment in NAICS 484			Establishments in NAICS 484		
	1998 Share	2004 Share	Increase	1998 Share	2004 Share	Increase
3	1.55	1.36	-0.19	3.35	4.83	1.48
4	3.08	3.46	0.38	4.07	4.34	0.27
5	4.08	5.95	1.87	5.40	7.13	1.73
6	3.56	3.08	-0.48	4.88	6.31	1.43
7	2.73	3.05	0.32	5.07	5.91	0.84
8	1.71	1.66	-0.05	2.73	3.25	0.52
9	2.16	2.56	0.40	3.88	3.94	0.06
Non-metro NE	2.77	3.12	0.35	4.15	4.81	0.67
NE	2.21	2.36	0.15	3.07	3.45	0.38

Source: U.S. Bureau of Census, *County Business Patterns*.

**Figure 5.4. Average Growth in Establishments and Private Employment Shares for NAICS 484, Nebraska Regions: 1998-2004**



Source: U.S. Bureau of Census, *County Business Patterns*.

By far the region with the largest share of trucking employment is Region 5 (Sioux City area), with 5.95 percent of hired labor employed in NAICS 484 as of 2004. Consistent with the employment growth data in Table 5.4, this region has also experienced a substantial increase in this sector's share of total private employment, a 1.87 percent increase in share relative to 1998. Region 4 (Grand Island, Hastings, and Kearney area) also posted gains in share likely due to the presence of Interstate 80 running through this region.

A similar pattern holds for the share of NAICS 484 establishments. Regions 3, 5, 6 and 7 have shares of NAICS 484 establishments that exceed the state share, in some instances by a large margin. For instance, in Region 5 NAICS 484 accounted for 7.1 percent of total establishments as of 2004, double the state's share of 3.5 percent. Moreover, in all regions the share of establishments in NAICS 484 has

increased between 1998 and 2004. (Even Nebraska's Panhandle Region posted modest gains.) The data support DED's claim that trucking is a high-growth industry for the state of Nebraska.

## V. Trucking and the Economic Base of Nebraska's Seven Regions

We now turn to the question of where in the state much of this basic activity is occurring. Nebraska as a whole tends to export much of its trucking activity. In calculating our LQs for each of our nine regions, we use both the West North Central (WNC) Region as well as Nebraska's neighboring states as our basis for comparison.

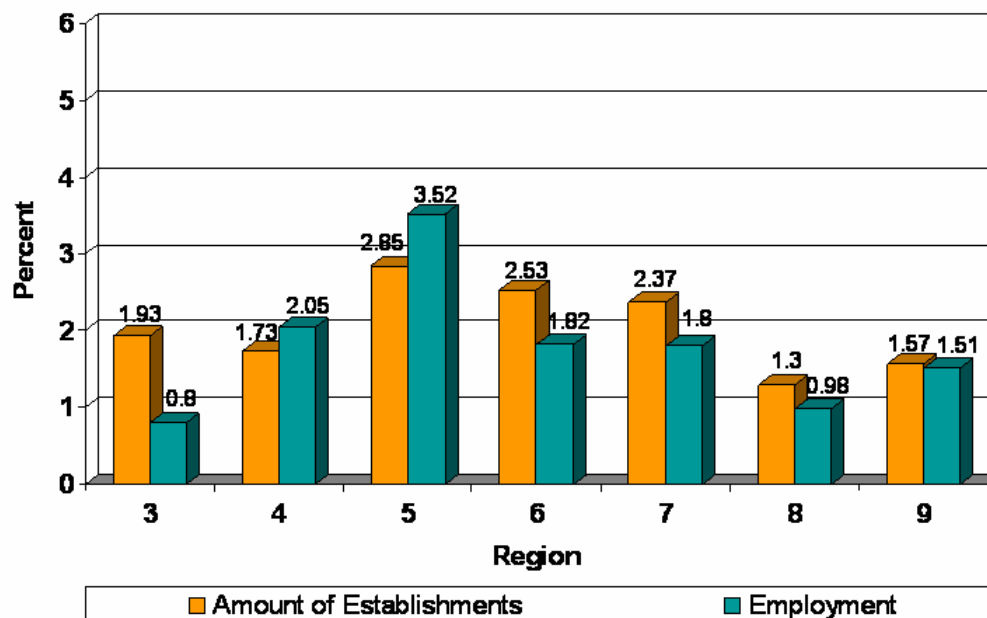
When considering the WNC Region and using employment measures (Table 5.6 and Figure 5.5), we find that except for Region 3 and, to a lesser degree, Region 8, NAICS 484 serves as a contributor to each region's economic base. Again, this is particularly true in Region 5, where NAICS 484 employment's share of total is 3.5 times that of the WNC Region, likely due to the presence of Interstate 29 adjacent to that area and the increased popularity of that north-south route. Other leading regions include Region 4 (Grand Island, Hastings, etc.), largely due to the presence of Interstate 80 through that area.<sup>30</sup>

**Table 5.6. Location Quotients in Relation to the West North Central Census Region (including Nebraska), 1998-2004**

	Employment in NAICS 484			Establishments in NAICS 484		
	1998	2004	Increase	1998	2004	Increase
3	0.96	0.80	-0.15	1.34	1.93	0.59
4	1.90	2.05	0.15	1.63	1.73	0.11
5	2.52	3.52	1.00	2.16	2.85	0.69
6	2.20	1.82	-0.38	1.95	2.53	0.57
7	1.69	1.80	0.12	2.03	2.37	0.34
8	1.06	0.98	-0.07	1.09	1.30	0.21
9	1.33	1.51	0.18	1.55	1.57	0.02

<sup>30</sup> Once again, Region 8 is somewhat of a mystery given the presence of Interstate 80. This region's LQ was greater than in 1998, and, given the recent activity in that region, it is possible that more recent data may improve the statistical picture of that region.

Figure 5.5. Location Quotients in relation to the West North Central Census Region 2004



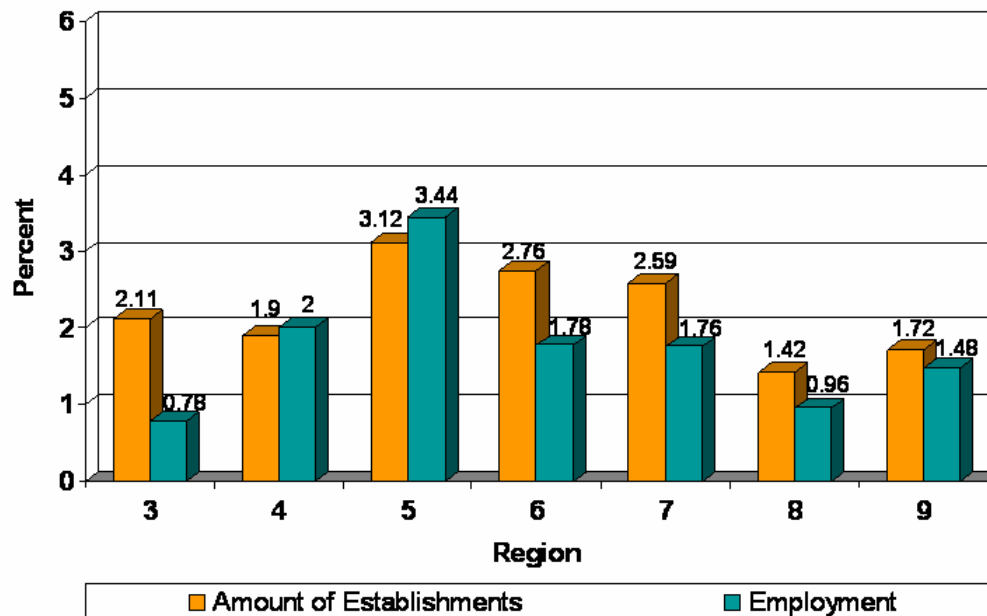
When we isolate and only consider the states neighboring Nebraska (Table 5.7 and Figure 5.7), again we find the NAICS 484 is for seven of the state's non-metropolitan regions a major contributor to the region's economic base. Moreover, between 1998 and 2004, the resulting LQs have increased in Regions 4, 5 (substantially so), 7, and 9 when employment is used to calculate these LQs.

Table 5.7. Location Quotients in Relation to Adjacent States (including Nebraska), 1998-2004

	Employment in NAICS 484			Establishments in NAICS 484		
	1998	2004	Increase	1998	2004	Increase
3	0.95	0.78	-0.17	1.46	2.11	0.65
4	1.90	2.00	0.10	1.78	1.90	0.12
5	2.51	3.44	0.93	2.36	3.12	0.76
6	2.19	1.78	-0.41	2.13	2.76	0.63
7	1.68	1.76	0.08	2.21	2.59	0.37
8	1.05	0.96	-0.09	1.19	1.42	0.23
9	1.33	1.48	0.15	1.69	1.72	0.03

Again, the implication is that several regions are establishing a larger trucking base than in the broader region, supporting DED's claim that trucking is a targeted, high-growth industry for the state.

Figure 5.6. Location Quotients in Relation to Nebraska's Neighboring States 2004



## VI. Analysis of Detailed Sectoral Data from the Nebraska Department of Labor: Employer and Non-Employer Data

CBP data have some limitations in that the employment numbers count only hired employees, not sole proprietorships. Further, sectoral detail more refined than the three-digit NAICS level is difficult to obtain. Fortunately, data supplied by the Nebraska Department of Revenue (NDR) offer some additional sectoral detail and provide establishment counts from **all** employers in various sectors.<sup>31</sup> What, then, do the more recent data suggest about the status for general freight trucking? Table 5.8 reports data on total receipts (sales revenues) and total number of firms (both sole proprietors as well as employer establishments) between 2000 and 2004. Average annual growth measures are reported as well. These data provide insights into more detailed breakdowns of the NAICS 484 sector. Specifically, NAICS 4841 focuses on general (non-specialized) freight trucking activity, and NAICS 48411 and NAICS 48412 provide pictures of trucking activity that are local and long distance freighting, respectively. General freight trucking has been growing in each of these reported regions in both the number of firms as well as sales revenue generated. Between 2000 and 2004, substantial firm growth has occurred in Regions 3 (Southeast Nebraska), 4 (Grand Island, Kearney, Hastings area), 5 (Sioux City area), and 8 (North Platte area). Moreover, revenues have growth substantially in each region as well, again with Regions 3, 5, and 8 posting substantial increases. This is not totally unexpected, given each region's proximity to major interstate arteries (Interstate 80 and Interstate 29).

<sup>31</sup> While the CBP and NDR data do differ in coverage and detail, a quick comparison (available upon request) for establishments between the two datasets over the period 2000-2004 reveals some consistency. We suggest caution when making comparisons beyond this point, as there are a number of significant differences between the CBP data and the NDR data.

**Table 5.8. Regions within Nebraska Average Annual Growth, 2000-2004**

Region	Total Firms, NAICS 4841			Total Receipts, NAICS 4841		
	2000 Level	2004 Level	% GR	2000 Level	2004 Level	% GR
3	115	130	3.11	12,982	17,059	7.07
4	512	555	2.04	50,410	59,954	4.43
5	245	281	3.49	28,869	32,692	3.16
6	295	296	0.08	31,304	35,390	3.11
7	412	428	0.96	44,029	48,415	2.40
8	340	377	2.62	32,096	41,819	6.84
9	299	303	0.33	27,589	31,474	3.35
	Total Firms, NAICS 48411			Total Receipts, NAICS 48411		
3	47	51	2.06	4,339	6,244	9.53
4	157	161	0.63	9,076	12,740	8.85
5	88	104	4.26	8,074	9,222	3.38
6	107	103	-0.95	7,853	8,467	1.90
7	143	175	5.18	12,071	14,561	4.80
8	113	130	3.57	8,784	14,675	13.69
9	119	140	4.15	9,905	11,327	3.41
	Total Firms, NAICS 48412			Total Receipts, NAICS 48412		
3	68	79	3.82	8,643	10,815	5.76
4	355	394	2.64	41,334	47,214	3.38
5	157	177	3.04	20,795	23,470	3.07
6	188	193	0.66	23,451	26,923	3.51
7	269	253	-1.52	31,958	33,854	1.45
8	227	247	2.13	23,312	27,144	3.88
9	180	163	-2.45	17,684	20,147	3.31

Source: Nebraska Department of Revenue.

In terms of the breakdown between long distance and local hauling, we observe that most of the trucking activity is in long distance hauling (NAICS 48412). In 2004, about 1,506 firms generating \$190 million in revenues were classified as long distance carriers as compared to 864 (generating \$77 million in gross receipts) in the local hauling category. This result appears consistent with the CBP data suggesting that the trucking industry in Nebraska is an export-oriented industry.

It is interesting to note, however, that while the largest share of general freight trucking is long distance hauling, it appears to be the case that overall new firm and revenue growth appears to be higher in the local hauling sector (NAICS 48411). This is particularly true in Regions 3, 4, and 8 where revenues grew between 8 and 14 percent between 2000 and 2004 on average in local hauling, whereas long distance hauling grew between 3 and 6 percent on average. Although it is unlikely that local hauling will overtake long distance freighting any time soon, these results appear to be consistent with the CBP data suggesting that the average truck firm size has been shrinking in recent years.

## VII. Conclusions

Trucking has become, and will continue to be, a major growth area for Nebraska. Demographics favorable to trucking, its geographic location, and the developed status of the interstate highway all seem to be working in the state's favor when it comes to trucking. NAICS 484 is both a statewide and regional major exporting industry, contributing to each location's economic base. Greatest growth areas appear to be the northeast section of the state (Region 5) and Region 4 (Grand Island, Kearney area).

The existing analysis does not measure how other sectors are being impacted by more trucking activities. For instance, as is the case in many industries, increased trucking activity is likely to create

demand for a number of other economic vocations. For instance, trucks require periodic servicing, necessitating the need for additional mechanical and body-shop employment. Additional demand for larger freighting trucks could prompt the establishment of more truck dealerships in a particular region. Also, this could increase demand for trailer manufacturing and truck insurance. This multiplier effect is not reflected in the analysis above, but would answer an additional important question: What is the impact of the trucking industry regionally and statewide? This is important to consider, but complicated to do. We leave this for future research consideration.



## Chapter 6: Professional Services

Julian Neira, Benjamin Schmitz, and Eric Thompson

### I. Introduction

This chapter focuses on the service industry, particularly, the professional, scientific, and technical services industry, classified as code 54 in the North American Industry Classification System (NAICS). As stated by the US Census Bureau, this sector encompasses businesses that specialize in providing services to a variety of industries and, in some cases, households. A high degree of expertise and training are required to provide these services. This industry encompasses, but is not limited to, activities such as:

- Legal advice and representation
- Accounting, bookkeeping, and payroll services
- Architectural, engineering, and specialized design services
- Computer services
- Consulting services
- Research services
- Advertising services
- Photographic services
- Translation and interpretation services
- Veterinary services
- Other professional, scientific, and technical services

It is important to note that administrative and support services such as office services, facilities support services, or waste management services are listed under a different code and are, therefore, not included in this study.

The information used in this chapter was gathered from the US Census Bureau *County Business Patterns 2004* and from a survey sent by the research team to non-metropolitan service providers. *County Business Patterns* provides yearly information on private employer counts, employment, and wages.

The professional service sector (PSS) is economically integral, as it enhances productivity in other businesses. Productivity growth is regarded by economists as the most important long-term determinant of economic growth. As this study confirms, the professional services sector is still increasing its role in the national, regional, and local economies, including non-metropolitan Nebraska. This is expected as a natural step in the development and diversification of these economies.

### II. Employment, and Establishment Growth: Nebraska, Neighboring States, and the West North Central Region of the United States

Figure 6.1 gives us a snapshot of the growth of the PSS among states of the West North Central Region. North Dakota has had the fastest employment growth rate in the region, followed closely by South Dakota. Nebraska's employment growth rate in the PSS is third overall, creating about 1,650 jobs a year. Although no state in the region has seen a decrease in its PSS, Nebraska's PSS is growing faster than Wyoming, Colorado, Kansas, Missouri, Minnesota, and particularly Iowa, which is last on the list. More importantly, the rate of professional service growth outpaces overall employment growth, which is consistent with the view that the economy is transitioning to a service base. To put this process in context, compare the moderate 1.21% annual growth of overall private employment (Table 6.1) in Nebraska to the robust 4.82% growth of the state's professional service industry.

