

Establishing a Baseline for the Siouxland Tri-State Regional Innovation Project: Key Industries and Occupational Characteristics

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I. Key Industry and Occupational Evaluations: a Summary of Our Approach

Introduction

This is an applied research and technical assistance project for the Siouxland Tri-State Regional Innovation Project consisting of Cherokee, Clayton, Ida, Monona, Plymouth, and Woodbury County in Iowa; Dakota, Dixon, and Thurston County in Nebraska, and Clay and Union County in South Dakota. The purpose of this research is to identify the region's industrial and occupational strengths and deficits, to clarify its potential for job growth, and to help educate economic development officials about their economic and demographic foundations.

We employ a key industrial analysis approach to this research involving isolating, using standard economics criteria, industries in the region that stand out from the state and the nation – areas where the region appears to have a clear competitive advantage. This research is supplemented by additional data that help us to understand characteristics of the region's industrial structure to include firm size, average earnings, the amount of sales that are generated in different sectors, and the overall worth of the firms to the regional economy.

Taken as a whole, all industries are important to a region for a variety of reasons to include their job potential, the incomes that are generated, along with their importance to communities and collections of communities. Industries are not only important to workers and communities, they are important to each other. We measure this importance by tracking the flow of inputs into different sectors of the economy and measuring just how interdependent industries are with one another. We use econometric models to isolate regional industrial linkages and the degree to which there may be meaningful and sustainable industrial relationships in a region. This section outlines the major terminology used for this research and the approach to studying the region that we employ.

Goals of Key Industry and Occupational Analysis

Regional economic development planning organizations increasingly rely on industrial analysis techniques designed to isolate key industries and evaluate a region's competitive strengths, weaknesses, and development potential. By helping regions to isolate their key industries, these methods aid the efficient use of public and private economic development resources.

An increasingly important component of regional analysis and planning focuses on occupational characteristics of the region's workforce. Another important component is the region's ability to both train and retain skilled and educated workers in sufficient quantity to supply anticipated future industrial needs. This research incorporates several evaluation matrices to assist regional planners in determining their occupational strengths and weaknesses as well.

We employ a sophisticated array of data that help us to understand the region's occupational strengths, weaknesses, and standings in several different areas. Regional occupational analysis has become more and more important to economic development planning in recent years as regions and states struggle to maintain their competitiveness vis à vis workers, skills, knowledge, and core competencies. This research combines and processes a vast amount of federally and state supplied data on industrial staffing which is then translated, via our industrial compilations for the region, into expected values for the study area. This allows a scoring and assessment of the area's overall occupational content, value, comparative worth, and competitiveness.

When the key industry and occupational analyses are combined, they allow regions to much more accurately gauge their regional strengths, identify challenges to growth, and better plan for their industrial and human resource needs.

Regional Economic Development Research and Programming Requirements

The overall expected outcome of all key industrial and occupational assessment processes is to bring intelligence and information to bear on the economic development activities so that scarce public and private resources are maximized towards promoting economic growth and regional stability. This process should be driven by participant consensus in at the least three major areas:

1. The region is responsible for developing its economic development goals and identifying the specific objectives that it intends to accomplish in support of those goals. These cannot and ought not be proscribed by consultants or state officials.
2. The region, ultimately, is responsible for selecting the industries for targeting that best fit with its goals and with the region's collective expectations for industrial growth. Analysts can provide lists of desirable industries and criteria for evaluating them, but outside analysts do not select the region's goals or its industrial priorities. In short, the region owns its choices and the consequences of its choices.
3. The region develops procedures, programs, and activities designed to recruit industries, retain or expand industries, provide or otherwise facilitate technical assistance and occupational development to improve industrial productivity, and, not to be forgotten, promote programs to assist small business development and entrepreneurial activity in keeping with its industrial recruitment and development goals. Economic development is a comprehensive process that is conducted in light of community and regional capacities and the collective needs of the citizenry not just the urgings of the business community.

In this entire process it is important for the region and the participating analysts to pay particular attention to the region's strengths, whether they are industrial, labor based or localized in nature, along with the region's capacity to supply public goods.

By using a goal-driven process for identifying industrial prospects, the region should be able to

- ▶ better identify the region's industrial needs and its capacity for growth,
- ▶ more efficiently utilize existing resources, and potentially,
- ▶ limit its reliance on or otherwise focus growth inducements, like tax abatements or other development incentives, and
- ▶ make informed decisions that help to enhance the overall quality of life of its citizens.

This process is designed to enable local government and organizational effectiveness and give leaders a knowledge based foundation to their community development choices.

II. An Overview of Population and Key Economic Indicators

Regional Population Change

Table 1

	2000 Census	2007	Percentage Change
Regional Population Changes	236,444	232,075	-1.8%
Cherokee	13,035	11,686	-10.3%
Crawford	16,942	16,579	-2.1%
Ida	7,837	6,940	-11.4%
Monona	10,020	9,131	-8.9%
Plymouth	24,849	24,373	-1.9%
Woodbury	103,877	102,287	-1.5%
Dakota	20,253	20,312	0.3%
Dixon	6,339	6,243	-1.5%
Thurston	7,171	7,208	0.5%
Clay	13,537	13,364	-1.3%
Union	12,584	13,952	10.9%
Iowa	2,926,324	2,988,046	2.1%
Nebraska	1,711,263	1,774,571	3.7%
South Dakota	754,844	796,214	5.5%

Indications

The region has declined by nearly 2 percent this decade. While all three states have posted population gains, eight of the 11 counties have declines. Three counties in Iowa, Cherokee, Monona, and Ida, have very strong population erosions in excess of 8.9 percent, while Union in South Dakota enjoyed nearly an 11 percent growth.

Findings

Woodbury County, the major trade center of the region, is not growing. While growth has spilled to the north and west, all of its Iowa bordering counties are posting relatively strong population losses. There does not appear to be evidence that those losses are due to immigration into the trade center.

Unlike most metropolitan areas in Iowa, the Woodbury County economic core is not resulting in spillover population growth for the larger region. For example, the gains to Union County are less than the losses in Woodbury. In all, the primary metropolitan counties do not exhibit the kind of population growth common for most major Plains states major trade centers.

Components of Regional Population Change, 2000 to 2007

Table 2

	2000 Census	2007	Actual Change	Natural Change	Net Migration and Other
Region Totals	236,444	232,075	-4,369	8,562	-12,931
Cherokee	13,035	11,686	-1,349	-245	-1,104
Crawford	16,942	16,579	-363	447	-810
Ida	7,837	6,940	-897	-146	-751
Monona	10,020	9,131	-889	-446	-443
Plymouth	24,849	24,373	-476	483	-959
Woodbury	103,877	102,287	-1,590	5,209	-6,799
Dakota	20,253	20,312	59	1,568	-1,509
Dixon	6,339	6,243	-96	54	-150
Thurston	7,171	7,208	37	629	-592
Clay	13,537	13,364	-173	468	-641
Union	12,584	13,952	1,368	541	827

Indications

This table details the components of population change for the area. Actual change is composed of natural change and migration. Natural change is composed of births minus deaths. Migration is of two parts: domestic and international migration. Domestic migration measures the flow of people within the United States over the measurement period regardless of their country of origin. International migration counts the flow of people into the county who came directly from another country. A positive value means net immigration, a negative value means net outmigration.

Findings

Three of the counties exhibit natural decline where deaths exceed births. These areas are currently not replacing their populations naturally. Woodbury and Dakota County together make up nearly 80 percent of the region's total natural gain. The region's net outmigration overwhelms their natural gains. Again, Woodbury and Dakota account for 64 percent of all net outmigration from the region. Only Union County had both net immigration and a positive natural change.