**Table 6.1. West North Central Region Average Annual Growth, 1998-2004**

	Total Private Employment			Total Establishments		
	1998 Level	2004 Level	% GR	1998 Level	2004 Level	% GR
NE	720,252	774,311	1.21	48,655	50,928	0.76
WNC (excl. CO and WY)	8,136,169	8,520,701	0.77	526,214	556,540	0.94
US	108,117,731	115,074,924	1.04	6,941,822	7,387,724	1.04
	Employment in NAICS 54			Establishments in NAICS 54		
	1998 Level	2004 Level	% GR	1998 Level	2004 Level	% GR
NE	30,406	40,338	4.82	3,518	4,023	2.26
WNC (excl. CO and WY)	351,822	419,225	2.96	43,522	49,553	2.19
US	6,051,636	7,569,981	3.80	687,230	804,569	2.66

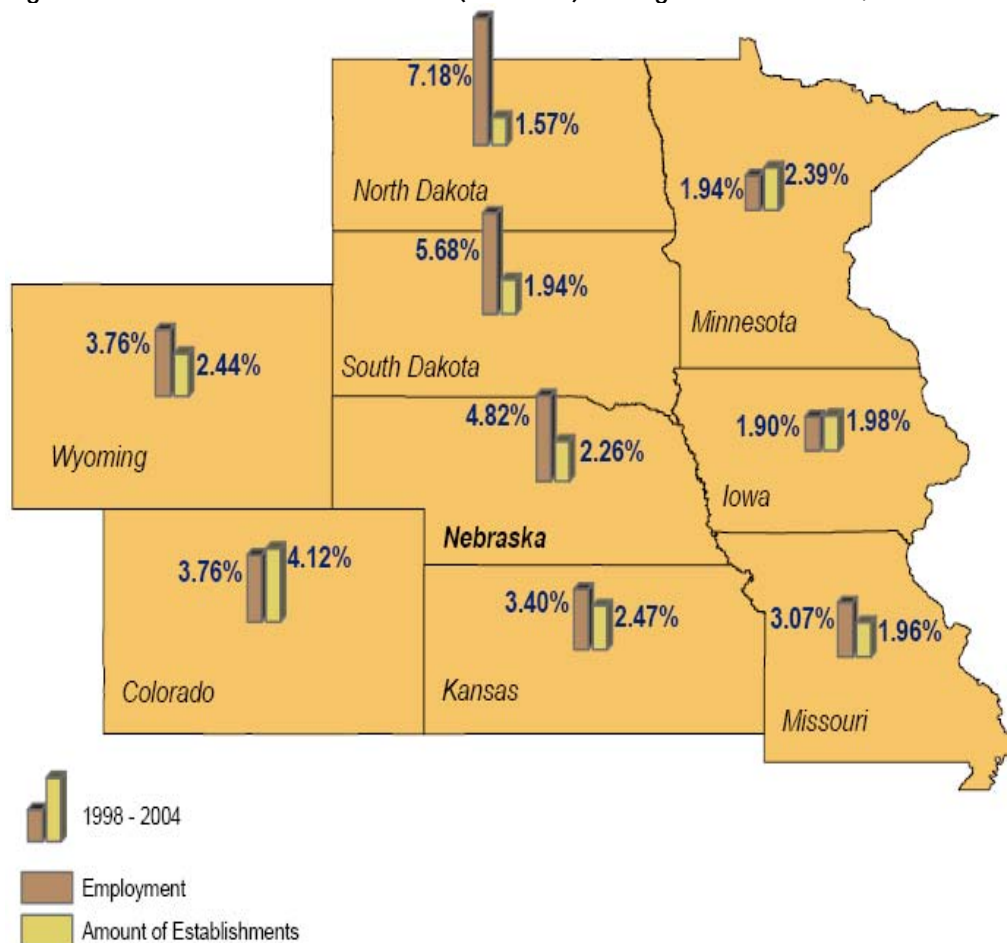
Source: U.S. Bureau of Census, *County Business Patterns*.

State by state growth rates are reported in Figure 6.1. Another indicator of growth in the professional service sector is the increase in the number of establishments in the industry. Note that the rate of establishment growth does not match employment growth trends. Instead, the trend seems to be that states with higher populations enjoy higher establishment creation. The states with the lowest establishment growth, North Dakota and South Dakota, are also the least populated after Wyoming.

States with large metropolitan areas tend to have higher rates of entrepreneurship and business formation, even if aggregate employment growth is not as high. A possible explanation for this might be that more entrepreneurial and highly skilled people tend to cluster together to increase productivity and pay. Thus, compared to non-metropolitan areas, metropolitan areas tend to have a higher concentration of skilled labor.

Non-metropolitan areas, however, also have entrepreneurship and growth in the professional service sector. Nebraska seems to be average, with solid job and establishment growth. PSS has been growing much faster than overall employment and establishment growth. This is true whether Nebraska is compared to surrounding states or the United States as a whole.

Figure 6.1. Professional Service Sector (NAICS 54) Average Annual Growth, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*.

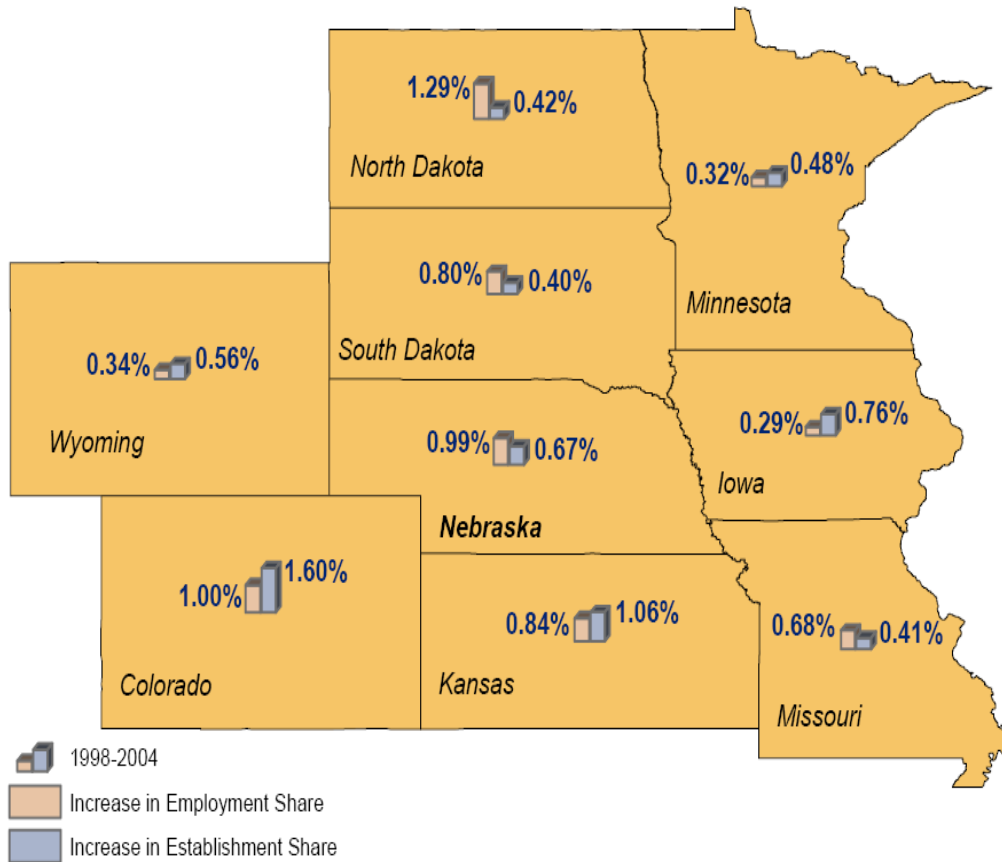
Development of the service sector is reinforced by looking at the composition of the economy and how the sector has changed over time. Table 6.2, below, shows the professional services percentage of total private employment for 1998 and 2004 for Nebraska, the West North Central Region, and the United States. The PSS has increased its share of employment in the region and in the US in general. In Figure 6.2, Nebraska's professional service sector share of total private employment has increased more than other states in the region and in the US. Nebraska falls only slightly behind North Dakota and Colorado. This rate is a strong indicator of the movement and composition of an economy, as it tells us that the PSS is contributing more to the economy in 2004 than it did in 1998. The economic transition to services has been accelerating in Nebraska. Lately Nebraska has seen a faster change than most of its neighbors.

Table 6.2. West North Central Region, Professional Service Sector's Share of Total Private Employment and Establishments, 1998 and 2004

	Employment in PSS			Establishments in PSS		
	1998 Share	2004 Share	Increase	1998 Share	2004 Share	Increase
NE	4.22	5.21	0.99	7.23	7.90	0.67
WNC (excl. CO and WY)	4.32	4.92	0.60	8.27	8.90	0.63
US	5.60	6.58	0.98	9.90	10.89	0.99

Source: U.S. Bureau of Census, *County Business Patterns*.

Figure 6.2. Professional Service Industry Employment Share of Total, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*.

### III. The Service Industry and Nebraska's Economic Base

In addition to examining changes in employment and establishment shares, another revealing calculation commonly used by economists is the location quotient (LQ) which compares the local economy to a larger reference economy. The LQ is a ratio between the share of an economic concept (typically employment) in a certain industry for the local region and that same share in a reference region. More explicitly, an LQ for industry  $k$  in a particular region  $i$ , is defined as:

$$LQ_i = \frac{share_{k,i}}{share_{k,j}}$$

These LQs are usually interpreted as providing information on the composition of a particular region's export-oriented activities, thereby contributing to a region's economic base. If the LQ is greater than 1 for employment, the interpretation is that the local economy has a greater share of employment in an industry than expected; therefore, that extra industry employment is assumed to be contributing to the region's economic base because those jobs are above what a local economy should have to serve local demand. Therefore, some of that industry's production must be being exported outside region  $i$ .

Table 6.3 presents the location quotients in the PSS for Nebraska in relation to its neighboring states, the West North Central Region, and the US. LQs were constructed using employment. Results indicate that by 2004 Nebraska had a similar share of its economy in professional services as states in the same region. LQ comparisons with the neighboring states and the West North Central Region were both near

1. The LQ relative to the United States, however, was well below 1. These findings are consistent with the notion that the PSS does tend to concentrate in the larger cities of the country, many of which are located on the East and West Coasts rather than in Nebraska and nearby states. Overall, Nebraska does about as well as other states in the West North Central Region. It is also worth noting that Nebraska's location quotients have been improving. The state is making progress in the professional service industry, even relative to positive national and regional trends.

**Table 6.3. Professional Services Location Quotients, 1998-2004**

	Employment in NAICS 54		
	1998 LQ	2004 LQ	Increase
Nebraska to Neighbors	0.88	0.94	0.06
Nebraska to WNC Region	0.98	1.06	0.08
Nebraska to US	0.75	0.79	0.04

#### **IV. Professional Service Industry Surveys**

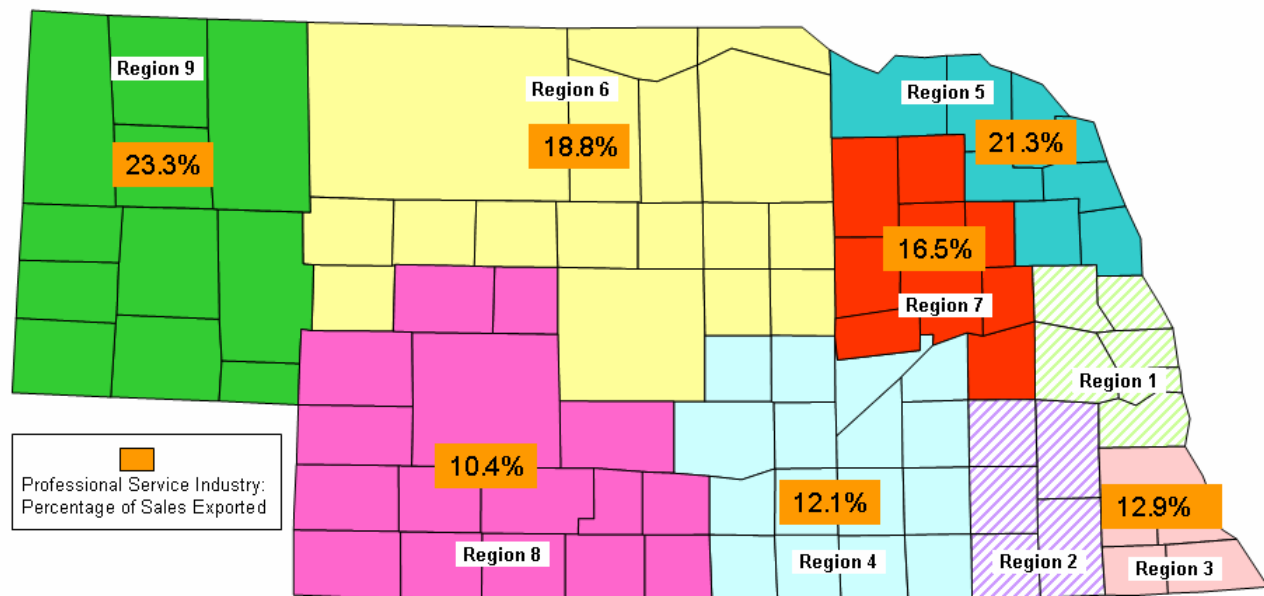
To better understand the professional service industry in Nebraska, the research team conducted a *Survey of Nebraska Service Businesses*, which contacted 600 PSS or information industry (Chapter 7) businesses located in non-metropolitan counties. Surveys were sent up to three times to encourage participation. There was an overall response rate of 45 percent, which is sufficiently large to generalize the results to professional service businesses in the non-metropolitan areas of the state.

The survey focused on several key questions. The first of these questions was: "What share of sales by your (professional services) business is to customers located in other states or in Omaha and Lincoln?" Responses to this question illustrate the ability of professional service businesses to attract new money into non-metropolitan Nebraska and therefore spur economic growth.

As shown in Figure 6.3, professional service firms in all seven non-metropolitan regions are making at least 10% of their sales outside non-metropolitan Nebraska; most of these sales are to people outside the state. The share of exported sales ranges from a low of 10% to a high of nearly 25%. This shows that despite the findings for location quotients, professional service businesses contribute to local economies in non-metropolitan Nebraska by exporting some of their services and drawing outside revenue.

Among individual regions, Region 9 had the highest percentage of sales exported, while Region 8 had the lowest. A more complete set of responses to this and other selected survey questions is provided at the end of this chapter in Appendix 6.1.

Figure 6.3. Share of Sales Exported to Omaha, Lincoln, or Out of Nebraska, 2005



Source: UNL Bureau of Business Research, *Survey of Nebraska Service Businesses*.

## V. Employment and Establishment Growth: Regions within Nebraska

Now that we have explored how Nebraska's professional service industry is performing relative to other states and the US, we search inside non-metropolitan Nebraska to find where growth is occurring. As shown in Figures 6.4A and 6.4B, we divide the state into nine distinct regions. Because our analysis is focused on non-metropolitan Nebraska, we omitted Regions 1 and 2 (Omaha and Lincoln, diagonally striped in Figures 6.4A and 6.4B). It is important to note that the state average for the PSS growth is strongly driven by these metropolitan regions, as they account for about 92% of the jobs. Nevertheless, non-metropolitan Nebraska, in general, has seen significant growth in its professional service industry far outpacing overall employment growth, and it has been a significant driver for non-metropolitan economies.

Of the seven regions that form non-metropolitan Nebraska, Figure 6.4A shows that Regions 4, 7, and 8 are enjoying solid growth in employment and in the number of establishments, with Region 7 standing out as the fastest growing non-metropolitan region. From Figure 6.4B, we can observe that Regions 4, 7, and 8 employment growth far outpaces their overall employment growth, implying that the professional service industry is a major driver for their economies. Regions 3 and 9 enjoyed a positive employment growth but a decline in the total number of establishments, suggesting a movement toward larger businesses. Still, these regions' employment growth rates numbers outpace (Region 3) or match (Region 9) overall employment growth rates, meaning that the service industry is at the least increasing proportionally with other parts of the economy.

Figure 6.4A. Professional Service Industry Employment and Establishment Growth 1998-2004

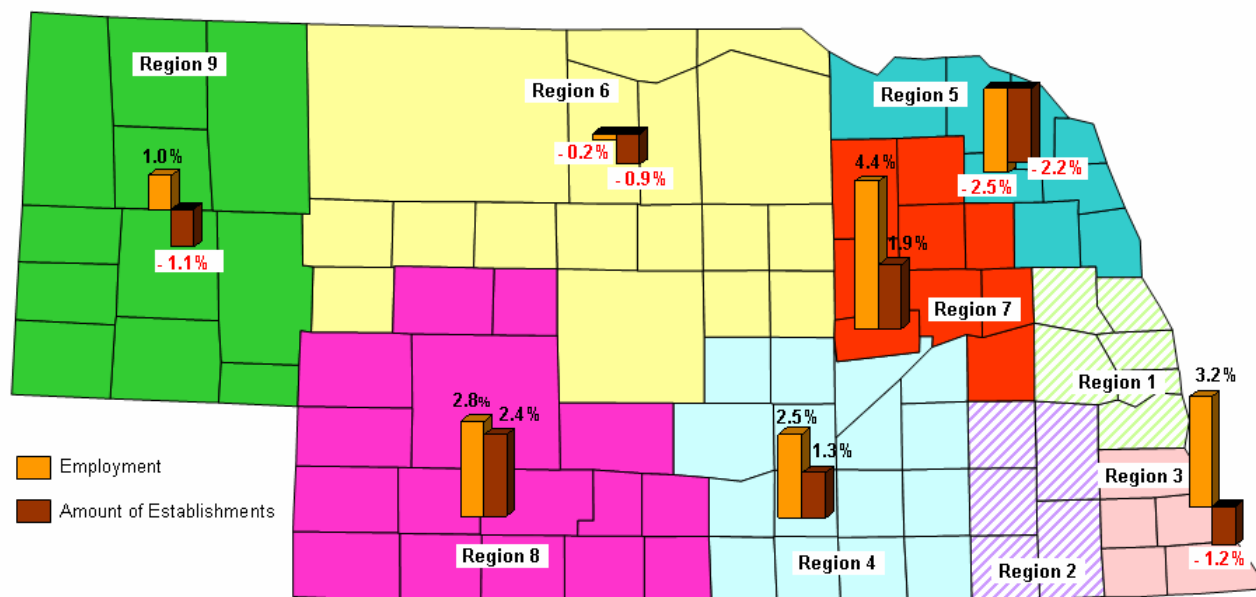
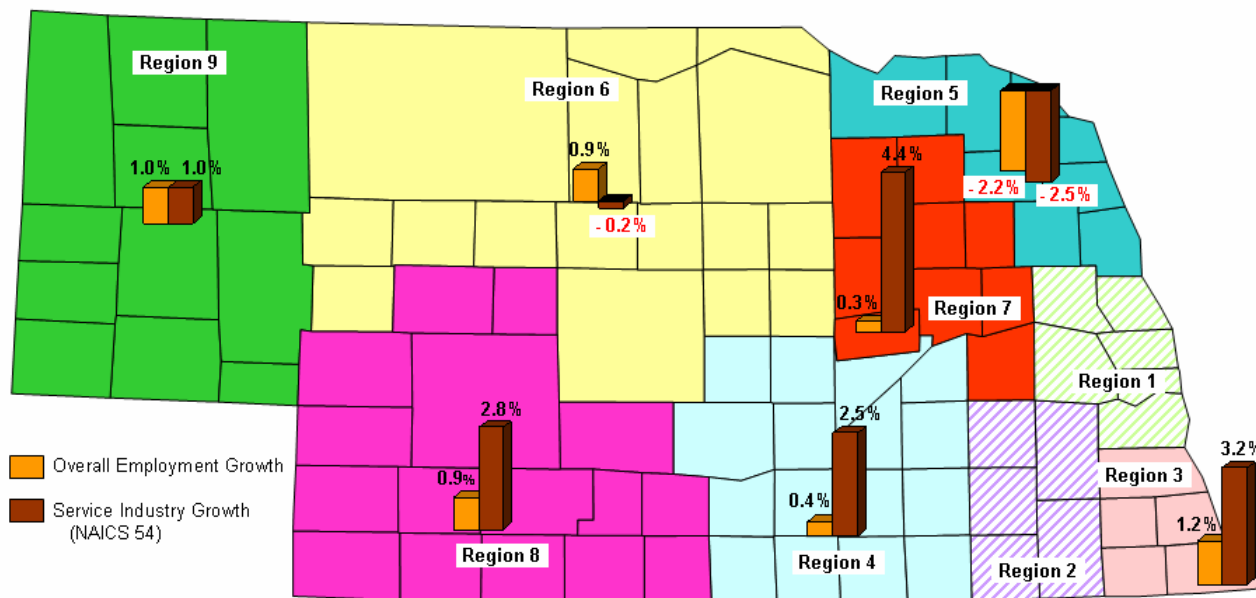


Figure 6.4B. Overall Employment Growth versus Professional Service Industry Employment Annual Growth, 1998-2004

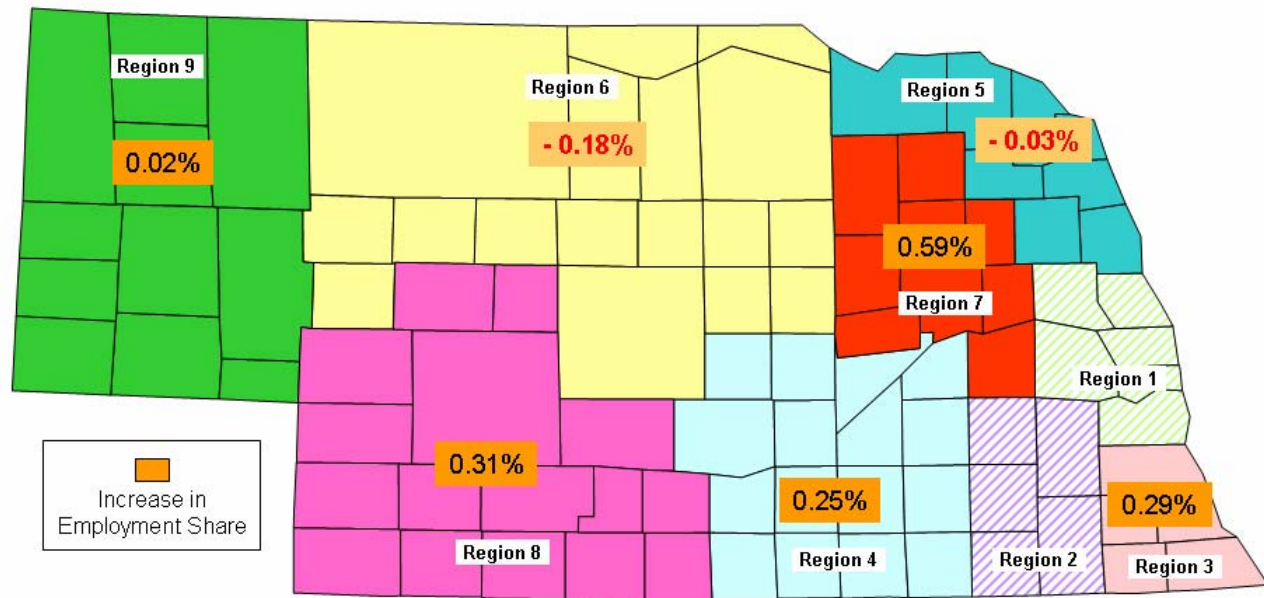


Source: U.S. Bureau of Census, *County Business Patterns*.

Finally, Regions 5 and 6 have been showing an intriguing and worrisome trend of declining employment in the service industry. One would expect the PSS industry to match overall business growth. Unfortunately, this has not occurred in Region 6. Region 5's situation is somewhat different. Decreases in the service industry growth rate have been matched with decreases in overall employment and establishment growth rates. PSS businesses in Region 5 may face competition from the Sioux City metropolitan area in Iowa and also from the growing professional service industry in the nearby Norfolk-Columbus region (Region 4).

Our analysis is also consistent with share trends, as can be seen in Figure 6.5. Again, with the exception of Regions 5, 6, and 9, a larger share of jobs is found in the professional service industry, thus contributing more to the economy of rural Nebraska. Even in Regions 5 and 6, the reduction in share was modest.

Figure 6.5. Professional Service Industry Employment Share of Total, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*.

## VI. Factors Influencing Growth in Professional Services

This section of the chapter examines factors that contribute to the growth of the professional services sector. We begin by examining additional data from our survey of 600 PSS or information industry businesses in non-metropolitan Nebraska. We also examine additional data on the relationship between colleges and professional services employment.

The survey of professional services businesses asked a series of questions on how important business owners felt the following factors were to the success of their businesses:

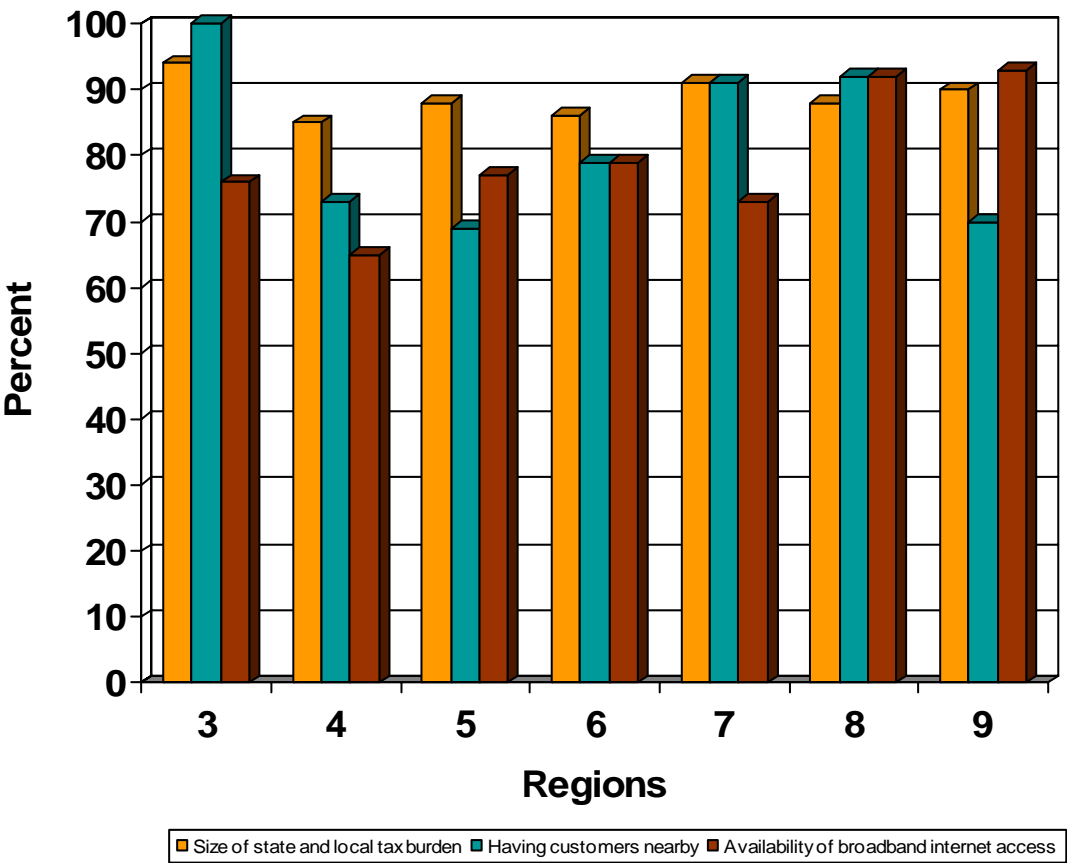
- Having customers nearby
- Having a four-lane interstate highway within 50 miles
- Availability of broadband internet access
- Having a university, four-year college, or community college in county
- Availability of experienced workers
- The size of the local retail sector
- Having a good relationship with a local bank as a source of loans
- The size of the state and local tax burden

A complete set of responses by region are presented in Appendix 6.1. In Figure 6.6, we focus on the three factors that business owners most often selected as being important or very important to the success of their businesses. These were: 1) the size of the state and local tax burden; 2) having customers nearby, and 3) availability of broadband internet access.



As indicated in Figure 6.6, rural businesses of the professional services sector are primarily concerned with the size of the state and local tax burden. The size of a tax burden can act as a threshold to business decisions on whether or not to expand or maintain a business in rural Nebraska. Such a decision may not only be based on the size of the state and local tax burden, but also on having customers nearby. While these businesses have a significant share of customers out of state, the presence of local customers is also critical. The availability of access to the broadband internet also was a top concern of business.

Figure 6.6. Share of Surveyed Businesses Reporting that an Issue was Important or Very Important



Source: UNL Bureau of Business Research, *Survey of Nebraska Service Businesses*.

One other interesting point, as is evident in Appendix 6.1, is that the importance of access to broadband internet access greatly exceeds the importance of access to a four-lane highway. Non-metropolitan PSS businesses see greater profit potential in electronic traffic than in road traffic. While this valuation by non-metropolitan businesses may be a reflection of their capital or technological requirements for production, it indicates that broadband infrastructure may be among the key infrastructure issues for this emerging high wage, exporting industry. This is in contrast to the importance of highway infrastructure for manufacturing. Overall, surveyed PSS businesses indicated that tax burden and broadband internet access are shown are among the most important policy questions facing the industry in non-metropolitan Nebraska.

We also look particularly at the issue of the presence of colleges and growth in the producer services industry. There seems to be a correlation between the number of colleges and universities with the rate of establishment growth (Table 6.4), consistent with our theory of increasing returns to investments in

knowledge. Note that the numbers for colleges and universities include two-year colleges, junior colleges, vocational schools, job training programs, and technical certification programs. With the exception of Missouri and Wyoming, it could be said that the more higher education institutions, the faster establishment creation becomes.

**Table 6.4. Correlation between Number of Colleges and Universities and Service Establishment Growth**

State	1998 – 2004 Establishment Growth	2004 Number of 2-Year and 4-Year Colleges	Ranking	
			Establishment Growth	Colleges or Universities
Colorado	4.12	251	1	1
Kansas	2.47	99	2	5
Wyoming	2.44	17	3	9
Minnesota	2.39	166	4	3
Nebraska	2.26	68	5	6
Iowa	1.98	107	6	4
Missouri	1.96	251	7	2
South Dakota	1.94	33	8	7
North Dakota	1.57	30	9	8

Source: <http://www.uscollegesearch.org/>

## VII. Conclusion

In Nebraska's non-metropolitan areas, the professional service industry generally has shown modest to strong employment and establishment growth. Regions 5 and 6 are the exceptions and have seen stagnant employment or decline. But, overall, results from the non-metropolitan regions suggest that professional services can be an engine of growth in non-metropolitan as well as metropolitan Nebraska.

Employment expansion in the professional services industry of non-metropolitan Nebraska is not only an economic benefit in itself; it has spill-over benefits. The professional services sector is inherently a cost-cutting industry that enhances the productivity of other industries. Productivity increases are due to the high level of skills and expertise of the professional services labor force. In this sense, the expansion of the professional services sector will increase the productivity of local industries and thereby ensure long-term growth.

Survey responses provide several policy suggestions for bolstering new and existing opportunities within the professional service industry in non-metropolitan Nebraska. The first is to avoid an increase and perhaps gradually lower state and local taxes. The second is to set an appropriate regulatory framework for the expansion of access to broadband and internet in non-metropolitan Nebraska. These communication media can reduce a business's transactions costs, reveal and open new markets, and substantially increase the efficiency of a business's operations. Broadband is different than other types of infrastructure such as roads or sewers in that it is typically provided by the private sector. Thus, the key issue is not so much government funding as setting an appropriate regulatory structure for the industry.