While three counties are in natural decline, the region is posting relatively robust natural gains. Those gains, however, do not offset the propensity to outmigrate in seven of the remaining 11 regional counties. Net outmigration rates can be calculated after accounting for natural change: the region's average net outmigration rate this decade was 5.3 percent. Five counties exceeded that outmigration rate, with Ida at 9.8 percent and Cherokee at 8.6 percent leading the group in this category.

Population Change by Selected Age Groups

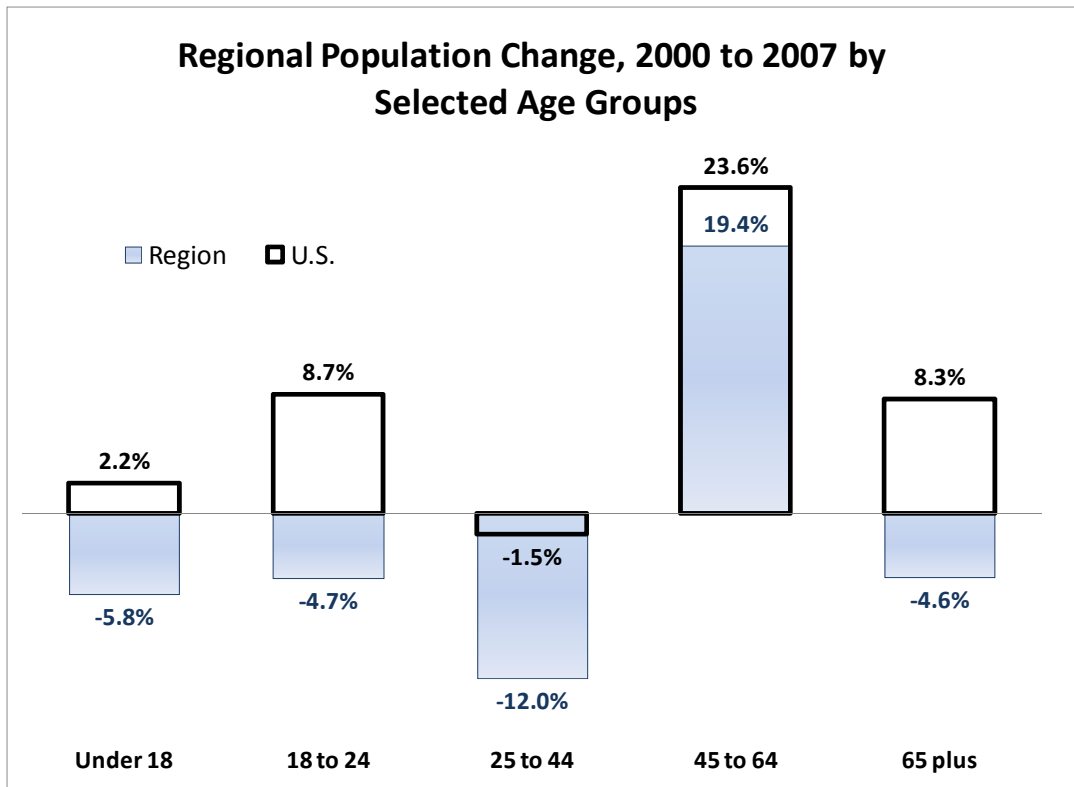


Figure 1

Indications

Figure 1 helps us grasp the nature of population change in the region during this decade. This figure compares selected population groups in the region with the nation. The several groupings have significance for public policy, economic growth, and overall community stability.

Findings

The region lags the nation in every measured age group. Of particular concern is the 5.8 percent reduction in persons under age 18, compared to a U.S. growth of 2.2 percent, and a 4.7 percent reduction in persons 18 to 24 compared to a national growth of 8.7 percent. The region's population of youth and very young adults is eroding sharply.

In addition, its population ages 25 to 44 declined precipitously by 12 percent compared to a U.S. cohort decline of 1.5 percent. This erosion is troubling in that it is that population to which new business must rely to find its workers. Continued declines in that broad cohort portend difficulties in recruiting firms in the future as the average pool of workers of those ages is sparse. Those persons also explain the erosion of youth. As that population shrinks they lose their existing children or the children that they would have had.

Ratio of Employment to Population

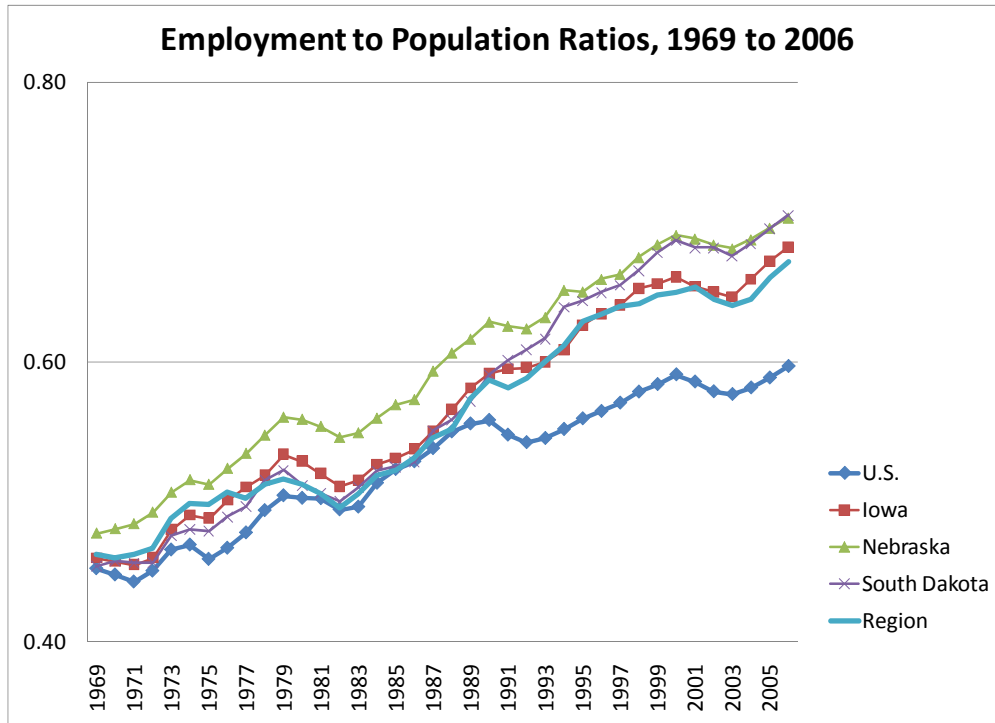


Figure 2

Indication

This figure displays that ratio of total jobs in the economy to people for the nation, the host states, and for the 11-county region through 2006. Over time the number of jobs required to sustain our populations have increased. That ratio declines during recessions, and then increases during economic expansion.

Findings

Through most of the 1980s, the region and the state of Iowa tracked the national pattern of change. In the late 1980s, however, all of the states along with the region diverged sharply upward from the U.S. experience. By 2006, the U.S. average was 60 jobs per 100 persons. For the region that ratio had grown to 69 jobs, per 100 in population, a number only somewhat less than the averages for the three states. Readers will also notice that the slope of change is sharper – in short, it will continue to take more jobs to support the population in the region and in the three states than the national average, and those numbers are expected to continue to increase in the near future.

Employment and Unemployment Levels

Table 3

Year	labor force	Employment	Unemployment	Unemployment Rate
2000	123,313	118,831	4,482	3.6%
2001	123,633	119,795	3,838	3.1%
2002	123,596	120,050	3,546	2.9%
2003	124,909	121,047	3,862	3.1%
2004	125,450	121,980	3,470	2.8%
2005	123,766	120,441	3,325	2.7%
2006	122,962	119,868	3,094	2.5%
2007	123,542	120,641	2,901	2.3%
2008	123,617	120,512	3,105	2.5%
2009	123,360	119,661	3,699	3.0%

Indications

This table lists the total number of employed persons and unemployed persons. The labor force is composed of those working (employed) and those actively seeking work (unemployed). The unemployment rate is the fraction of the labor force that is not working. Persons that are not actively looking for work, though otherwise able-bodied, are not counted as part of the labor force.

Findings

Employment peaked in 2004 for the region at just shy of 122,000 jobs. Although unemployment declined for three years thereafter, the number of employed persons also went down. This means that unemployed people either migrated or dropped out of the labor force. Previous tables indicated that outmigration is a factor keeping the region's unemployment rate down. It is also evident that the region's unemployment and unemployment rate are increasing since 2007.

Percentage Change in Employment and Unemployment

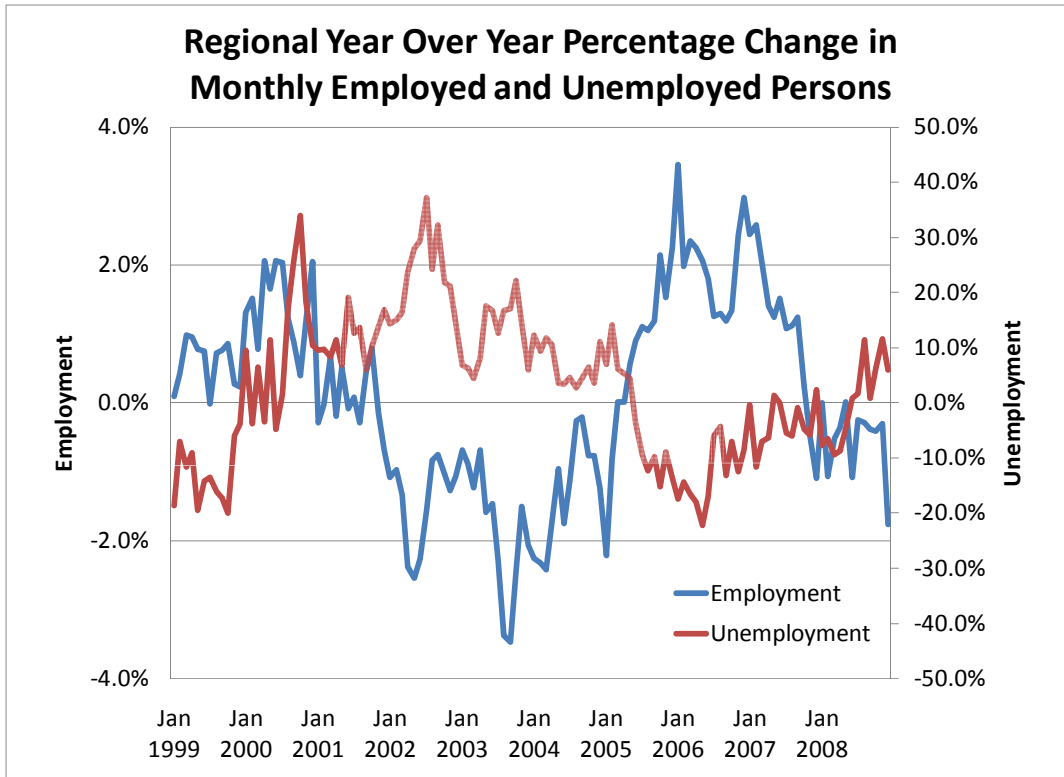


Figure 3

Indications

Figure 3 is a somewhat “busy” graph, but it gives a good sense of the year over year changes in employment and unemployment that has occurred in the region. It shows, owing to its monthly detail, how the region has fared through two major business cycles. Employment is read off of the left vertical axis and the right vertical axis gives the unemployment change.

Findings

From the beginning of 2005 through January 2007 there were strong and sustained increases in year over year employment and concomitant sharp reductions in unemployment. Since January 2007, however, rates of employment change have gone down and unemployment rate changes have increased. Of notice is the very strong decline in year over year employment in the first month of 2009.