## Appendix 6.1. Survey of Nebraska Service Businesses

Share of Sales Exported to:	(in percentage)	Region 3			Region 4			Region 5			Region 6		
		Total	Information Sector	Professional Services	Total	Information Sector	Professional Services	Total	Information Sector	Professional Services	Total	Information Sector	Professional Services
	Same County	70.15	73.00	69.20	56.51	56.82	57.55	57.84	61.38	56.67	55.76	54.09	56.44
	Omaha And Lincoln	1.40	2.60	1.00	4.27	7.73	1.91	4.25	5.00	4.00	1.39	1.36	1.41
	Elsewhere NE	18.20	19.00	17.93	27.54	23.33	30.41	23.13	26.25	22.08	25.89	26.64	24.78
	Out of Nebraska	10.25	5.40	11.87	11.68	13.93	10.14	14.78	7.38	17.25	16.95	15.91	17.37
How important would the following factors be to your business?													
		Region 3			Region 4			Region 5			Region 6		
		Total	Information Sector	Professional Services	Total	Information Sector	Professional Services	Total	Information Sector	Professional Services	Total	Information Sector	Professional Services
a. Having customers nearby?	Important	50.00%	42.86%	53.33%	36.84%	53.33%	26.09%	31.25%	50.00%	25.00%	18.42%	9.09%	22.22%
	Not Important	0.00%	0.00%	0.00%	13.16%	6.67%	17.39%	12.50%	0.00%	16.67%	21.05%	18.18%	22.22%
	Very Important	50.00%	57.14%	46.67%	36.84%	26.67%	43.48%	40.63%	50.00%	37.50%	57.89%	63.64%	55.56%
	Uncertain	0.00%	0.00%	0.00%	5.26%	0.00%	8.70%	3.13%	0.00%	4.17%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	12.50%	0.00%	16.67%	2.63%	9.09%	0.00%
b. Having a 4-lane, Interstate Highway located within 50 miles of my town?	Important	36.36%	57.14%	26.67%	31.58%	26.67%	34.78%	28.13%	50.00%	20.83%	13.16%	9.09%	14.81%
	Not Important	45.45%	28.57%	53.33%	34.21%	26.67%	39.13%	37.50%	12.50%	45.83%	55.26%	45.45%	59.26%
	Very Important	18.18%	14.29%	20.00%	23.68%	26.67%	21.74%	18.75%	25.00%	16.67%	21.05%	27.27%	18.52%
	Uncertain	0.00%	0.00%	0.00%	2.63%	6.67%	0.00%	6.25%	12.50%	4.17%	7.89%	9.09%	7.41%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%
c. Availability of broadband internet access?	Important	31.82%	28.57%	33.33%	26.32%	40.00%	17.39%	28.13%	25.00%	29.17%	13.16%	0.00%	18.52%
	Not Important	22.73%	14.29%	26.67%	10.53%	0.00%	17.39%	9.38%	0.00%	12.50%	15.79%	0.00%	22.22%
	Very Important	45.45%	57.14%	40.00%	44.74%	40.00%	47.83%	50.00%	62.50%	45.83%	68.42%	90.91%	59.26%
	Uncertain	0.00%	0.00%	0.00%	10.53%	6.67%	13.04%	3.13%	12.50%	0.00%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%
d. Having a University, 4-year College, or Community College in your county?	Important	50.00%	57.14%	46.67%	31.58%	33.33%	30.43%	28.13%	50.00%	20.83%	13.16%	0.00%	18.52%
	Not Important	45.45%	28.57%	53.33%	42.11%	33.33%	47.83%	46.88%	50.00%	45.83%	39.47%	36.36%	40.74%
	Very Important	4.55%	14.29%	0.00%	13.16%	20.00%	8.70%	12.50%	0.00%	16.67%	28.95%	45.45%	22.22%
	Uncertain	0.00%	0.00%	0.00%	2.63%	0.00%	4.35%	3.13%	0.00%	4.17%	15.79%	9.09%	18.52%
	Did not Answer	0.00%	0.00%	0.00%	10.53%	13.33%	8.70%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%
e. Availability of experienced workers?	Important	54.55%	42.86%	60.00%	39.47%	40.00%	39.13%	46.88%	62.50%	41.67%	39.47%	54.55%	33.33%
	Not Important	22.73%	28.57%	20.00%	15.79%	0.00%	26.09%	15.63%	12.50%	16.67%	21.05%	9.09%	25.93%
	Very Important	22.73%	28.57%	20.00%	31.58%	46.67%	21.74%	28.13%	25.00%	29.17%	31.58%	27.27%	33.33%
	Uncertain	0.00%	0.00%	0.00%	5.26%	0.00%	8.70%	0.00%	0.00%	0.00%	5.26%	0.00%	7.41%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%
f. The size of the local retail sector?	Important	72.73%	71.43%	73.33%	31.58%	33.33%	30.43%	50.00%	37.50%	54.17%	34.21%	18.18%	40.74%
	Not Important	9.09%	0.00%	13.33%	28.95%	13.33%	39.13%	6.25%	0.00%	8.33%	23.68%	9.09%	29.63%
	Very Important	18.18%	28.57%	13.33%	31.58%	40.00%	26.09%	34.38%	62.50%	25.00%	39.47%	63.64%	29.63%
	Uncertain	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%
g. Having a good relationship with a local bank as a source of loans?	Important	40.91%	28.57%	46.67%	21.05%	20.00%	21.74%	25.00%	37.50%	20.83%	15.79%	0.00%	22.22%
	Not Important	27.27%	42.86%	20.00%	26.32%	26.67%	26.09%	15.63%	0.00%	20.83%	23.68%	36.36%	18.52%
	Very Important	31.82%	28.57%	33.33%	44.74%	40.00%	47.83%	50.00%	62.50%	45.83%	57.89%	54.55%	59.26%
	Uncertain	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%
h. The size of the state and Local tax burden?	Important	63.64%	71.43%	60.00%	26.32%	33.33%	21.74%	43.75%	50.00%	41.67%	31.58%	18.18%	37.04%
	Not Important	0.00%	0.00%	0.00%	5.26%	0.00%	8.70%	6.25%	12.50%	4.17%	5.26%	0.00%	7.41%
	Very Important	36.36%	28.57%	40.00%	57.89%	53.33%	60.87%	40.63%	37.50%	41.67%	52.63%	63.64%	48.15%
	Uncertain	0.00%	0.00%	0.00%	2.63%	0.00%	4.35%	0.00%	0.00%	0.00%	7.89%	9.09%	7.41%
	Did not Answer	0.00%	0.00%	0.00%	7.89%	13.33%	4.35%	9.38%	0.00%	12.50%	2.63%	9.09%	0.00%

## Appendix 6.1. Survey of Professional Service Businesses (Continuation)

Share of Sales Exported to:	(in percentage)	Region 7			Region 8			Region 9		
		Total	Information Sector	Professional Services	Total	Information Sector	Professional Services	Total	Information Sector	Professional Services
	Same County	61.77	64.90	60.20	67.90	64.58	70.77	55.26	65.82	50.22
	Omaha And Lincoln	2.83	5.30	1.60	1.80	3.68	0.18	1.12	1.09	1.13
	Elsewhere NE	21.63	18.20	23.35	19.83	20.95	18.86	24.50	20.36	26.48
	Out of Nebraska	13.77	11.60	14.85	10.46	10.79	10.18	19.12	12.73	22.17
How important would the following factors be to your business?										
		Region 7			Region 8			Region 9		
		Total	Information Sector	Professional Services	Total	Information Sector	Professional Services	Total	Information Sector	Professional Services
a. Having customers nearby?	Important	43.33%	30.00%	50.00%	34.88%	42.86%	27.27%	25.71%	16.67%	30.43%
	Not Important	6.67%	0.00%	10.00%	9.30%	9.52%	9.09%	20.00%	8.33%	26.09%
	Very Important	50.00%	70.00%	40.00%	55.81%	47.62%	63.64%	54.29%	75.00%	43.48%
	Uncertain	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
b. Having a 4-lane, Interstate Highway located within 50 miles of my town?	Important	36.67%	40.00%	35.00%	20.93%	14.29%	27.27%	28.57%	50.00%	17.39%
	Not Important	40.00%	30.00%	45.00%	44.19%	42.86%	45.45%	42.86%	16.67%	56.52%
	Very Important	20.00%	30.00%	15.00%	30.23%	33.33%	27.27%	22.86%	25.00%	21.74%
	Uncertain	3.33%	0.00%	5.00%	4.65%	9.52%	0.00%	5.71%	8.33%	4.35%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
c. Availability of broadband internet access?	Important	26.67%	30.00%	25.00%	25.58%	23.81%	27.27%	42.86%	50.00%	39.13%
	Not Important	16.67%	10.00%	20.00%	6.98%	4.76%	9.09%	0.00%	0.00%	0.00%
	Very Important	53.33%	60.00%	50.00%	67.44%	71.43%	63.64%	54.29%	50.00%	56.52%
	Uncertain	3.33%	0.00%	5.00%	0.00%	0.00%	0.00%	2.86%	0.00%	4.35%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
d. Having a University, 4-year College, or Community College in your county?	Important	46.67%	30.00%	55.00%	37.21%	33.33%	40.91%	28.57%	41.67%	21.74%
	Not Important	30.00%	40.00%	25.00%	32.56%	28.57%	36.36%	42.86%	16.67%	56.52%
	Very Important	20.00%	30.00%	15.00%	23.26%	33.33%	13.64%	28.57%	41.67%	21.74%
	Uncertain	3.33%	0.00%	5.00%	6.98%	4.76%	9.09%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
e. Availability of experienced workers?	Important	43.33%	30.00%	50.00%	39.53%	28.57%	50.00%	51.43%	58.33%	47.83%
	Not Important	16.67%	0.00%	25.00%	18.60%	19.05%	18.18%	17.14%	16.67%	17.39%
	Very Important	40.00%	70.00%	25.00%	39.53%	47.62%	31.82%	28.57%	25.00%	30.43%
	Uncertain	0.00%	0.00%	0.00%	2.33%	4.76%	0.00%	2.86%	0.00%	4.35%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
f. The size of the local retail sector?	Important	46.67%	20.00%	60.00%	46.51%	33.33%	59.09%	17.14%	25.00%	26.09%
	Not Important	10.00%	0.00%	15.00%	13.95%	14.29%	13.64%	25.71%	0.00%	26.09%
	Very Important	40.00%	80.00%	20.00%	37.21%	47.62%	27.27%	57.14%	75.00%	47.83%
	Uncertain	3.33%	0.00%	5.00%	2.33%	4.76%	0.00%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
g. Having a good relationship with a local bank as a source of loans?	Important	36.67%	30.00%	40.00%	44.19%	52.38%	36.36%	17.14%	16.67%	17.39%
	Not Important	23.33%	20.00%	25.00%	18.60%	14.29%	22.73%	20.00%	16.67%	21.74%
	Very Important	40.00%	50.00%	35.00%	37.21%	33.33%	40.91%	62.86%	66.67%	60.87%
	Uncertain	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
h. The size of the state and Local tax burden?	Important	23.33%	10.00%	30.00%	20.93%	28.57%	13.64%	34.29%	33.33%	34.78%
	Not Important	10.00%	20.00%	5.00%	6.98%	4.76%	9.09%	8.57%	8.33%	8.70%
	Very Important	63.33%	70.00%	60.00%	69.77%	66.67%	72.73%	57.14%	58.33%	56.52%
	Uncertain	3.33%	0.00%	5.00%	2.33%	0.00%	4.55%	0.00%	0.00%	0.00%
	Did not Answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

## **Appendix 6.2. Specifics of the Survey**

The research team formulated and carried out the *Survey of Non-metropolitan Nebraska Service Businesses*.

The survey was mailed to service businesses across the seven non-metropolitan regions of Nebraska. The Nebraska business listing from which our target population of businesses was derived from was compiled by the business research firm, Dun & Bradstreet. Due to business scarcity, random sampling was conducted only in the populated areas of Region 4 and 8. The remaining regions were sparsely populated to an extent that a random sampling was unnecessary for acquiring a representative sample.

The target population was 600 businesses of the professional service sector and the information industry. The survey was mailed *en masse* on up to three occasions to service businesses in order to elicit a high response rate. Of the 600 targeted businesses that received the surveys, 273 participated. The total participation rate was 45.5 percent, which is a statistically sufficient level of survey participation.

The survey consisted of 11 questions, which were either closed-ended, open-ended, or a combination of closed and open-ended questions. The utilization of these various question types were helpful in narrowing the importance of certain issues, while giving respondents the freedom to express issues not mentioned on the survey. The survey questions asked respondents to rate the future for business in rural Nebraska, the percentage of total sales to customers of various geographic areas, and the importance of certain factors (e.g., having a four-lane interstate highway nearby, having customers nearby, availability of broadband internet access, and size of local retail sector) to the success of their business.

## Chapter 7: The Information Industry

### Ben Schmitz, Pavel Jeutang, and Eric Thompson

#### I. Introduction

Central to the information industry is the concept of information as a commodity, which is produced and distributed. The production of information as a commodity is determined less by geography compared to other industries such as manufacturing. Businesses of the information industry engage in the following processes: 1) producing and distributing information and cultural products, 2) providing the means to transmit and disseminate information, data, and associated products, and 3) processing data. The information industry is composed of the following industries:

- Publishing industries (except internet)
- Motion picture and sound recording industries
- Broadcasting (except internet)
- Internet publishing and broadcasting
- Telecommunications
- Internet service providers, web search portals, and data processing
- Other information services

To discern the potential of Nebraska's information industry as a pillar of economic growth for non-metropolitan Nebraska, we examine the growth and the needs of the industry. In Section II, the growth of the information industry is analyzed in comparison to the West North Central (WNC) Region and Nebraska. Section III analyzes the export behavior of the information industry in relation to its regional neighbors, the WNC Region, and the US. Section IV provides an analysis of survey data, in which respondents identified economic factors responsible for perceived growth. Section V examines the economic performance of seven regions within Nebraska.

#### II. Employment, and Establishment Growth: Nebraska, Neighboring States, and the WNC Region of the United States

In this section we examine the growth of employment in the information industry for Nebraska, the West North Central Region, and the United States as a whole for the periods, 1998 and 2004. We use the following two measures to gauge the level of employment: first we look at the growth in employment (that is, the actual number of jobs created or lost). Then we look at the growth in the number of establishments in the information industry. *County Business Patterns* is again the data source.

With regards to employment growth in the information industry, Table 7.1 indicates the industry contracted in Nebraska while growing in other states in the region as well as nationwide.

Table 7.1. West North Central Region Average Annual Growth, 1998-2004

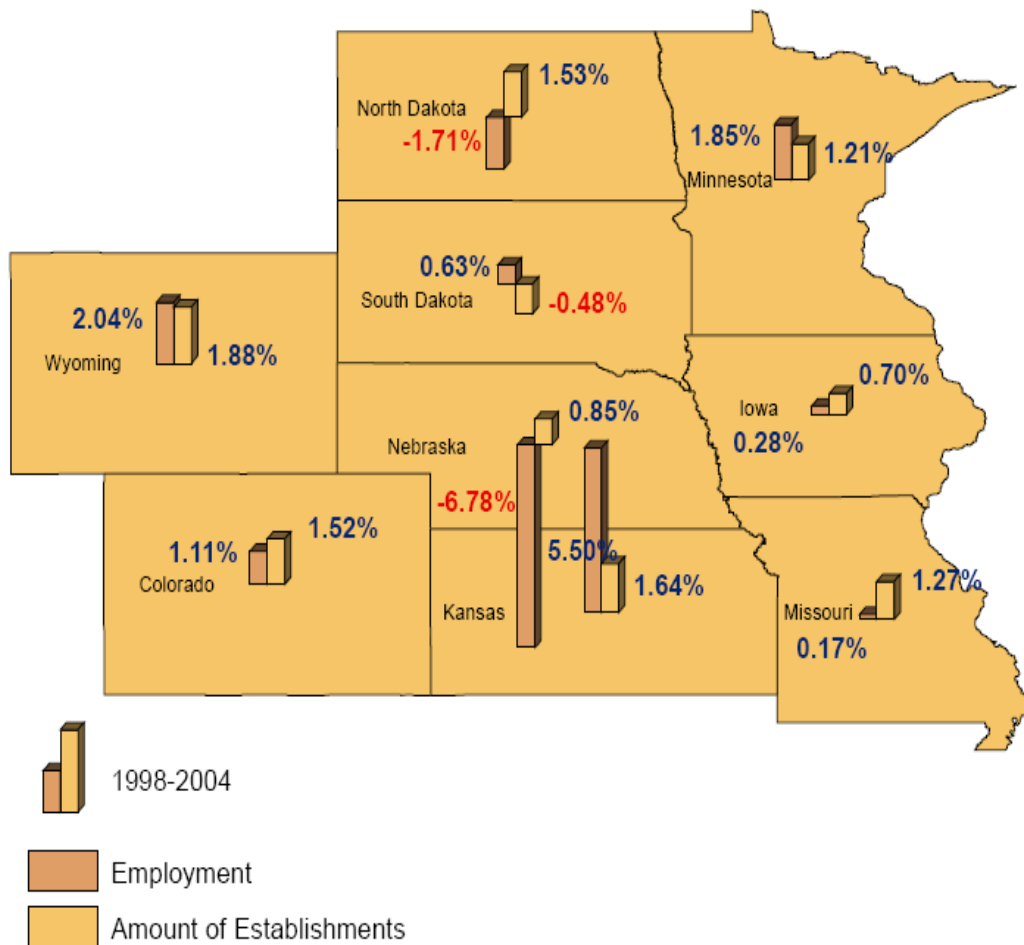
	Total Private Employment			Total Establishments		
	1998 Level	2004 Level	% GR	1998 Level	2004 Level	% GR
NE	720,252	774,311	1.21	48,655	50,928	0.76
WNC (excl. CO and WY)	8,136,169	8,520,701	0.77	526,214	556,540	0.94
US	108,117,731	115,074,924	1.04	6,941,822	7,387,724	1.04
	Employment in Information Sector			Establishments in Information Sector		
	1998 Level	2004 Level	% GR	1998 Level	2004 Level	% GR
NE	30,353	19,914	-6.78	844	888	0.85
WNC (excl. CO and WY)	249,425	259,152	0.64	9,380	10,022	1.11
US	3,141,957	3,472,427	1.68	120,552	139,681	2.49

Source: U.S. Bureau of Census, *County Business Patterns*

Figure 7.1 below gives us a synopsis of employment growth in individual states. The fastest employment growth in terms of jobs created occurred in Kansas followed by Wyoming, then Minnesota. Nebraska trails the list with a negative growth rate, implying that the number of jobs in the information industry has been shrinking. Nebraska lost 1,740 jobs on average per year in the information sector from 1998 to 2004. Besides Nebraska and North Dakota, all other states experienced an increase in the number of jobs.

The second indicator of growth in the information industry is the increase in the number of establishments. Table 7.1 and Figure 7.1 also report establishment growth. Juxtaposed to the negative growth in employment, Nebraska has experienced a positive growth rate of 0.85%. In other words, though the number of jobs has dropped, the number of establishments has increased. The average size of establishments has shrunk. As we will see later, this is in part because much of the rapid job loss has been concentrated in the larger firms in the industry and in the largest city in the state. Thus, aggregate industry figures may mask cases of stability and growth within pockets of the state.

Figure 7.1. Information Service Industry (NAICS 51) Average Annual Growth, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*

We take our analysis a bit further by examining the composition of the economy and how the sector has changed over time. Table 7.2 shows the information industry's percentage of total private employment for 1998 and 2004 for Nebraska, the West North Central Region, and the United States. While the information industry has increased its share of employment in the US as a whole, it has decreased its

share of employment in the West North Central Region and in Nebraska. Note that the decrease in Nebraska has been greater than that of the region.