Average Wage and Salary Earnings

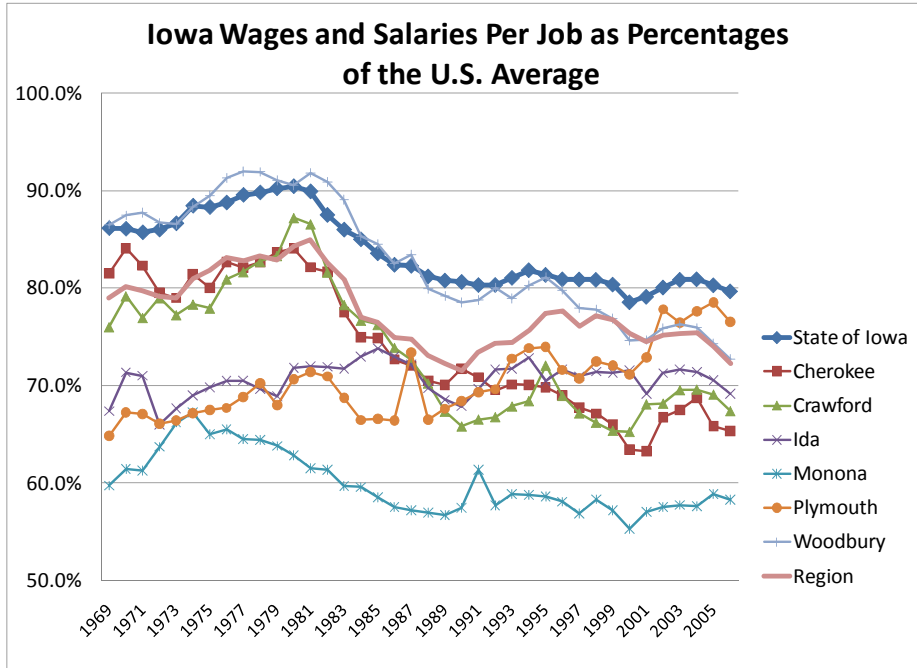


Figure 4

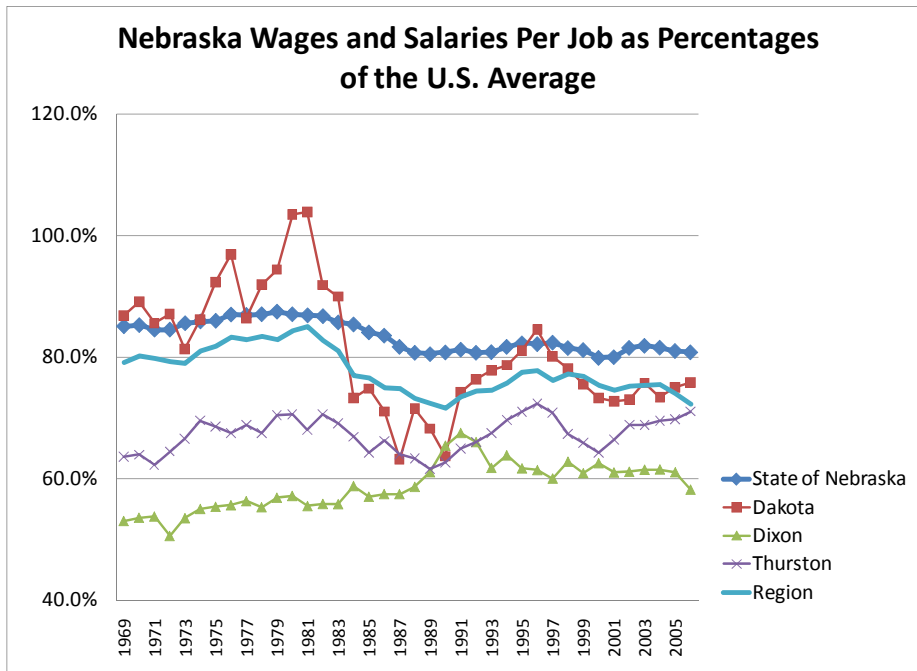


Figure 5

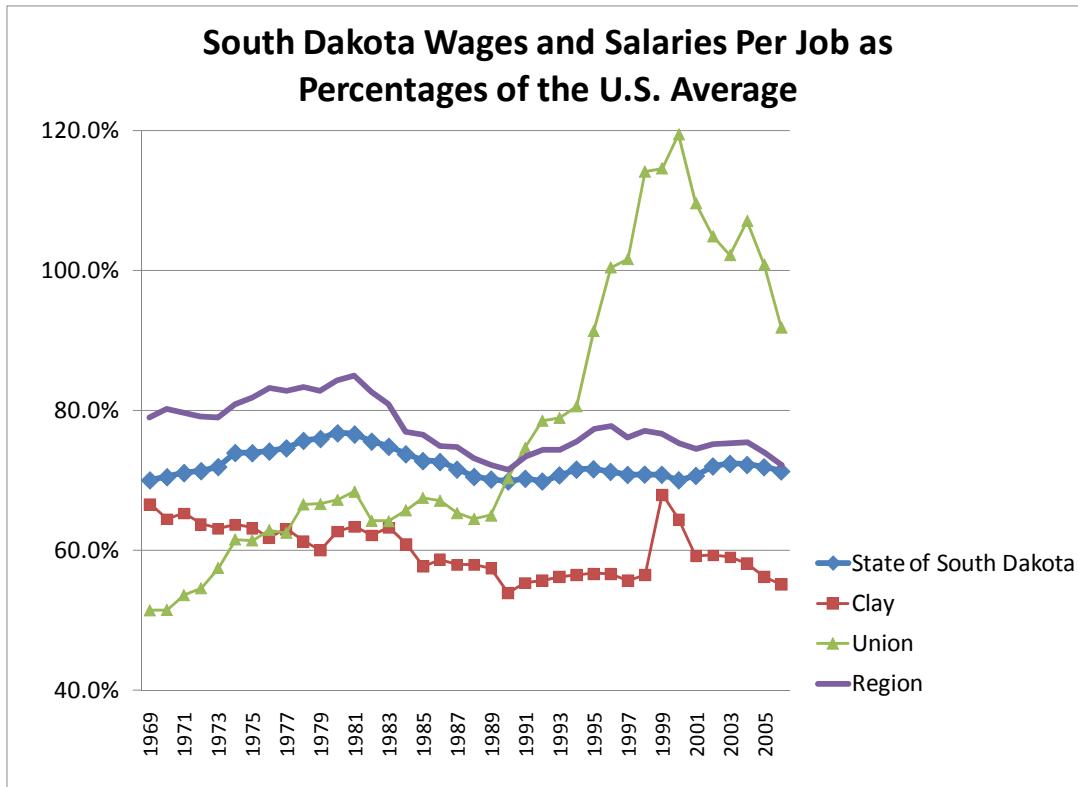


Figure 6

Indications

Figures 4 through 6 portray the wage and salary per job performances of the constituent counties, the states, and the region as they compare to the national wage and salary average.

Findings

Some of the more dramatic declines are evident for the State of Iowa, Woodbury County, Cherokee County, Crawford County, and Dakota County in Nebraska. In 2006 Iowa was 79 percent, Nebraska was 81 percent, and South Dakota was 71 percent of the national norm. The Dakota County decline during the 1980s highlights the consequences of a changing meat-packing industry over the years. In contrast, Union County in South Dakota realized sharp wage and salary ascents through 2000 before dropping sharply since. Clay County in South Dakota, Dixon County in Nebraska, and Monona County in Iowa post average wages and salaries that are less than 60 percent of the national average.

The overall pattern for the region has been slow but continued erosions since the early 1990s. The value in 2006 was 72 percent.

Nonfarm Job Growth

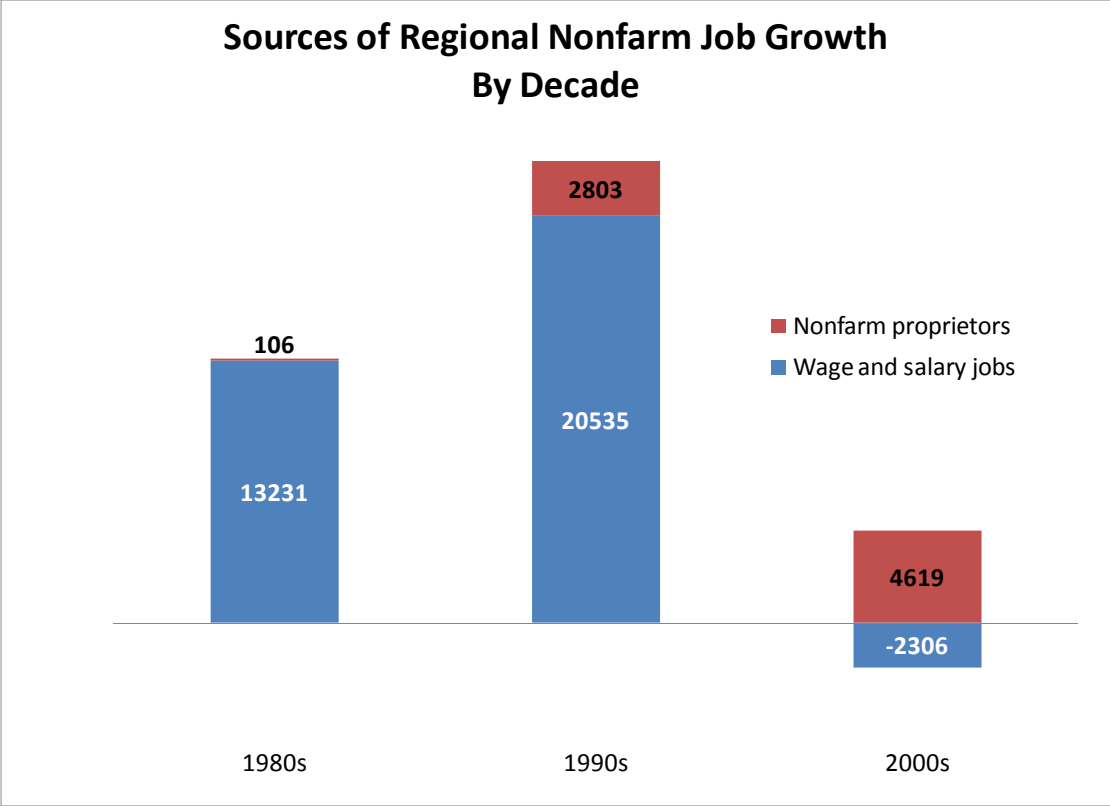


Figure 7

Indications

Figure 7 displays the cumulative growth in nonfarm proprietorships and all wage and salary jobs. All persons that are employees of a firm are considered wage and salary employees. Persons that are sole proprietors of a business or those that are in simple business partnerships are considered sole, nonfarm proprietors. The sum of the two equals total nonfarm job growth.

Findings

This graph depicts several pieces of information. First, total regional job growth in the 1990s was 75 percent higher than the previous decade. The current decade, however, yielded a slower rate of growth through 2006. In the 1990s, nonfarm proprietors were just 12 percent of all nonfarm jobs. The number of nonfarm proprietors increased by nearly two-thirds in the current decade.

More noteworthy, however, the region posted a net decline in wage and salary jobs through 2006 offset completely by nonfarm proprietor job growth. All net growth this decade is in nonfarm proprietors. There is a sense among many that this is an indication of budding entrepreneurship – we interpret the rapid growth in nonfarm proprietors as an indication of regional economic stress.