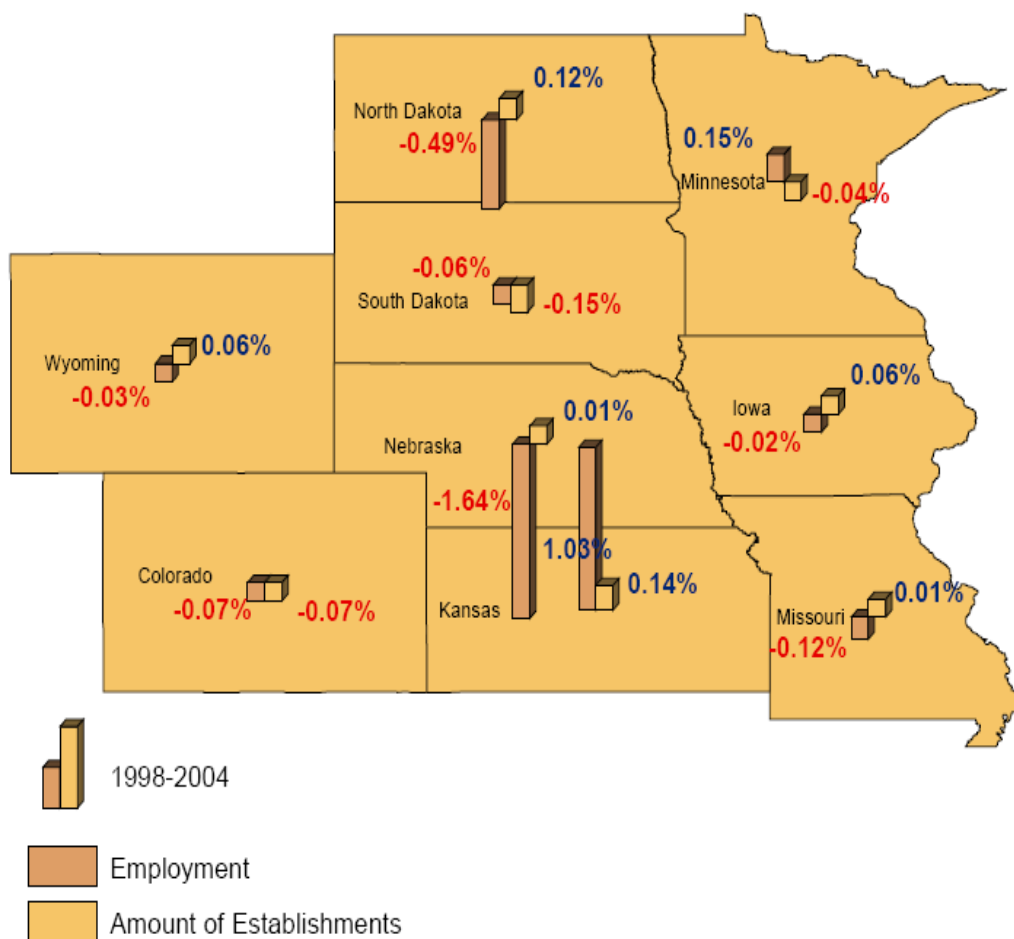
Figure 7.2 goes into more detail by comparing Nebraska to other states in the region. We can see that the only two states that have had increases are Kansas followed by Minnesota.

Table 7.2. West North Central Region Information Sector's Share of Total Employment and Establishments, 1998-2004

	Employment in Information Sector			Establishments in Information Sector		
	1998 Share	2004 Share	Increase	1998 Share	2004 Share	Increase
NE	4.21	2.57	-1.64	1.73	1.74	0.01
WNC (excl. CO and WY)	3.07	3.04	-0.02	1.78	1.80	0.02
US	2.91	3.02	0.11	1.74	1.89	0.15

Source: U.S. Bureau of Census, *County Business Patterns*

Figure 7.2. Information Service Industry Employment Share of Total, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*

### III. The Information Industry and Nebraska's Economic Base

In determining the share of economic activity in the Nebraska information industry relative to the WNC Region and the US we utilize the location quotient (LQ). Table 7.3 provides the LQs of the information industry for Nebraska vis-à-vis its neighboring states, the WNC, and the US. Relative to neighboring states, Nebraska's LQ in the information industry fell from 1.21 in 1998 to 0.72 in 2004. Relative to the



West North Central Region, it fell from 1.37 to 0.85. It fell from 1.45 to 0.87 relative to the United States.

Since 2000, employment in the information industry of Nebraska in relation to its regional neighbors and the nation has declined dramatically. At the heart of Nebraska's decline were rapid job losses in the information services and data processing services sectors, particularly in Omaha. The *Business in Nebraska* report of June 2006 (Bureau of Business Research, 2006) noted employment drops of 10.1% in 2002 and 7.3% in 2003 for the information industry.

Table 7.3. Information Industry Location Quotients, 1998-2004

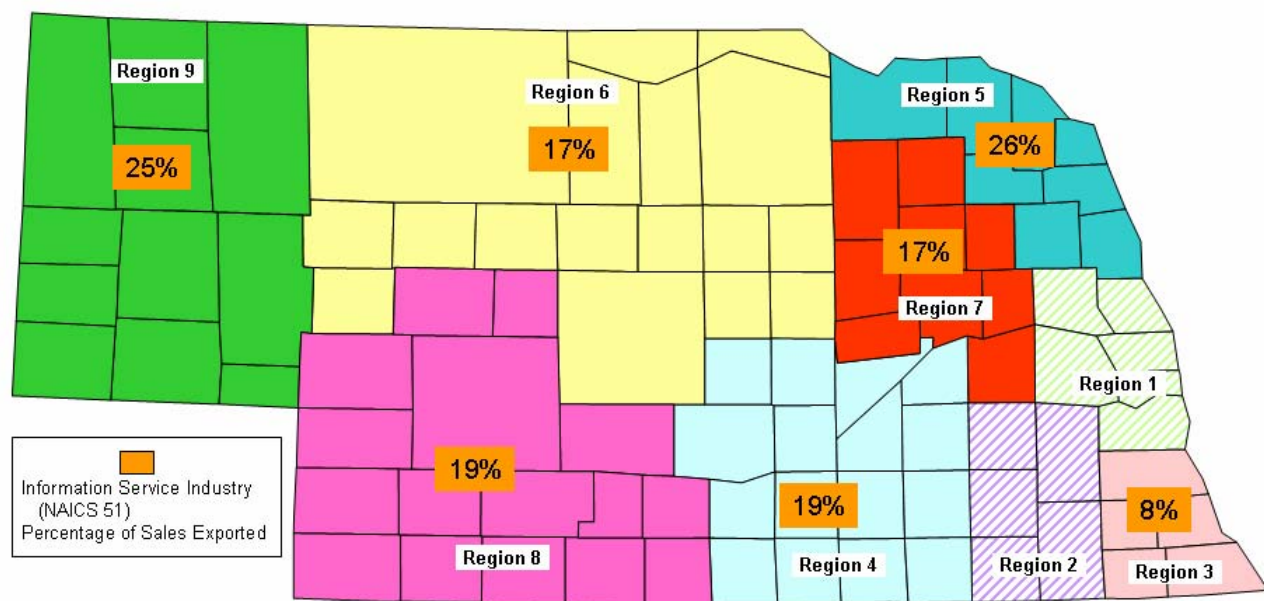
	Employment in NAICS 51		
	1998 LQ	2004 LQ	Increase
NE to Neighbors	1.21	0.72	-0.49
NE to WNC	1.37	0.85	-0.53
NE to US	1.45	0.87	-0.58

#### IV. Information Industry Surveys

Aggregate location quotient analysis does not suggest that the information industry is an exporting business in Nebraska. But could substantial exporting be occurring, as was found in the professional services sector? We again turn to the results of the *Survey of Nebraska Services Businesses* (Appendix 6.1 and 6.2). This survey was sent to information industry businesses as well as professional services. As with professional services, survey results do indicate a substantial level of exporting.

Figure 7.3 represents the share of exported sales by businesses of the information industry. Among the seven regions, Regions 5 and 9 achieved the highest percent of sales exported at 26% and 25%, respectively. Of the seven regions, Region 3 had the lowest percent of sales exported, at 8%.

Figure 7.3. Share of Sales Exported to Omaha, Lincoln, and Out of Nebraska, 2005



Source: UNL Bureau of Business Research, *Survey of Nebraska Service Businesses*.

## V. Employment and Establishment Growth: Regions within Nebraska

After reviewing Nebraska's information industry in relation to neighboring states and the US, we now turn our attention to the performance of the information industry within Nebraska. This is illustrated in Figures 7.4A, 7.4B, and 7.5. As indicated in Figure 7.4A, Region 3 has surpassed all of the regions in employment growth, achieving 4.79% average annual growth from 1998 to 2004. Region 3 experienced a slight decline in its establishment growth. Region 6 and 7 were the only other regions to have experienced growth, registering 1.38% and 0.25%, respectively. These rates of growth were also accompanied with decreases in establishment growth. Although Regions 3, 6, and 7 have benefited from positive employment growth, each has experienced negative establishment growth which implies business consolidation.

In Figure 7.4B, Nebraska's overall private sector employment growth is compared with the information industry's annual growth from 1998 to 2004. In most regions, decline in employment in the information industry is in contrast to overall employment growth, although employment growth in the information industry exceeds overall job growth in Regions 3 and 6.

Figure 7.4A. Information Industry's Employment and Establishment Growth, 1998-2004

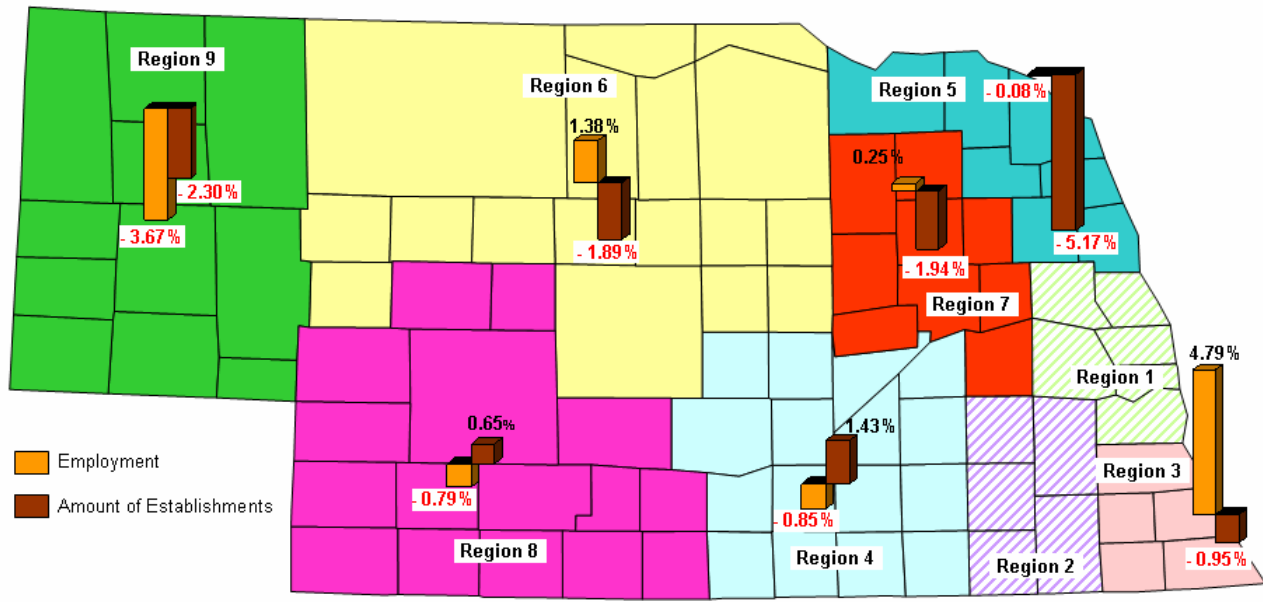
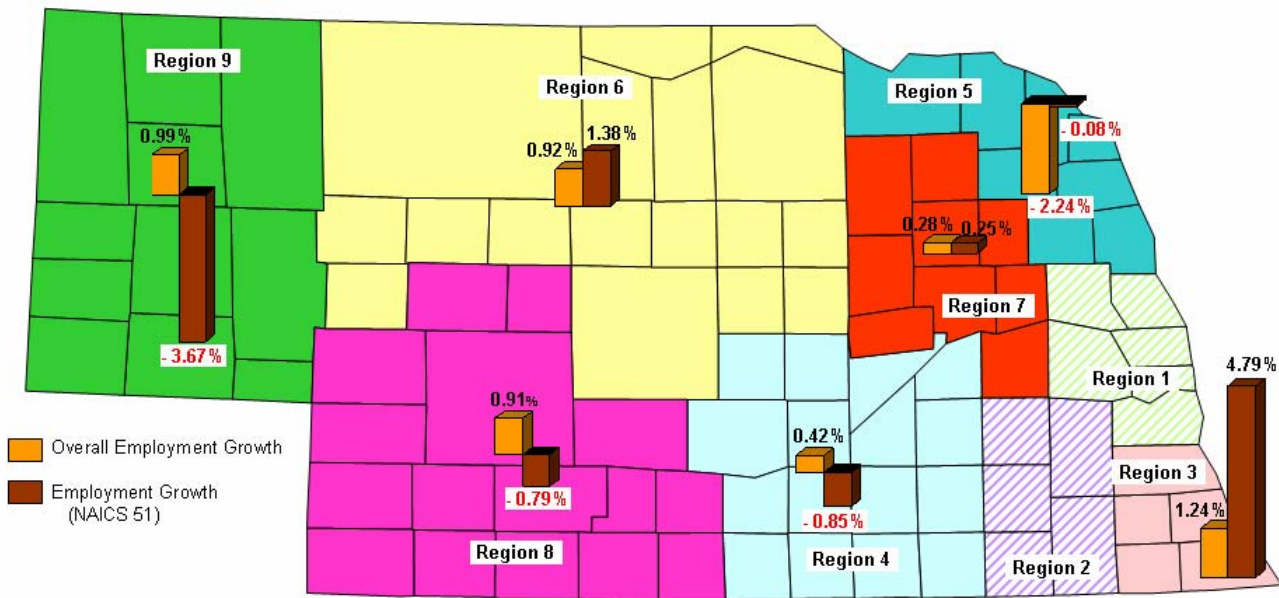


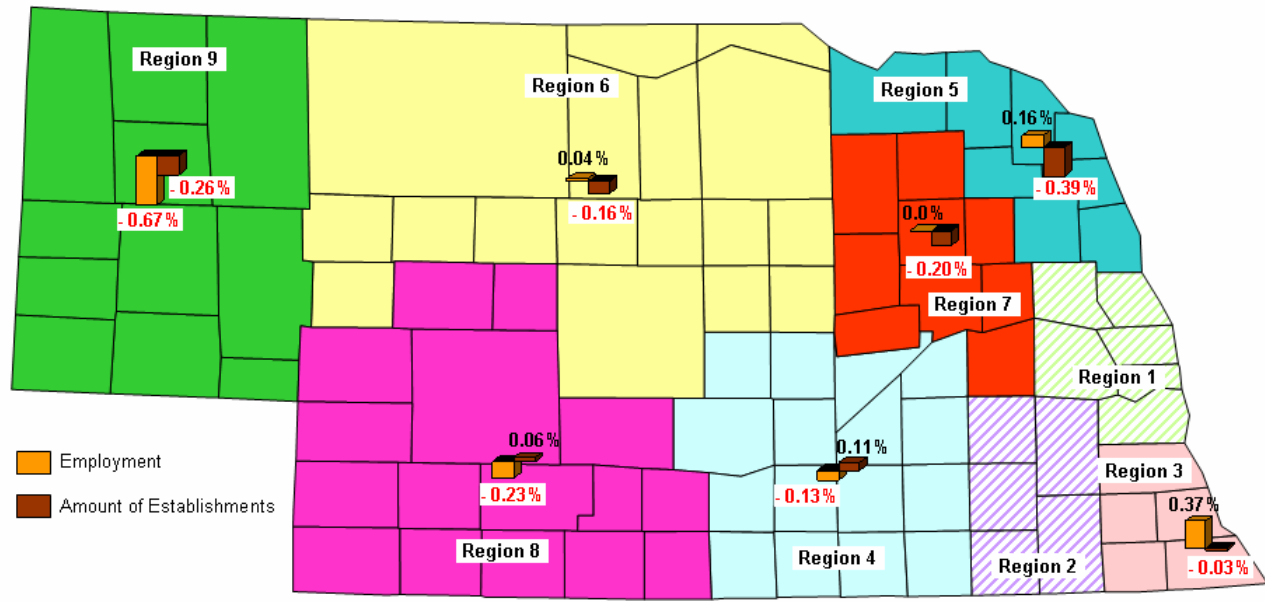
Figure 7.4B. Total Employment Growth versus Information Industry's Employment Growth, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*

Consistent with the results of Figures 7.4A and 7.4B, we find in Figure 7.5 that in many regions information industry businesses are a declining share of both total private employment and establishments. Taken as a group, results in the three figures suggest that the overall performance of the information industry in non-metropolitan Nebraska has been weak. The industry in non-metropolitan Nebraska has not experienced the rapid drop found in Omaha, but it has steadily declined in many regions. The obvious exceptions are Region 3 and 6.

Figure 7.5. Information Service Industry Employment and Establishment Shares of Total, 1998-2004



Source: U.S. Bureau of Census, *County Business Patterns*

## VI. Factors Influencing Growth in Nebraska's Information Industry

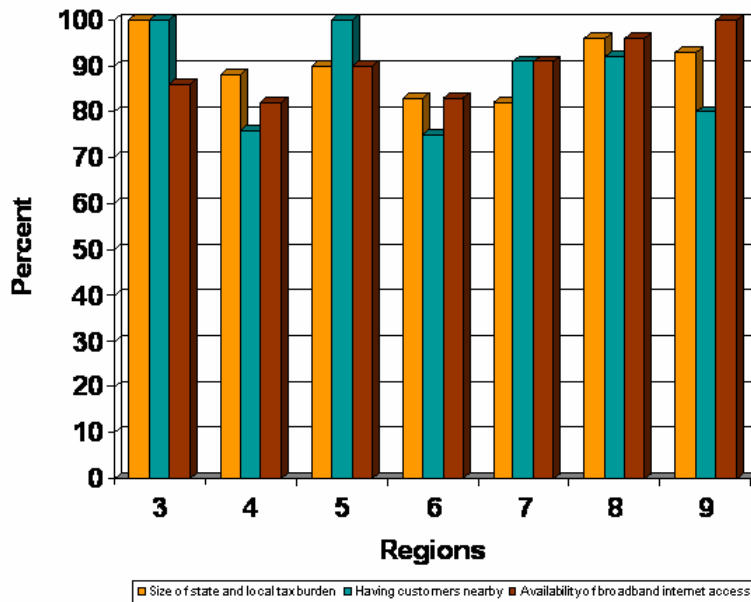
The business survey also gathered data on the preferences and interests of information industry businesses in non-metropolitan Nebraska. In addition to the questions on exporting which were reported in Figure 7.3, the survey asked a number of other questions.

Among these, the BBR survey asked respondents to rate the importance the following factors to the success of their businesses:

- Having customers nearby
- Having a four-lane interstate highway within 50 miles.
- Availability of broadband internet access
- Having a university, four-year college, or community college in county
- Availability of experienced workers
- The size of the local retail sector
- Having a good relationship with a local bank as a source of loans
- The size of the state and local tax burden

Based on business responses, the three most important factors on average to non-metropolitan businesses in the information industry were: 1) the availability of broadband internet access, 2) the size of state and local tax burden, and 3) having customers nearby (Figure 7.6). Percentages varied by region, but more than 80% of respondents, and frequently 90%, considered these three factors to be either important or very important to the success of their business.

Figure 7.6. Share of Surveyed Businesses Reporting that an Issue was Important or Very Important



Source: UNL Bureau of Business Research, *Survey of Nebraska Service Businesses*.

Note that the interest in access to broadband internet exceeds the interest in highway access. As was seen in Appendix 6.1, the least important factor for information industry businesses was having a four-lane interstate highway located within 50 miles of their town. Just over half of respondents indicated this would be important or very important

## VII. Conclusions

Technology continuously alters the modes in which information can be stored, transmitted received, and utilized. The information industry had been a source of sustained job growth nationally, though growth has been modest since 2001 after the burst of the dot-com bubble. Undoubtedly, demand for information services will grow, but the industry faces increasing foreign competition in the form of outsourcing. In contrast to professional services, the information industry will likely not be a very rapidly growing industry in the United States in the next decade, though job growth should be moderate.

In non-metropolitan Nebraska, the information industry has not experienced the rapid job loss found in the statewide figures driven by declines in Omaha. The industry has declined modestly in most areas, however. The outlook for the information industry as a result remains cautious. Non-metropolitan Nebraska has not demonstrated any particular tendency to capture job growth in this industry.

While the potential may not be clear, there may be an interest in tracking the future progress of the information industry. Some regions have expanded employment, including the Sandhills Region. Further, the information industry contains some of the more dynamic portions of the US economy, even if that dynamism does not always create many domestic job opportunities. Finally, many of the same policies that might be pursued to promote the professional services industry also appear to be appropriate for information services, at least according to results from the *Survey of Nebraska Service Businesses* conducted for this study. These include efforts to limit the state and local tax burden on non-metropolitan Nebraska and encourage the private sector firms that build broadband infrastructure.

## Chapter 8: Conclusion

This report examines the performance and prospects for a broad group of industries in seven non-metropolitan areas of Nebraska. Each of these six industries has potential to serve as a pillar of the economy within non-metropolitan Nebraska. An industry pillar is defined as an industry that can bring new income and employment into a regional economy. The list includes three industries that are a traditional focus of rural development: agriculture, manufacturing, and tourism. The list further includes three other industries with substantial national or regional growth: the trucking, professional and technical services, and information industries. These three growing industries are in part locally-oriented but also have many out-of-state customers.

The seven non-metropolitan regions of Nebraska are identified and discussed in the introductory chapter. The seven regions include the Western Panhandle of Nebraska and the Sandhills. The Southwest Region encompasses the western I-80 corridor, including North Platte, Ogallala, and surrounding regions. The South Central Region encompasses the eastern I-80 region and includes Kearney, Hastings, and Grand Island, along with surrounding areas. The Southeast Region contains Nebraska City and surrounding counties. The Northeast Region contains counties that border Iowa and South Dakota in that corner of the state. One region includes Columbus and Norfolk, as well as surrounding counties.

The six pillar industries are an important part of the economy in each of the seven non-metropolitan regions in Nebraska. Table 8.1 provides a measure of the importance of each sector in the economy. Data are not provided for the tourism sector, as this was measured using sales data. Total sales are not available by county. Data in Table 8.1 show that on the whole the pillar industries are a significant share of private non-agricultural employment in each of the seven regions. Manufacturing in particular is a significantly large share in several of the regions. As for agriculture, the share of total income from agriculture was calculated for each region in two years: 2000 and 2004. The former year represents a year where agricultural incomes were poor throughout Nebraska, while 2004 is a year where agricultural incomes were strong. The two shares bracket the share of agricultural income in bad through good years. Agricultural income in each region is at least 4% of income even in bad years, and that share rises to between 11% and 25% in good farm years. The only exception is the Western Panhandle which has been in a sustained drought throughout the current decade.

**Table 8.1. Share of the Economy in Each Pillar Industry in Each Region**

Pillar Industry	Manufacturing Share of Private Employment	Trucking Share of Private Employment	Professional Services Share of Private Employment	Information Share of Private Employment	Agriculture Share of Total Income
Share Measure	2004	2004	2004	2004	2000/2004
Southeast	26.3%	1.4%	2.6%	2.0%	5.6%/12.9%
South Central	18.8%	3.5%	2.2%	1.6%	5.9%/11.1%
Northeast	37.9%	6.0%	1.8%	1.3%	13.0%/25.1%
Sandhills	7.6%	3.1%	2.8%	1.6%	7.6%/23.0%
Norfolk/Columbus	30.0%	3.1%	2.5%	1.3%	6.8%/14.3%
Southwest	16.4%	1.7%	2.8%	2.1%	8.9%/18.0%
Western Panhandle	8.3%	2.6%	3.6%	2.0%	4.4%/6.2%

Table 8.2 illustrates that these export-oriented pillar industries also are growing in most non-metropolitan regions of the state. A summary measure is not available for agricultural crops, but

summaries of growth for the other pillar industries are presented in Table 8.2. Even in manufacturing (including food processing), where national employment was dropping from 1998 through 2004, the industry grew in three of seven regions and shrank only modestly in two others. These results overall paint a positive picture of the private sector throughout non-metropolitan Nebraska. Entrepreneurs in non-metropolitan areas are able to succeed in a wide variety of industries, including both traditional economic development targets, as well as some of the fastest growing and emerging industries at the national and regional level. This portends well for the future. In future years, businesses in the regions should continue to seize opportunities in key industries, whether or not trucking, professional and technical services, manufacturing, tourism, and the other industries continue to be an important part of regional growth.

**Table 8.2. Annual Growth in Non-Agriculture Pillar Industries in Each Region**

Pillar Industry	Manufacturing (including Food Processing) Jobs 1998 to 2004	Tourism Real Per Person Lodging Sales 1998-2005	Trucking Jobs 1998 to 2004	Professional Services Jobs 1998 to 2004	Information Jobs 1998 to 2004
Annual Growth Measure					
Southeast	4.2%	3.5%	-1.0%	3.2%	4.8%
South Central	-1.4%	-0.9%	2.4%	2.5%	-0.9%
Northeast	0.4%	-1.4%	4.1%	-2.5%	-0.1%
Sandhills	0.6%	1.2%	-1.5%	-0.2%	1.4%
Norfolk/Columbus	-0.1%	1.3%	2.1%	4.4%	0.3%
Southwest	-0.5%	1.4%	0.4%	2.8%	-0.8%
Western Panhandle	-2.8%	0.8%	3.9%	1.0%	-3.7%

There is ample reason, however, to believe that these six industries will continue to succeed in non-metropolitan Nebraska. Nebraska is among the most productive agricultural regions in the nation. As for manufacturing, our analysis indicates that many areas of Nebraska continue to have a competitive advantage relative to other parts of the nation. Therefore, while the manufacturing industry may lose jobs nationwide in the next decade, the industry may continue to grow in non-metropolitan Nebraska. The tourism industry also is growing steadily in non-metropolitan areas, driven by opportunities in adventure tourism, historic tourism, and state parks. The professional services industry is growing rapidly in many non-metropolitan Nebraska areas as it expands nationally. Our research shows that a significant share of sales of professional service businesses is to clients outside non-metropolitan Nebraska, indicating that the sector is an exporting pillar industry. The same can be said of the trucking industry, which is growing rapidly in most non-metropolitan areas of Nebraska, just as it is in the state's metropolitan areas.

We consider the prospects among pillar industries in each of the seven non-metropolitan regions of Nebraska. A section is provided for each region that is designed to be a self-contained summary of study findings that can be used by persons in that region.

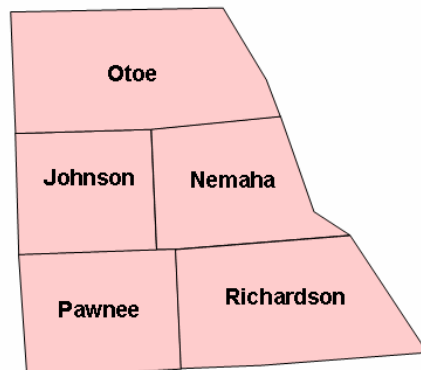


### Region 3: The Southeast Region

Many counties of non-metropolitan Nebraska, including Southeast Nebraska, have experienced years of declining population. Anemic job creation is one reason for such job loss. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for non-metropolitan Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska. This report discusses findings for the five-county Southeast Region.

#### Southeast Region



The research indicates that a majority of these six industries have been expanding in Southeast Nebraska, bringing new jobs and income into the region. These findings indicate that the Southeast Nebraska economy is adept at seizing new opportunities in a variety of non-agricultural industries. The regional economy should stand in good position as it moves forward in the future, whether or not these industries are growing at that time. There is potential for future growth in a number of these industries. Four are of particular interest:

- Tourism
- Manufacturing
- Professional and Technical Services
- Information

**Tourism.** In terms of tourism development, Southeast Nebraska is the fastest growing region within the Nebraska economy. Real (inflation-adjusted) per capita sales grew at a 3.9% rate from 1998 to 2005. Several factors have facilitated strong growth in the last few decades. First, there has been a major expansion of lodging facilities and new attractions around Nebraska City. Second, new lodging facilities have been located adjacent to Nebraska Highway 2. Solid growth should continue in the region in the next decade. New lodging facilities continue to be built along Highway 2. The Nebraska City area continues to benefit from quality lodging and convention facilities and proximity to larger cities such as Omaha and Lincoln. This should allow for expansion of convention activity and weekend visits.

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed well in recent years, despite declines nationwide and in the Omaha area. The performance has been particularly strong in Southeast Nebraska. Data from 1998 to 2004 indicate that Southeast Nebraska doubled its food processing employment and retained most employment in other manufacturing industries (at the same time that employment declined sharply nationwide). Rapid growth in food processing was tied to a few major employers, but still is a positive sign regarding the local environment. Competitive analysis indicates that the Southeast Region is a relatively competitive location for manufacturing in both food processing and other manufacturing industries. This finding is not surprising, as manufacturing is increasingly locating in smaller cities with good transportation access. The Southeast Region can expect a modest increase in employment in manufacturing in the next decade, even though employment is expected to decline nationally. Growth will tend to be concentrated in the portions of the region with the best highway access.

**Professional and Technical Services** The professional and technical services industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been



growing rapidly across the nation in recent years, adding millions of high paying jobs to the economy. While there is a tendency for this industry to concentrate in metropolitan areas, the industry is broad based, and many professional services businesses have thrived in non-metropolitan areas as well, particularly in larger towns such as Nebraska City. The industry has grown rapidly in Southeast Nebraska in recent years, with over 3% annual growth in employment from 1998 to 2004. Further, our survey research indicates that more than 10% of professional services industry sales in Southeast Nebraska go to customers located outside Nebraska. The professional services industry will continue to expand strongly in Southeast Nebraska, given strong national trends. Nebraska City in particular is a positive location for the industry, with its proximity to the Omaha and Lincoln areas. Professional service providers may choose Nebraska City as an alternative location to Omaha and Lincoln, close to both but with a lower cost of living, less traffic, and many other amenities. The industry is so varied that it is difficult to target specific policies to benefit the industry. Southeast Nebraska business owners responding to our survey indicated that broadband access and state and local taxes were important considerations for their businesses.

**Information.** The information industry includes a variety of industries from local publishers and broadcasters to telecommunications and web-design companies. This new economy industry underwent downsizing during the recession of 2001 throughout the nation and in parts of Nebraska. The industry expanded modestly in Southeast Nebraska. Southeast Nebraska has the same advantages for the information industry that it has for professional services. Namely, Nebraska City and Otoe County remain an alternative location in proximity to Omaha and Lincoln.

#### **Other Industries**

**Trucking.** The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years. Industry employment and business counts have expanded rapidly from 1998 to 2004. Further, trucking employment far exceeds the amount needed to serve local businesses, suggesting that the industry is serving a wider market. These employment trends, however, have not been present in Southeast Nebraska. The number of businesses in the trucking industry expanded over the 1998 to 2004 period, but total employment declined slightly.

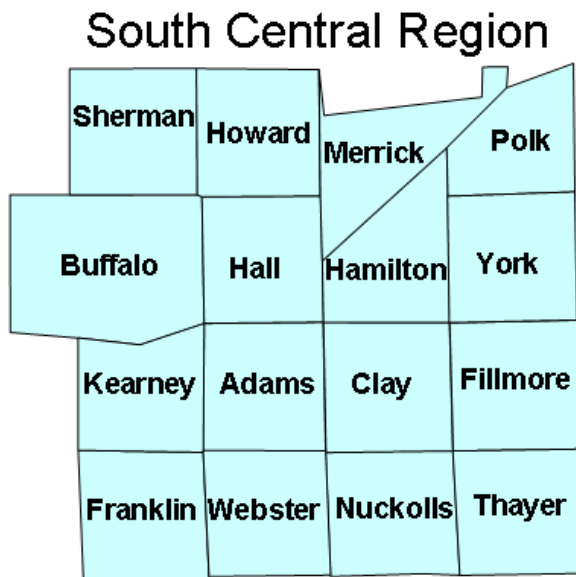
**Agriculture.** The agricultural industry in Southeast Nebraska has seen rising production over the last decade. As in most regions, income grew rapidly from 2000 to 2004. The region should continue to see rising production. Income should change from year to year following cyclical patterns affected by commodity prices and weather, but without a long-term upward trend.

## Region 4: South Central Region

Many counties of non-metropolitan Nebraska, including rural counties in the South Central Region of Nebraska, have experienced years of declining population. At the same time overall population growth has been modest in the cities of Grand Island, Hastings, and Kearney. Anemic job creation is one reason for these population trends. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for non-metropolitan Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska.

This report discusses findings for the South Central Region.



The research indicates that many of the six pillar industries have been expanding in the South Central Region. The region has thrived in industries as widely varying as trucking and professional and technical services. This demonstrates that the South Central Nebraska economy is flexible and versatile, which should benefit the region as the national economy continues to evolve. There also is potential for future growth in a number of the six industries reviewed in this study. Four are of particular interest:

- Manufacturing
- Trucking
- Professional and Technical Services

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed relatively well in recent years, despite declines nationwide and in the Omaha area. The performance also has been solid in the South Central Region, particularly outside the food processing industry. Manufacturing employment declined modestly in the region from 1998 to 2004, but this was a period of rapid declines nationwide. The region has a relatively large and diversified manufacturing base and from 1998 to 2004 demonstrated a competitive advantage in manufacturing relative to the nation. The region also is traversed by a major interstate highway. As the national manufacturing industry begins to recover and add jobs, the region is poised to add employment. The manufacturing industry nationally is continuing to migrate to small cities, particularly those with highway access. Further, the South Central Region might also be expected to benefit from growth in ethanol plant activity in the coming years, though this type of manufacturing only has a modest employment impact.