Average Nonfarm Proprietors' Income

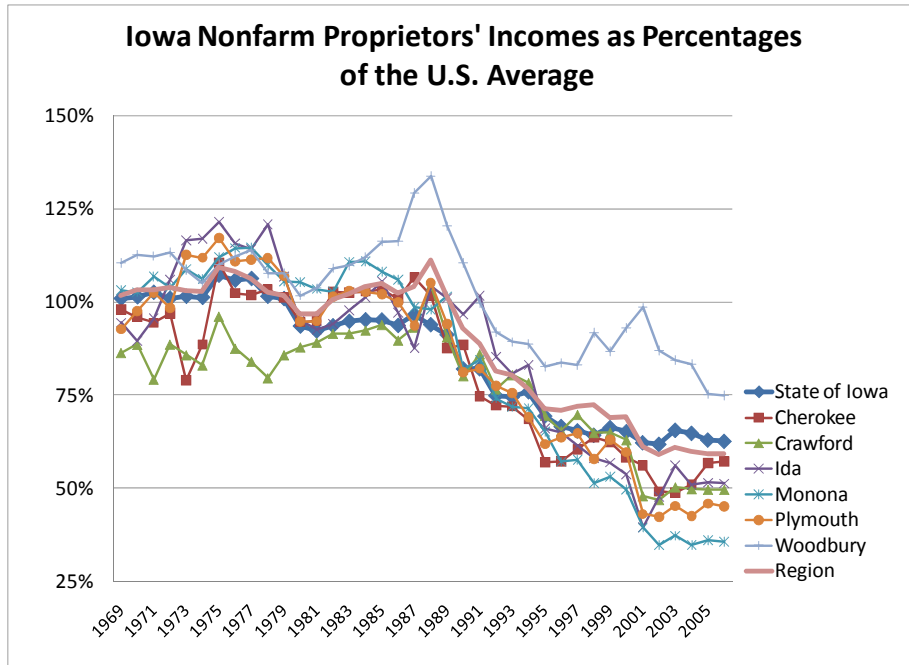


Figure 8

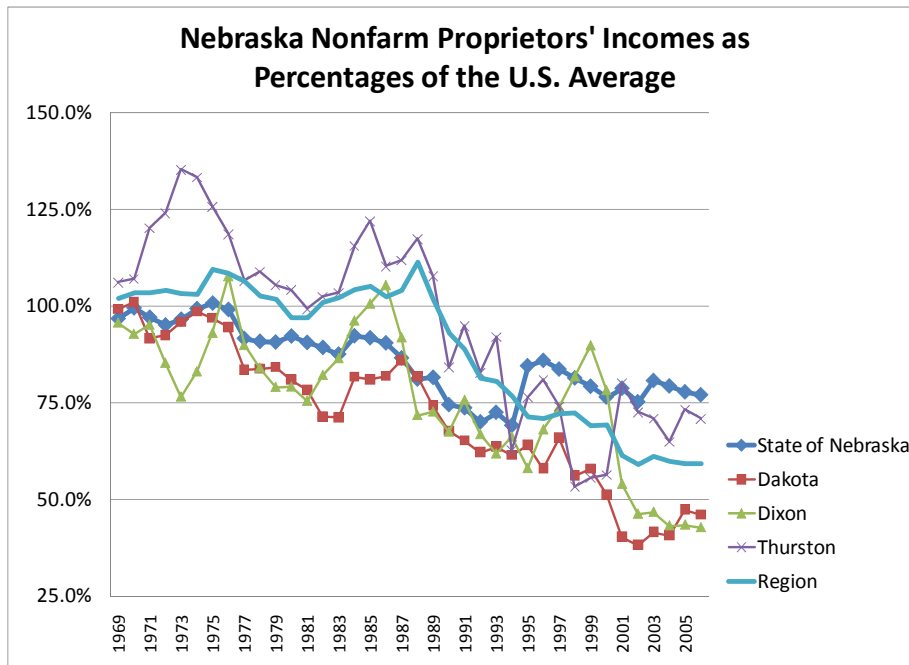


Figure 9

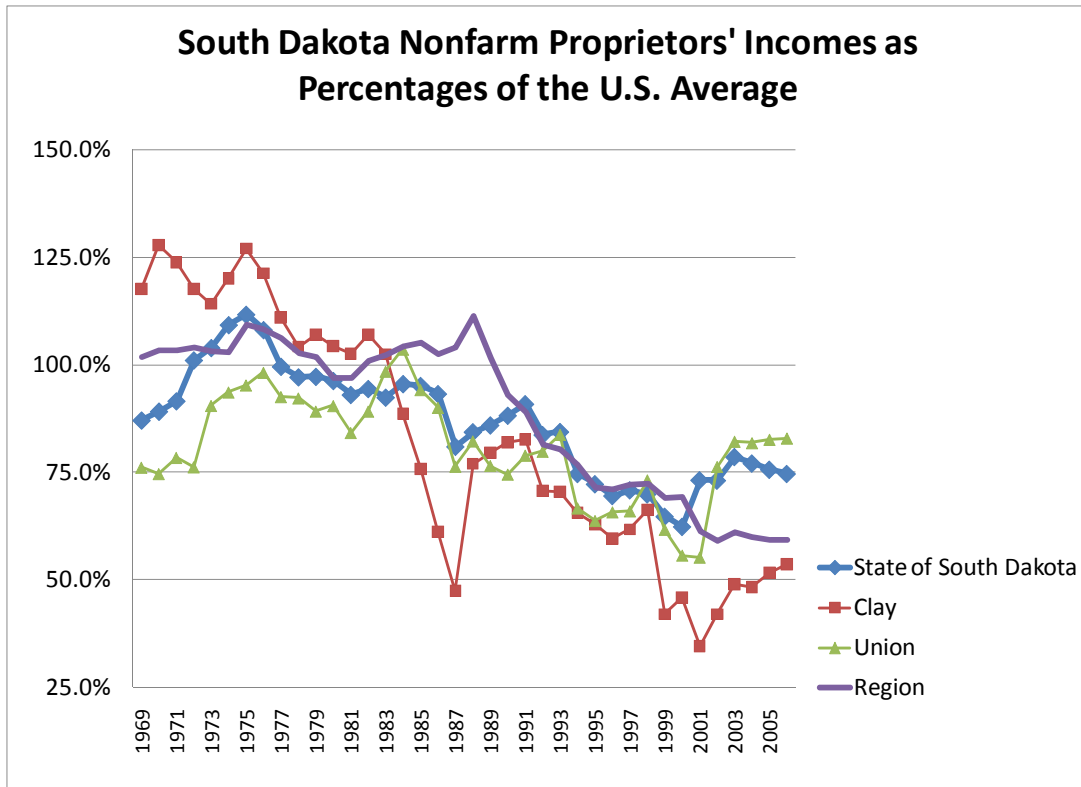


Figure 10

Indications

Figures 8 through 10 are similar to the wage and salary graphs. Here we measure the average incomes per nonfarm proprietor in all of the states, the constituent counties, and the region as they compare to the U.S. average.

Findings

Most of Iowa's counties and the state, along with Nebraska and Thurston County, and Clay County and the state of South Dakota were at or above the national average during the 1970s. Those advantages eroded sharply, however during most of the past two decades. By 2006, Iowa's value had declined to 63 percent, and the lowest of the Iowa counties, Monona, was 36 percent. Nebraska's declined to 75 percent, with Dakota's and Dixon's values declining to 46 percent and 43 percent respectively. South Dakota's values declined to 75 percent, but Union County's grew this decade to roughly 83 percent. The entire region's weighted average is just 59 percent.

The growth in nonfarm proprietorships in the area indicates economic necessity proprietorships. These are started to supplement either lost wage and salary jobs or jobs that no longer pay wages or salaries sufficient to maintain a household. It also indicates that the overall value of entrepreneurship in the region is much less than for the nation as a whole.

III. Aggregate Regional Industrial Characteristics

Regional Industrial Activity Levels by Industry, 2007

Table 4

<i>Dollar amounts in \$ millions</i>	Industrial Output	Jobs	Employee Compensation	Proprietors' Incomes	Property Incomes	Indirect Taxes	Value Added
Ag, Forestry, Fish & Hunting	1,993.79	11,017	59.09	159.75	486.49	65.19	770.52
Mining	32.06	111	3.48	2.44	3.23	0.49	9.64
Utilities	506.93	773	80.38	19.90	180.73	54.82	335.83
Construction	949.06	7,347	249.33	53.86	55.42	5.93	364.54
Manufacturing	8,871.67	20,264	1,017.80	33.96	334.66	25.85	1,412.27
Wholesale Trade	755.47	5,311	262.92	22.47	90.51	104.69	480.60
Retail trade	860.39	17,163	309.72	54.31	96.35	128.72	589.11
Transportation & Warehousing	856.24	7,232	254.84	60.15	94.72	15.13	424.84
Information	322.26	1,585	61.02	2.26	57.44	14.50	135.23
Finance & insurance	843.48	6,426	211.38	50.69	57.43	12.35	331.85
Real estate & rental	920.67	2,863	23.57	21.26	471.49	99.08	615.41
Professional- scientific & tech svcs	369.88	4,376	111.14	75.52	23.46	4.03	214.16
Management of companies	368.61	1,826	160.53	(0.03)	35.56	3.28	199.34
Administrative & waste services	447.28	8,223	169.20	14.67	38.85	6.44	229.16
Educational services	91.77	2,070	36.52	0.95	1.85	0.58	39.90
Health & social services	1,084.87	14,963	494.91	65.19	79.91	9.22	649.24
Arts- entertainment & recreation	160.10	2,844	32.73	12.42	33.24	15.29	93.69
Accommodation & food services	423.28	9,283	115.59	6.60	34.78	19.75	176.72
Other services	482.40	9,412	153.76	23.46	32.06	20.62	229.89
Government & non NAICs	1,189.00	20,261	943.99	-	132.60	-	1,076.58
Totals	21,529.20	153,349	4,751.90	679.84	2,340.79	605.98	8,378.51

Indications and Findings

These are the major industrial category summaries from the input output model that will be used to develop the key industry analysis in the next section. Industrial output is the value of all goods and services produced in the region in 2007. In producing industrial output, all firms must make payments to value added. Value added is wage, salary, and benefits payments for workers; returns to sole proprietors; investment income; and indirect government taxes on production. Jobs are actual paid positions of some kind in firms, not the number of Full Time Equivalent workers.

Composition of Regional Industrial Activity by Industry, 2007

Table 5

Percent of Regional Totals	Industrial Output	Jobs	Employee Compensation	Proprietors' Incomes	Property Incomes	Indirect Taxes	Value Added
Ag, Forestry, Fish & Hunting	9.3%	7.2%	1.2%	23.5%	20.8%	10.8%	9.2%
Mining	0.1%	0.1%	0.1%	0.4%	0.1%	0.1%	0.1%
Utilities	2.4%	0.5%	1.7%	2.9%	7.7%	9.0%	4.0%
Construction	4.4%	4.8%	5.2%	7.9%	2.4%	1.0%	4.4%
Manufacturing	41.2%	13.2%	21.4%	5.0%	14.3%	4.3%	16.9%
Wholesale Trade	3.5%	3.5%	5.5%	3.3%	3.9%	17.3%	5.7%
Retail trade	4.0%	11.2%	6.5%	8.0%	4.1%	21.2%	7.0%
Transportation & Warehousing	4.0%	4.7%	5.4%	8.8%	4.0%	2.5%	5.1%
Information	1.5%	1.0%	1.3%	0.3%	2.5%	2.4%	1.6%
Finance & insurance	3.9%	4.2%	4.4%	7.5%	2.5%	2.0%	4.0%
Real estate & rental	4.3%	1.9%	0.5%	3.1%	20.1%	16.4%	7.3%
Professional- scientific & tech svcs	1.7%	2.9%	2.3%	11.1%	1.0%	0.7%	2.6%
Management of companies	1.7%	1.2%	3.4%	0.0%	1.5%	0.5%	2.4%
Administrative & waste services	2.1%	5.4%	3.6%	2.2%	1.7%	1.1%	2.7%
Educational svcs	0.4%	1.3%	0.8%	0.1%	0.1%	0.1%	0.5%
Health & social services	5.0%	9.8%	10.4%	9.6%	3.4%	1.5%	7.7%
Arts- entertainment & recreation	0.7%	1.9%	0.7%	1.8%	1.4%	2.5%	1.1%
Accommodation & food services	2.0%	6.1%	2.4%	1.0%	1.5%	3.3%	2.1%
Other services	2.2%	6.1%	3.2%	3.5%	1.4%	3.4%	2.7%
Government & non NAICs	5.5%	13.2%	19.9%	0.0%	5.7%	0.0%	12.8%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Indications

These are the major industrial category summaries from the input output model that will be used in much more detail to develop the key industry analysis in the next section. Industrial output is the value of all goods and services produced in the region in 2007. In producing industrial output, all firms must make payments to value added. Value added is composed of wage, salary, and benefits payments for workers; normal returns to sole proprietors; dividends, interest, and rents; and indirect government taxes on production. Jobs are actual paid positions of some kind in firms. As people can have more than one job, there are more jobs than employed persons.

Findings

Manufacturing dominates a huge 41 percent of output, 13 percent of jobs, 21.4 percent of worker incomes, and 17 percent of value added. All governments rank next at 13 percent of jobs as well and 20 percent of worker earnings. Retail, in contrast accounts for 11 percent of jobs but just 6.5 percent of incomes. Health and social services account for 10.4 percent of employee incomes, and farmers account for 23.5 percent of all payments to proprietors.

Regional Industrial Activity by County, 2007

Table 6

County Contribution to Regional Totals (Dollar amounts in millions)	Industrial Output	Jobs	Labor Income	Value Added
Cherokee	1,072.94	8,039	254.17	410.20
Crawford	1,880.21	10,801	356.60	535.13
Ida	1,113.91	5,790	199.79	390.52
Monona	463.16	4,832	131.22	224.46
Plymouth	2,239.49	15,394	525.38	913.80
Woodbury	8,328.01	66,828	2,405.81	3,625.26
Dakota	2,902.81	13,209	512.62	700.33
Dixon	445.04	3,017	80.74	137.12
Thurston	480.89	3,762	157.63	236.20
Clay	750.72	9,651	282.57	421.74
Union	1,852.04	12,026	525.20	783.75
Region Total	\$21,529.20	153,349	\$5,431.74	\$8,378.51

Indications

Industrial output is the value of all goods and services produced in the region in 2007. In producing industrial output, all firms must make payments to value added. Value added is composed of wage, salary, and benefits payments for workers; normal returns to sole proprietors; dividends, interest, and rents; and indirect government taxes on production. Jobs are actual paid positions of some kind in firms. As people can have more than one job, there are more jobs than employed persons.

Findings

The region generated \$21.5 billion in industrial output. In so doing, it made payments of \$8.379 billion to value added (which is the same as gross domestic product – GDP). Labor income was \$5.432 billion of the value added generated or 65 percent. Last, that output required the labor of 153,349 jobs. Average labor income per job was \$35,421.

Regional Industrial Activity Percentages by County, 2007

Table 7

Percent of Regional Totals	Industrial Output	Jobs	Labor Income	Value Added
Cherokee	5.0%	5.2%	4.7%	4.9%
Crawford	8.7%	7.0%	6.6%	6.4%
Ida	5.2%	3.8%	3.7%	4.7%
Monona	2.2%	3.2%	2.4%	2.7%
Plymouth	10.4%	10.0%	9.7%	10.9%
Woodbury	38.7%	43.6%	44.3%	43.3%
Dakota	13.5%	8.6%	9.4%	8.4%
Dixon	2.1%	2.0%	1.5%	1.6%
Thurston	2.2%	2.5%	2.9%	2.8%
Clay	3.5%	6.3%	5.2%	5.0%
Union	8.6%	7.8%	9.7%	9.4%
Region Total	100.0%	100.0%	100.0%	100.0%

Indications

Economic activity is measured in the county in which it occurs. Accordingly, for example, the labor income and portions of the value added may ultimately accumulate to residents in counties different than indicated as many people commute to work and because payments to investors may flow out of the region. These data allow us to identify the counties that are the major contributors to the regional economy.