**Trucking.** The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years. Further, trucking employment far exceeds the amount needed to serve local businesses, suggesting that the industry is serving a wider market. This is particularly true in the South Central Region, where there is twice as much trucking employment as needed to serve local markets and where industry employment grew at an average annual rate of 2.4% from 1998 to 2004. Trucking should continue to add jobs in Region 4 as the need for transportation continues to grow and as the state of Nebraska targets growth in the logistics industry. Local efforts to encourage the industry should ensure

that smaller firms and single operators (a growing part of this industry) have appropriate service-providers in the region such as truck repair facilities, training for workers, and insurers with experience at providing policies to truckers. Other efforts could focus on encouraging larger logistics facilities to locate along Interstate 80 in the region.

**Professional and Technical Services.** The professional and technical services industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been growing rapidly across the nation in recent years, adding millions of high paying jobs to the economy. While there is a tendency for this industry to concentrate in metropolitan areas, the industry is broad based. Professional services often have thrived in small cities such as Grand Island, Hastings, and Kearney. The industry grew at a 2.5% annual rate from 1998-2004. This was less than the national growth rate, but still solid growth. Further, our survey research indicates that more than 10% of professional services industry sales in the South Central Region go to customers located outside Nebraska or in Lincoln and Omaha. As this industry continues to expand across the nation, it should continue to grow well in the South Central Region. While the region has not demonstrated a particular strength in the industry, it has benefited, and can continue to benefit, from a rising tide nationally. To encourage the industry, South Central Region business owners responding to our survey indicated that broadband access and state and local taxes were important considerations for their businesses.

**Agriculture.** Analysis reveals that the South Central Region had the third highest level of income per farm unit among Nebraska, both in 2000 and 2004. Data on agricultural production for 1990 through 2004 indicate that the region is the largest corn producing region in non-metropolitan Nebraska. Corn production also grew steadily in the region during the 1990 to 2004 period. With high levels of corn production and a history and infrastructure in manufacturing, the region is expected to benefit from substantial investments in Nebraska's ethanol industry in the next decade. This is a reason for the particular interest in agriculture in the South Central Region.

### **Other Industries**

**Tourism.** Tourism is a mature industry in the South Central Region. The region hosts a busy interstate highway, and there are many successful tourism attractions in the region. The industry also grew in real per capita terms during the 1990 to 2005 period. Unless major new attractions are developed, there probably will be only modest tourism growth in the region in the years to come. One goal might be to help rural counties of the region benefit from the types of recreation and adventure tourism growth noted in the Sandhills Region in Chapter 4.

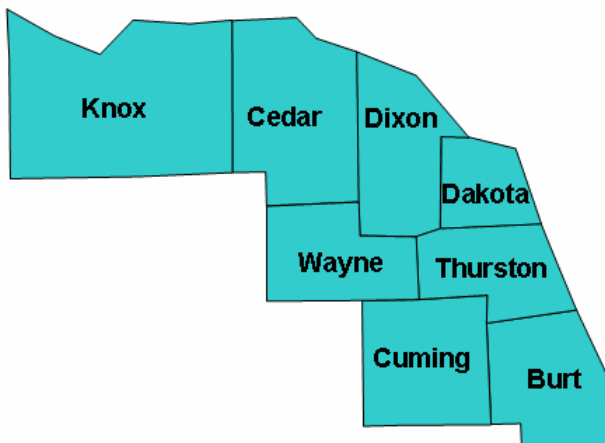
**Information.** The information industry includes a variety of industries ranging from local publishers and broadcasters to telecommunications and web-design companies. Information industry businesses within the South Central Region performed relatively poorly, with declining employment during the 1998 to 2004 period. Information industry employment is expected to expand modestly over the next decade and may add employment in the South Central Region. There is, however, less reason to expect rapid job growth than in the professional services industry.

## Region 5: Northeast Region

Many counties of non-metropolitan Nebraska have experienced years of declining population. Anemic job creation is one reason for these population trends. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for non-metropolitan Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska. This report discusses findings for the Northeast Region. The region contains counties that border Iowa and South Dakota.

### Northeast Region



The Northeast Nebraska region has seen flat to declining employment in recent years. This has occurred in part because the region has lost employment in some of the most rapidly growing national industries, such as the professional services industry. At the same time, the region has performed well in selected industries, such as manufacturing (including food processing) and trucking. As a whole, these results suggest that the Northeast Nebraska Region can succeed in selected non-agricultural industries. For many such industries, however, counties in the region face competition from larger cities in adjacent states (such as Sioux City, Iowa or Yankton, South Dakota). Efforts to promote the

region may include positioning the large towns in the regions, such as South Sioux City, to make even more progress in capturing a larger share of population and employment from cities in adjacent states. There also will be opportunities for future growth in several of the industries addressed in this study.

Three are of particular interest:

- Manufacturing
- Agriculture
- Trucking

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed relatively well in recent years, despite rapid declines nationwide and in the Omaha area. The performance has been particularly solid in the Northeast Nebraska Region, where employment grew modestly from 1998 to 2004, despite the deep declines elsewhere. The region also demonstrated a competitive advantage in manufacturing relative to the nation during the period. Looking forward, the region has several other advantages. First, the region specializes in food processing, which is one of the manufacturing industries least vulnerable to competition from developing countries. Second, while the region does not contain an interstate, there are interstate highways in adjacent counties in Iowa and South Dakota. Third, the manufacturing industry nationally is continuing to migrate to non-metropolitan areas and small cities, particularly those with highway access.

**Trucking.** The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years, and Northeast Nebraska has been among the most rapidly growing regions. Despite declining total employment in the region, trucking industry employment grew at an average annual rate of 4.1% from 1998 to 2004. Trucking should continue to add jobs in Region 5 as the need for transportation continues

to grow and as the state of Nebraska targets growth in the logistics industry. Local efforts to encourage the industry should ensure that smaller firms and single operators (a growing part of this industry) have appropriate service-providers in the region such as truck repair facilities, training for workers, and insurers with experience at providing policies to truckers.

**Agriculture.** The agriculture industry in the Northeast Nebraska Region had the second highest average income per farm unit of any non-metropolitan Nebraska region in 2004. Northeast Nebraska is also the most diverse of the agricultural regions in Nebraska, with substantial production of multiple crops as well as both hogs and cattle. It is also a center for the dairy industry in the state. This diversity should allow agriculture in the region to maintain relatively steady income as different commodity prices rise and fall. Agriculture is a featured industry in Northeast Nebraska because of this strong and steady income, plus the potential of the region to benefit from new investment in ethanol production and the expansion of dairy cattle herds.

### **Other Industries**

**Professional and Technical Services.** The professional and technical services industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been growing rapidly across the nation in recent years, adding millions of high paying jobs to the economy. While there is a tendency for this industry to concentrate in metropolitan areas, the industry is broad based. The industry has lost employment in the Northeast Nebraska Region in recent years. Professional services employment declined over 2% per year on average from 1998 to 2004. The industry faces competition from larger cities in adjacent states such as Sioux City, Iowa or Yankton, South Dakota. Such competition will create an obstacle as the region attempts to benefit in the future from national trends for further job growth in professional services industry. To benefit more, the larger towns in Northeast Nebraska need to compete more effectively for jobs and employment with larger cities in adjacent states. For example, Northeast Nebraska business owners responding to our survey indicated that broadband access and state and local taxes are important considerations for their businesses.

**Information.** The information industry includes a variety of industries ranging from local publishers and broadcasters to telecommunications and web-design companies. The industry is expected to add employment nationwide over the next decade. The prospects for Northeast Nebraska are unclear, however. In particular, the information industry will face many of the same difficulties as the professional services industry.

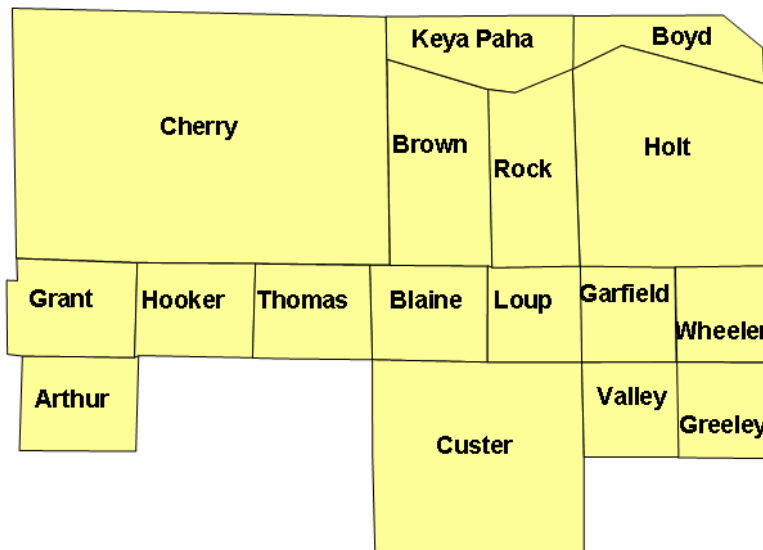
**Tourism.** Northeast Nebraska is the only part of the state where real per capita lodging sales declined consistently throughout the 1990 to 2005 period. The region does have a number of significant tourism attractions. Off-site spending related to tourism such as lodging, however, has a tendency to concentrate along interstate highways, in regions where these highways are present. Northeast Nebraska does not have interstate highways, but such highways are present in adjacent states—in some cases, just across the border. Lodging also is sometimes drawn to the larger towns in the region, and larger cities are present in the adjacent states of Iowa and South Dakota. These issues have created, and will continue to create, obstacles to strong growth in the lodging industry in Northeast Nebraska.

## Region 6: Sandhills Region

Many counties of non-metropolitan Nebraska have experienced years of declining population. Anemic job creation is one reason for these population trends. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for rural Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska. This report discusses findings for the Sandhills Region of Nebraska.

### Sandhills Region



The Sandhills Region is among the most sparsely populated areas in Nebraska. The region's agricultural industry on the whole has done well in recent years. But the region's success has not been limited to agriculture. The Sandhills Region has small but growing manufacturing (including food processing) and tourism industries, which are two industries that are traditional targets of rural development policy. These successes suggest that the region's entrepreneurs are adept at seizing new opportunities in select non-agricultural industries. Unfortunately, the region also performed poorly in several rapidly growing industries in the nation (professional

services) and the state (trucking). Employment in both industries declined from 1998 to 2004 despite rapid growth elsewhere in non-metropolitan Nebraska. The poor performance of these two industries in the region may be related to several concerns frequently voiced about the Sandhills Region: the region's sparse population and lack of an interstate highway. Overall, these divergent outcomes suggest that the regional economy may be counted on in the future to succeed in key non-agricultural industries only on a case by case basis. Several of the industries addressed in this study are of particular interest:

- Tourism
- Agriculture
- Manufacturing

**Tourism.** The tourism industry in the Sandhills exhibited solid growth during the last 15 years, exceeding growth in most other non-metropolitan areas of the state. While the tourism industry in the region is small, tourism is both an important and growing part of the Sandhills economy. The region is home to three of the top ten tourism dependent counties in Nebraska (Chapter 4). The region has benefited, and should continue to benefit, from a growing interest in adventure and recreation tourism.

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed relatively well in recent years, despite rapid declines nationwide and in the Omaha area. The industry (including food processing) added employment in the Sandhills Region during the 1998 to 2004 period, despite rapid declines in Omaha and elsewhere in the nation. The region also demonstrated a competitive advantage in manufacturing relative to the nation during the period.

The region has a broad-based manufacturing industry and may be able to continue modest gains in the future as manufacturing employment in the United States continues to reallocate to non-metropolitan areas and small cities.

**Agriculture.** The agriculture industry in the Sandhills is focused on livestock production. The region saw large increases in farm income per unit from 2000 to 2004 with strong growth in beef prices. Income may not stay as high as beef prices moderate, but there are several reasons to believe that agricultural activity may expand solidly in the next decade, given the region's highly productive grazing land. Production may grow substantially if Nebraska is able to regain Asian markets as concerns about mad cow disease wane. The Sandhills also may benefit indirectly from a growing Nebraska ethanol industry. The Sandhills is the closest source of feeder cattle for the feedlots that will develop in the vicinity of new and expanded ethanol production plants.

### **Other Industries**

**Trucking.** The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years. Further, trucking employment far exceeds the amount needed to serve local businesses, suggesting that the industry is serving a wider market. These trends, however, have not been present in Sandhills, where trucking employment declined over the 1998 to 2004 period. The region simply may be too far from the emerging logistic opportunities along Interstate 80 and in eastern Nebraska.

**Professional and Technical Services.** The professional and technical services industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been growing rapidly across the nation in recent years, adding millions of high paying jobs to the economy. The industry has failed to add jobs in the Sandhills in recent years and saw modest declines from 1998 to 2004, despite rapid growth in many non-metropolitan areas in Nebraska. This outcome may reflect the sparse population of the region, though other factors also may be relevant. For example, our survey of Nebraska business owners in the professional services industry indicates that broadband access and state and local taxes are important considerations for their businesses. Addressing these and other business climate issues may allow professional services business to expand in the Sandhills in future years, given expectations that the industry will continue to add jobs rapidly across the nation over the next decade.

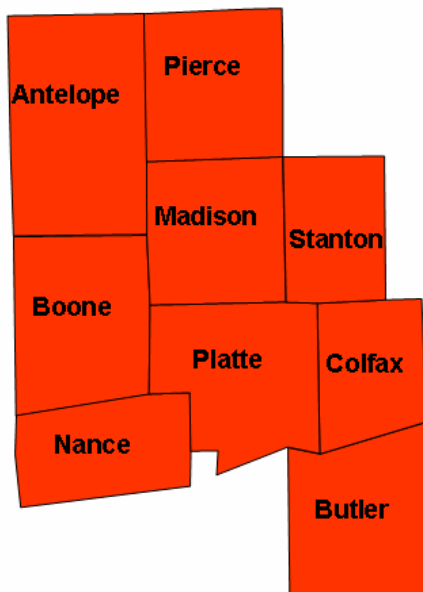
**Information.** The information industry includes a variety of industries from local publishers and broadcasters to telecommunications and web-design companies. The information industry did add employment in the Sandhills during the 1998 to 2004 period. Further, the industry is expected to add employment nationwide over the next decade. However, given the overall weakness of the industry in many parts of non-metropolitan Nebraska, it is unclear whether the information industry will continue its recent pattern of growth into the future, particularly as the industry faces many of the same issues described above for professional services.

## Region 7: The Norfolk/Columbus Region

Many counties of non-metropolitan Nebraska have experienced years of declining population. Anemic job creation is one reason for these population trends. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for rural Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska. This report discusses findings for the Norfolk/Columbus Region of Nebraska.

### Norfolk/Columbus Region



The research indicates that a majority of these six industries have been expanding in the Norfolk/Columbus region. These findings indicate that the region is adept at seizing new economic opportunities in a variety of non-agricultural industries. The regional economy is in a good position to face the future, whether or not these same industries are growing at that time. There is potential for future growth in a number of the six industries examined in this study. Several are of particular interest:

- Professional and Technical Services
- Manufacturing
- Agriculture
- Trucking

**Professional and Technical Services.** The professional and technical services industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been growing rapidly across the

nation in recent years, adding millions of high paying jobs to the economy. While there is a tendency for this industry to concentrate in metropolitan areas, the industry is broad based. Professional services often have thrived in small cities such as Norfolk/Columbus. The industry grew at a 4.3% annual rate from 1998-2004, exceeding the national growth rate. Further, our survey research indicates that roughly one-sixth (16%) of professional services industry sales in the Norfolk/Columbus region go to customers located outside non-metropolitan Nebraska. Professional services are a rapidly growing, export-oriented industry in the region. The region appears to be well positioned to participate in the national trend of strong job growth in this industry over the next decade. Regional business owners responding to our survey indicate that broadband access and state and local taxes are important considerations for their firm.

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed relatively well in recent years, despite rapid declines nationwide and in the Omaha area. Industry employment in the Norfolk/Columbus area declined from 1998 to 2004 period, but not as rapidly as nationwide. The major reason for this trend was growth in food processing employment in the region. Employment in other industries declined as rapidly as it did nationwide. Despite recent job losses in Norfolk, the strength of the food processing sector during the 1998 to 2004 period is a positive signal about the competitive position of the region. The region may be expected to modestly increase manufacturing employment despite manufacturing job losses in nationwide over the next 10 years. Manufacturing in the region should benefit as industry continues to move from major metropolitan areas



toward small metropolitan areas and non-metropolitan areas. The manufacturing industry in the Norfolk/Columbus area also may benefit from recent upgrades to the region's major highway, Highway 81.

**Agriculture.** Analysis reveals that the Norfolk/Columbus region is near the mid-level among Nebraska regions in income per farm unit, both in 2000 and 2004. Data on agricultural production for 1990 through 2004 indicate that the region, despite containing just seven counties, is still the third largest corn producing region in non-metropolitan Nebraska. Corn production also grew steadily in the region during the 1990 to 2004 period. With high levels of corn production and a history and infrastructure in manufacturing, the region is expected to benefit from substantial investments in Nebraska's ethanol industry in the next decade. This is a reason for the particular interest in agriculture in the Norfolk/Columbus region.

**Trucking.** The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years. Further, trucking employment far exceeds the amount needed to serve local businesses, suggesting that the industry is serving a wider market. The industry grew at a rapid 2.1% annual rate in the Norfolk/Columbus Region over the 1998 to 2004 period. The region is poised to participate in expected strong growth in trucking employment in Nebraska in the next decade.