Findings

While Woodbury County accounts for nearly 39 percent of industrial output, its share of all jobs is nearly 43.6 percent, and it commands 44.3 percent of labor income. As the labor income percent is slightly higher than the jobs share, the county's average earnings per job are slightly higher than the regional average. The same can be said for Dakota, Thurston, and Union County. Dixon posts the lowest percentages in all categories bested only slightly either by Thurston or Monona County. The core MSA counties of Woodbury, Dakota, Dixon, and Union account for 62 percent of all jobs, 65 percent of labor income, and 63 percent of all value added.

Individual County Contributions to Regional Totals

Table 8: Jobs

Percent of Jobs	Cherokee	Crawford	Ida	Monona	Plymouth	Woodbury	Dakota	Dixon	Thurston	Clay	Union
Ag, Forestry, Fish & Hunting	12.1%	12.7%	7.7%	8.3%	19.1%	15.2%	2.7%	5.7%	4.1%	5.0%	7.4%
Mining	12.9%	5.5%	0.0%	0.0%	35.3%	27.9%	4.0%	10.0%	0.0%	2.2%	2.2%
Utilities	2.5%	3.1%	5.6%	0.8%	10.7%	62.1%	0.0%	0.0%	3.5%	4.4%	7.3%
Construction	8.2%	7.2%	4.8%	3.4%	11.3%	42.0%	7.9%	2.6%	3.0%	3.9%	5.7%
Manufacturing	4.4%	12.7%	8.8%	0.5%	7.6%	30.1%	21.7%	3.9%	1.3%	0.8%	8.2%
Wholesale Trade	2.4%	5.5%	3.5%	2.9%	11.3%	47.9%	4.7%	1.0%	2.1%	2.7%	15.9%
Retail trade	4.7%	6.6%	2.4%	2.8%	9.5%	54.8%	6.8%	0.9%	1.3%	7.0%	3.3%
Transportation & Warehousing	8.2%	10.8%	3.5%	1.9%	18.3%	31.7%	12.9%	2.8%	1.1%	7.5%	1.3%
Information	3.8%	2.5%	1.9%	4.2%	15.3%	48.6%	4.8%	0.7%	3.5%	6.7%	8.1%
Finance & insurance	2.9%	4.1%	2.4%	2.6%	5.6%	43.2%	11.0%	1.0%	1.2%	5.9%	20.0%
Real estate & rental	1.0%	2.6%	1.8%	5.3%	17.5%	60.2%	4.8%	0.8%	0.8%	3.6%	1.6%
Professional- scientific & tech svcs	6.3%	4.4%	1.8%	1.9%	9.8%	52.5%	7.2%	0.2%	1.1%	4.1%	10.7%
Management of companies	1.9%	0.7%	2.4%	0.7%	17.0%	22.7%	0.2%	0.0%	1.0%	0.1%	53.2%
Administrative & waste services	1.6%	1.4%	0.6%	2.0%	3.9%	56.3%	8.1%	0.7%	0.6%	5.9%	19.0%
Educational svcs	1.6%	4.8%	0.7%	1.3%	11.7%	75.1%	0.6%	0.4%	0.6%	2.5%	0.8%
Health & social services	5.5%	5.9%	4.0%	4.6%	6.8%	55.6%	4.2%	0.6%	1.6%	5.4%	5.8%
Arts- entertainment & recreation	2.7%	1.6%	1.2%	1.3%	4.5%	67.4%	7.6%	1.1%	1.2%	3.0%	8.5%
Accommodation & food services	3.4%	5.3%	1.6%	2.4%	10.3%	54.0%	6.5%	0.9%	0.6%	7.8%	7.2%
Other services	5.5%	5.1%	2.6%	3.2%	11.5%	44.3%	9.6%	1.5%	2.4%	9.2%	5.1%
Government & non NAICs	5.8%	6.6%	2.3%	4.4%	8.1%	37.6%	6.5%	2.4%	7.7%	14.5%	4.1%
Totals	5.2%	7.0%	3.8%	3.2%	10.0%	43.6%	8.6%	2.0%	2.5%	6.3%	7.8%

Indications and Findings

Table 7 gives the detailed contribution of each county to the regional totals of several industry aggregations. The sum of the row detail equals 100 percent. Each county can compare its industry detail with its total contribution to the region to determine areas where it has a degree of prominence or is waning. For example, while Monona County claims but 3.2 percent of all jobs, it accounts for 8.3 percent of agriculture jobs. This table can outline employment based county strengths and weaknesses in this manner.

Table 9: Labor Income

Percent of Labor Income	Cherokee	Crawford	Ida	Monona	Plymouth	Woodbury	Dakota	Dixon	Thurston	Clay	Union
Ag, Forestry, Fish & Hunting	11.9%	12.5%	8.2%	9.6%	18.7%	13.2%	3.5%	5.6%	4.8%	5.4%	6.8%
Mining	12.0%	2.2%	0.0%	0.0%	49.6%	24.9%	2.4%	6.1%	0.0%	1.4%	1.4%
Utilities	3.4%	2.6%	6.1%	0.4%	8.9%	68.4%	0.0%	0.0%	1.8%	3.0%	5.3%
Construction	9.2%	6.1%	5.2%	2.5%	8.3%	45.3%	9.4%	3.0%	2.7%	2.5%	5.7%
Manufacturing	4.0%	12.3%	7.4%	0.4%	10.5%	32.8%	19.8%	2.6%	1.1%	0.9%	8.2%
Wholesale Trade	1.9%	4.6%	2.9%	2.7%	10.4%	47.4%	3.3%	0.7%	1.8%	3.3%	21.0%
Retail trade	4.9%	5.9%	2.2%	2.8%	9.9%	57.6%	6.8%	0.4%	1.3%	5.7%	2.5%
Transportation & Warehousing	8.1%	7.3%	3.6%	1.4%	20.6%	33.3%	16.4%	1.1%	1.9%	5.4%	1.0%
Information	2.5%	2.9%	0.7%	3.2%	8.0%	50.0%	5.6%	0.3%	9.4%	5.4%	12.0%
Finance & insurance	2.7%	4.1%	2.9%	2.5%	7.7%	44.0%	14.8%	0.7%	0.8%	3.0%	16.9%
Real estate & rental	0.7%	2.0%	1.8%	3.6%	12.6%	60.1%	8.6%	0.8%	1.0%	5.1%	3.7%
Professional- scientific & tech svcs	5.1%	4.4%	1.5%	1.8%	9.6%	54.5%	6.5%	0.2%	1.4%	3.0%	11.9%
Management of companies	1.3%	0.5%	2.4%	0.3%	18.5%	19.3%	0.3%	0.0%	0.6%	0.1%	56.8%
Administrative & waste services	1.0%	1.0%	0.6%	1.2%	3.1%	51.5%	6.7%	0.3%	0.4%	5.8%	28.5%
Educational svcs	1.3%	3.4%	0.5%	0.0%	9.7%	79.2%	0.7%	0.0%	0.5%	3.8%	0.9%
Health & social services	3.9%	3.5%	2.3%	3.6%	4.2%	63.4%	3.2%	0.3%	1.6%	4.3%	9.6%
Arts- entertainment & recreation	1.9%	1.3%	0.9%	1.0%	3.1%	73.9%	4.0%	0.2%	0.9%	3.1%	9.9%
Accommodation & food services	2.7%	4.4%	1.2%	1.8%	7.8%	58.8%	7.5%	0.8%	0.4%	6.6%	7.9%
Other services	3.2%	4.7%	2.2%	2.7%	8.0%	47.0%	12.4%	1.4%	7.1%	6.0%	5.2%
Government & non NAICs	5.4%	6.5%	1.9%	3.4%	7.4%	42.4%	6.3%	1.8%	7.9%	13.5%	3.5%
Totals	4.7%	6.6%	3.7%	2.4%	9.7%	44.3%	9.4%	1.5%	2.9%	5.2%	9.7%

Indications and Findings

As with the previous table, Table 9 allows us to identify earnings based concentrations by industry. Again, all of the row detail sums to 100 percent. Crawford County, for example, accounts for over 12 percent of labor income in manufacturing and agriculture, yet just 6.6 percent of total. The area’s dependence on those two industries is therefore pronounced. Union County, with just under 10 percent of all labor income, sees specializations in administration and waste services, management of companies, finance and real estate, and wholesale trade.