#### **Other Industries**

**Tourism.** The tourism industry in the Norfolk/Columbus region does not appear to be advancing rapidly. Real per person lodging revenue expanded at a slow rate in the region during the 1990 to 2005 period. In 2005, the region had the lowest tourism sales per capita of any of the seven non-metropolitan regions considered in this study. The industry may continue to see modest gains in future years, but tourism is not expected to be a leading industry for the region's future.

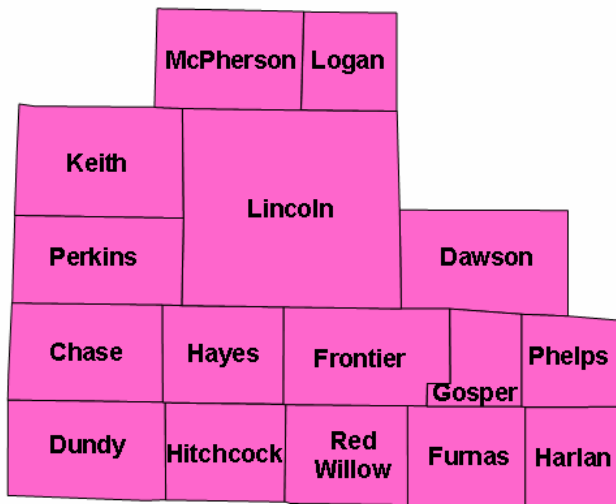
**Information.** The information industry includes a variety of industries ranging from local publishers and broadcasters to telecommunications and web-design companies. This new economy industry did not exhibit growth in the Norfolk/Columbus region during the 1998 to 2004 period. However, the industry remains a vibrant and innovative part of the economy, and its growth should continue to be tracked in the Norfolk/Columbus region. It is possible that industry employment will grow at a solid pace in the years to come, though the industry's recent performance throughout non-metropolitan Nebraska has been weak.

## Region 8: The Southwest Region

Many counties of non-metropolitan Nebraska have experienced years of declining population. Anemic job creation is one reason for these population trends. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for non-metropolitan Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska. This report discusses findings for the Southwest Region of Nebraska.

### Southwest Region



The research indicates that many of the six pillar industries have been expanding in the Southwest Region. Among the regions in western Nebraska that we have examined, growth has been most consistent and broad-based in the Southwest Region. The region appears well-suited for success in a wide variety of industries, which should help the region as the national economy continues to evolve. Among the six pillar industries examined in this study, several are of particular interest:

- Professional and Technical Services
- Manufacturing
- Trucking

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed relatively well in recent years, despite rapid declines nationwide and in the Omaha area. The performance has also been strong in the Southwest Region, where employment dropped only modestly from 1998 to 2004 despite the deep declines elsewhere. The region also demonstrated a competitive advantage in manufacturing relative to the nation during the period in both food processing and other types of manufacturing. The region should manage modest growth over the next decade even as manufacturing employment declines nationwide as the industry continues to migrate to non-metropolitan areas and small cities. Looking forward, the region has several other advantages. First, the region specializes in food processing, which is one of the manufacturing industries least vulnerable to competition from developing countries. Second, the region is traversed by a major interstate highway.

**Professional and Technical Services.** The professional and technical services industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been growing rapidly across the nation in recent years, adding millions of high paying jobs to the economy. While there is a tendency for this industry to concentrate in metropolitan areas, the industry is broad based. Professional services often have thrived in small cities such as North Platte. The industry grew at a 2.8% annual rate in the region from 1998-2004. This was less than the national growth rate, but still solid growth. Further, our survey research indicates that more than 10% of professional services industry sales in the Southwest Region go to customers located outside non-metropolitan Nebraska. As this industry continues to expand across the nation, it should continue to grow well in the Southwest Region. While the professional and technical services sector has not demonstrated a particular strength in the region, it has and can continue to benefit from a rising tide. Regional business owners responding to our

survey indicate that broadband access and state and local taxes are important considerations for their firms.

**Trucking.** The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years. Further, trucking employment far exceeds the amount needed to serve local businesses, suggesting that the industry is serving a wider market. The industry grew modestly in the Southwest Region over the 1998 to 2004 period; however, the region can be expected to participate more fully in the growth in trucking employment expected in Nebraska over the next decade as the state targets growth in the logistics industry. Local efforts to encourage the industry should ensure that smaller firms and single operators (a growing part of this industry) have appropriate service-providers in the region such as truck repair facilities, training for workers, and insurers with experience at providing policies to truckers. Other efforts could focus on encouraging larger logistics facilities to locate along Interstate 80 in the region.

### **Other Industries**

**Agriculture.** Analysis reveals that Southwest Nebraska had the highest income per farm unit in 2004. Data on agricultural production for 1990 through 2004 indicate that the region is the second largest corn producing and cattle producing region. Portions of the region have potential to benefit from investments in Nebraska's ethanol industry. Corn production also grew steadily in the region during the 1990 to 2004 period. Other parts of the region are expected to hold near recent levels of output.

**Tourism.** With a major interstate highway and recreation lakes, the Southwest Region has the highest level of real lodging sales per capita of all non-metropolitan regions in Nebraska. The tourism industry in the region does not appear to be advancing rapidly in Southwest Nebraska. Real per person lodging revenue expended at a slow rate in the region during the 1990 to 2005 period. Tourism is expected to remain a significant part of the regional economy in the future. But, unless major new attractions are developed, there probably will be only modest tourism growth in the region in the years to come. One goal might be to help rural counties of the region benefit from the types of recreation and adventure tourism growth noted in the nearby Sandhills Region.

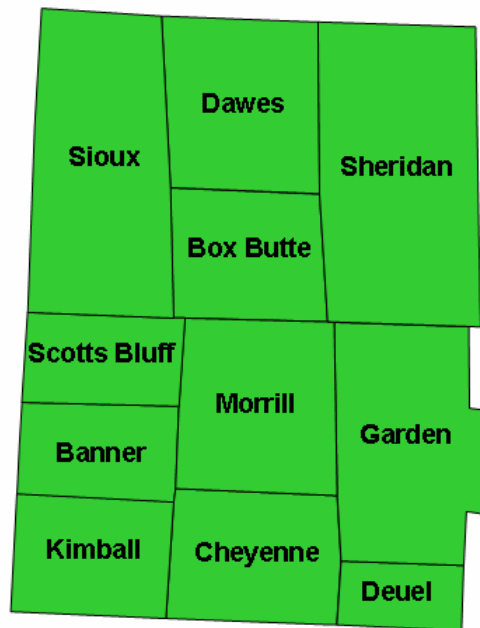
**Information.** The information industry includes a variety of industries from local publishers and broadcasters to telecommunications and web-design companies. This new economy industry did not exhibit growth in the Southwest Region during the 1998 to 2004 period. This occurred despite strong growth in the professional services industry in the region. Information industry employment may expand in Southwest Nebraska in the next decade, but the outlook for strong job growth is not nearly as promising as in the professional services industry.

## Region 9: The Western Panhandle Region

Many counties of non-metropolitan Nebraska, including the Western Panhandle, have experienced years of declining population. Anemic job creation is one reason for such job loss. This leads to a natural question: What industries can attract new jobs and income to the region? Agriculture has a role to play, but are there other industries that can serve as pillars of regional growth?

The University of Nebraska Rural Initiative recently completed a study of six potential growth industries for non-metropolitan Nebraska: agriculture, manufacturing, tourism, trucking, information, and professional services. Each industry has potential to bring new income to non-metropolitan Nebraska. This report discusses findings for the eleven-county Western Panhandle region.

### Western Panhandle Region



The research indicated that most of these six industries have been expanding in the Western Panhandle, bringing new jobs and income to the region. These findings indicate that the Panhandle economy is adept at seizing new opportunities in non-agricultural industries. The regional economy is in good position as the economy moves forward in the future, whether or not these industries are growing at that time. There is potential for future growth in a number of the industries examined in this study. Several are of particular interest:

- Tourism
- Trucking
- Professional and Technical Services

**Tourism.** The tourism industry has not grown rapidly in Nebraska overall, but has grown steadily in selected non-metropolitan areas, including the Panhandle. In Cheyenne and Dawes County, the Panhandle has two of the ten most tourism-intensive counties in the state,

meaning the highest level of lodging activity per capita. The region can continue to benefit from at least three advantages: travelers along Interstate 80, the region's state and national parks, and a growing interest in both recreation and adventure tourism. The first two factors depend on external forces; the key to expanding the third is to continue to add local attractions and destinations for hunters, fisherman, campers, canoeists, and bikers.

**Trucking.** The saying goes that "A rising tide lifts all boats." This adage applies to the trucking industry in the Panhandle Region. The trucking industry has expanded rapidly throughout non-metropolitan Nebraska in recent years, including the Panhandle Region. Trucking industry employment grew 3.9% per year from 1998 through 2004. The region also had approximately 50% more employment in trucking than would be expected, given the overall size of the Panhandle economy. The future for the trucking industry in Nebraska also appears bright, as the state continues to expand its logistics industry. Local efforts to encourage the industry should ensure that smaller firms and single operators (a growing part of this industry) have appropriate service-providers in the region such as truck repair facilities, training for workers, and insurers with experience at providing policies to truckers. Other efforts could focus on encouraging logistics facilities to locate along Interstate 80 in the region, at least in places such as Sidney where there is a sufficient work force.

**Professional and Technical Services.** Across the nation, there also has been a rising tide for the professional and technical services industry. This industry, which includes consultants, accountants, lawyers, advertising, veterinary services, and research services, has been growing rapidly across the nation in recent years, adding millions of high paying jobs to the economy. There is a tendency for this industry to concentrate in metropolitan areas, but growth in the industry is broad based. Many professional services businesses have thrived in non-metropolitan areas as well. The industry has not grown as well in the Panhandle as in other regions of Nebraska, but there has been growth. Industry employment has expanded 1 percent per year in recent years. Further, the industry is exporting; that is, it is serving customers outside the Panhandle Region. Our survey research indicates that more than 20% of professional services industry sales in the Panhandle go to customers located outside Nebraska. Professional services will continue to be among the fastest growing high wage industries in the national economy, and will continue to grow in the Panhandle as well, particularly in the large towns in the region. The industry is so varied that it is difficult to target specific policies to the industry. Panhandle business owners responding to our survey indicate that broadband access and state and local taxes are important considerations for their businesses.

### **Other Industries**

**Manufacturing (including Food Processing).** The manufacturing industry in non-metropolitan Nebraska has performed well in recent years, despite declines nationwide and in the Omaha area. Performance has been mixed in the Panhandle Region. Data from 1998 to 2004 indicate that the region experienced a decline in both food processing employment and in other manufacturing industries. While competitive analysis indicates that the Panhandle is at the national average in terms of competitiveness in manufacturing, Panhandle employment may simply decline slowly as national employment declines slowly. The Panhandle is not one of the areas of Nebraska where we expect to see strong manufacturing growth.

**Information.** The information industry includes a variety of industries ranging from local publishers and broadcasters to telecommunications and web-design companies. This new economy industry underwent downsizing during the recession of 2001 in some parts of the nation. For example, decline in this industry was behind much of the lethargy in the Denver, Colorado economy from 2001 through 2005. Within Nebraska, the Panhandle performed relatively poorly in this industry, with declining employment and establishments.

**Agriculture.** The Western Panhandle is by some measures among the most diverse agricultural regions of Nebraska. The region has a significant share of cattle production. The region is also a leading area in the state for agricultural products for human consumption such as dry beans, sugar beats, and wheat. Production and income have lagged in the region in the last decade due to a prolonged drought, but may return to historic levels once drought conditions abate.

## References

- Barkley, David L., Dahlgren, Roger A., Smith, Stephen M., "High-Technology Manufacturing in the Nonmetropolitan West: Gold or Just Glitter?" *American Journal of Agricultural Economics* Vol. 70 (3), 1988, pp. 560-571.
- Bevins, Malcolm, and Zwick, Rodney, "Classification of Recreation and Tourism Communities Using Cluster Analysis and Data Analysis Techniques," *Measuring Tourism Impacts at the Community Level*. Stephen Reiling, Editor. Maine Agricultural Experiment Station. 1992.
- Beyers, William B., and Lindahl, David P., "Explaining the Demand for Producer Services: Is Cost-Driven Externalization the Major Factor?" *Papers in Regional Science* Vol. 75 (3), 1996, pp. 351-374.
- Bruce, D., Fox, W., and Deskins, J., "On the Extent Growth, and Efficiency Consequences of State Business Tax Planning," forthcoming in *Taxing Corporate Income in the 21st Century*, A. Auerbach, J. Hines, and J. Slemrod, editors.
- Cantrell, Randy, *Rural Depopulation: A Closer Look at Nebraska's Rural Counties and Communities*. University of Nebraska Rural Initiative White Paper, September, 2005.
- Collins, M., (2004), *2004 Nebraska Tourism Industry Development Plan*.  
<http://www.visitnebraska.com/developmentplan/index.htm>
- Edmiston, Kelly, "Strategic Apportionment of the State Corporate Income Tax," *National Tax Journal* 2002, 55 (2), 239–262
- Gale, Frederick, Jr., McGranahan, David A., Teixeira, Ruy, and Greenberg, Elizabeth, *Rural Competitiveness: Results of the 1996 Rural Manufacturing Survey*. Agricultural Economics Report No. (AER776) 36 pp, March 1999.
- Gale, H. Frederick, "Is There a Rural-Urban Technology Gap?" USDA Economic Research Service, *Agricultural Information Bulletin Number 736-01*. 1997.
- Gale, H. Frederick, "Manufacturing Jobs Continue to Shift to Non-Metropolitan Areas in 1993," *Rural Conditions and Trends*. Vol. 7 (1), 1996, 33-38.
- Gale, H. Frederick, "Value-Added Manufacturing – An Important Link to the Larger U.S. Economy," *Rural Conditions and Trends*. Vol. 7 (3), 1998, 4-6.
- Haig, Robert, 1928 *Regional Plan of New York*.
- Hanham, R., "A Systematic Approach to Tourism Policy," *Journal of Business Research*, May 2000 Vol. 48(2), pp. 147-57.
- Lamphear, Charles, *The Importance of Agriculture and Agribusiness to Nebraska's Economy*. Lincoln, NE: Nebraska Policy Institute. 2006.
- McGranahan, David, "The Importance of Manufacturing in the Rural South," *The Rural South: Preparing for the Challenges of the 21st Century*, No. 22, Mississippi State, Southern Rural Development Center, Sep. 2001.

Nebraska Business Forecast Council, 2006. "Manufacturing Rebounds," *Business in Nebraska* No. 61, Vol. 683.

Nebraska Department of Economic Development (2004), *Nebraska Tourism Industry Development Plan*. Chapter 2. Nebraska Travel and Tourism Industry.

Nebraska Department of Economic Development (2005), *Nebraska Annual Economic Performance Indicators*. Retrieved on February 25<sup>th</sup>, 2006 from <http://info.neded.org/econperf/bnchmrk2.htm>

Office of Management and Budget, 2005. *Update of Statistical Area Definitions and Guidance on Their Usage*. OMB Bulletin 06-01 (Corrected).

Person, G., (2006). Sidney/Cheyenne County Outlook 2006. (prepared 05/06/06)  
[http://www.cityofsidney.org/index\\_files/Page350.html](http://www.cityofsidney.org/index_files/Page350.html)

Porterfield, Shirley L., and Pulver, Glen C., "Exports, Impacts, and Locations of Services Producers," *International Regional Science Review* Vol. 14 (1), 1991, pp. 41-58.

Smith, Stephen M., "Export Orientation of Non-manufacturing Business in Nonmetropolitan Communities," *American Journal of Agricultural Economies*. Vol. 66 (2), 1984, pp. 145-155.

Teisl, Mario, and Reiling, Stephen, "The Impact of Tourism on Local Government Public Service Expenditures," *Measuring Tourism Impacts at the Community Level*. Stephen Reiling, Editor. Maine Agricultural Experiment Station. 1992.

Teixeira, Ruy, "Rural and Urban Manufacturing Workers: Similar Problems, Similar Challenges," USDA Economic Research Service, *Agricultural Information Bulletin Number 736-02*, 1998.

Thompson, Eric C., (2004), "Producer Services," *2004 Kentucky Annual Economic Report*, pp. 19-24.

Tolbert, Charles M., and Sizer, Molly, "U.S. Commuting Zones and Labor Market Areas: A 1990 Update," ERS Staff Paper #9614. Economic Research Services, Rural Economy Division, 1996.

United States Bureau of Economic Analysis, U.S. Department of Commerce, 2006. *Gross State Product Statistics* ([www.bea.gov](http://www.bea.gov)).

United State Department of Labor, 2006. *Current Employment Statistics* ([www.bls.gov](http://www.bls.gov)).

Wasylenko, Michael, "Taxation and Economic Development: The State of the Economic Literature," *New England Economic Review, Proceedings of a Symposium on The Effects of State and Local Public Policies on Economic Development*, (1997), (March/April): 37-52.

Wong, J.D., (1996), "The Impact of Tourism on Local Government Expenditures," *Growth and Change*, Vol. 27, pp. 313-326.