Table 10: Value Added

Percent of Value Added	Cherokee	Crawford	Ida	Monona	Plymouth	Woodbury	Dakota	Dixon	Thurston	Clay	Union
Ag, Forestry, Fish & Hunting	12.3%	13.1%	9.0%	7.8%	22.9%	10.2%	3.2%	5.3%	5.2%	5.5%	5.5%
Mining	10.9%	5.4%	0.0%	0.0%	44.0%	23.4%	3.5%	8.7%	0.0%	2.0%	2.0%
Utilities	3.4%	2.4%	6.5%	0.4%	8.8%	69.5%	0.0%	0.0%	0.9%	3.0%	5.2%
Construction	9.2%	6.1%	5.2%	2.5%	8.2%	45.3%	9.5%	3.0%	2.7%	2.5%	5.7%
Manufacturing	3.7%	10.2%	11.1%	0.4%	11.0%	33.9%	16.9%	2.3%	1.0%	1.0%	8.5%
Wholesale Trade	1.9%	4.6%	2.9%	2.7%	10.4%	47.3%	3.4%	0.7%	1.8%	3.3%	21.1%
Retail trade	4.7%	5.9%	2.4%	3.0%	10.1%	57.2%	6.6%	0.4%	1.3%	5.9%	2.6%
Transportation & Warehousing	7.6%	7.3%	3.7%	1.6%	20.4%	34.4%	16.1%	0.9%	1.8%	5.2%	1.0%
Information	2.3%	2.1%	0.4%	2.4%	7.9%	48.0%	7.3%	0.4%	13.5%	6.6%	9.0%
Finance & insurance	2.4%	3.8%	2.6%	2.2%	7.3%	41.1%	17.3%	0.7%	0.8%	2.5%	19.2%
Real estate & rental	3.8%	5.0%	2.7%	3.5%	12.0%	49.4%	6.9%	2.0%	1.8%	5.4%	7.5%
Professional- scientific & tech svcs	5.3%	4.3%	1.7%	1.8%	9.6%	55.1%	6.2%	0.2%	1.4%	2.9%	11.6%
Management of companies	1.3%	0.5%	2.4%	0.3%	18.5%	19.3%	0.3%	0.0%	0.6%	0.1%	56.8%
Administrative & waste services	1.1%	1.1%	0.7%	1.3%	3.9%	48.5%	7.1%	0.3%	0.4%	7.0%	28.6%
Educational svcs	1.6%	3.7%	0.5%	0.0%	10.0%	78.1%	0.7%	0.0%	0.5%	3.9%	1.1%
Health & social services	3.9%	3.5%	2.3%	3.7%	4.4%	63.2%	3.3%	0.3%	1.7%	4.2%	9.4%
Arts- entertainment & recreation	1.4%	1.1%	0.7%	0.9%	2.6%	77.2%	3.0%	0.1%	0.7%	2.2%	10.1%
Accommodation & food services	2.7%	4.4%	1.2%	1.8%	7.8%	58.2%	7.8%	0.8%	0.5%	6.8%	7.9%
Other services	2.8%	4.3%	2.2%	2.7%	7.9%	49.3%	14.0%	1.2%	4.9%	5.1%	5.6%
Government & non NAICs	5.4%	6.5%	1.9%	3.4%	7.5%	42.1%	6.5%	1.8%	7.8%	13.5%	3.6%
Totals	4.9%	6.4%	4.7%	2.7%	10.9%	43.3%	8.4%	1.6%	2.8%	5.0%	9.4%

Indications and Findings

Table 10 details county contributions to value added for the industry aggregates. This is our third area of regional specialization or deficit comparison. As value added is the same as gross domestic product (GDP), this gives us a standard and very comparable measure of the region's overall productivity. Dakota County, for example, has high comparative productivity concentrations in finance and insurance, manufacturing and transportation and warehousing as compared to its total contribution to regional value added. Thurston, as another, stands out sharply in its share of information industry value added relative to its total.

Indicators of Regional Industrial Productivity Per Job, 2007

Table 11

	Industrial Output	Labor Income	Value Added
Cherokee	133,471	31,619	51,028
Crawford	174,076	33,015	49,545
Ida	192,383	34,506	67,447
Monona	95,851	27,156	46,452
Plymouth	145,475	34,128	59,360
Woodbury	124,618	36,000	54,248
Dakota	219,768	38,810	53,021
Dixon	147,501	26,760	45,445
Thurston	127,834	41,903	62,788
Clay	77,790	29,280	43,701
Union	154,000	43,671	65,170
Region Total	\$140,394	\$35,421	\$54,637

Indications

There are several measures of the value of regional productivity that can be gleaned from our data. The three variables of total industrial output, labor income, and value added give a good sense of the overall value of goods and service production in the constituent counties.

Findings

With an annual industrial output average per job of \$140,394, Monona and Clay County values are comparatively low at \$95,851 and \$77,790 respectively. In contrast, both Ida and Dakota County values are much higher.

Gross output however is a crude measure of productivity. Value added per worker averaged \$54,637 in the region with Ida and Union posting the highest values at \$67,447 and \$65,1709 respectively, and Clay and Dixon posting the lowest values at \$43,701 and \$45,445 each.

Earnings were lowest in Dixon County, followed by Monona and Clay County. Highest earnings per job were in Union followed by Thurston County.

Regional Industrial Activity By Industry Per Job, 2007

Table 12

	Output	Labor Income	Value Added
Ag, Forestry, Fish & Hunting	180,978	19,864	69,941
Mining	287,825	53,142	86,551
Utilities	655,846	129,738	434,489
Construction	129,185	41,270	49,621
Manufacturing	437,798	51,902	69,693
Wholesale Trade	142,236	53,732	90,485
Retail trade	50,131	21,210	34,325
Transportation & Warehousing	118,404	43,558	58,748
Information	203,294	39,922	85,308
Finance & insurance	131,251	40,779	51,637
Real estate & rental	321,599	15,661	214,968
Professional- scientific & tech svcs	84,527	42,658	48,941
Management of companies	201,897	87,913	109,185
Administrative & waste services	54,391	22,359	27,867
Educational svcs	44,340	18,104	19,278
Health & social services	72,505	37,434	43,391
Arts- entertainment & recreation	56,301	15,878	32,946
Accommodation & food services	45,596	13,162	19,036
Other services	51,256	18,830	24,427
Government & non NAICs	58,685	46,592	53,136
Totals	140,394	35,421	54,637

Indications

Table 12 gives indicators of productivity by industry. The normal measure of productivity is value added per worker. The amount of earnings per worker should rise as value added rises. Some industries post very high output per worker, yet may not post comparably high value added amounts. As value added is an indicator of Gross Domestic Product, it is however a good indicator of the overall value of production.

Findings

Utilities and manufacturing have very high output values per worker, while retail trade and accommodation and food services have some of the lowest. The highest value added per worker is in utilities, followed by the real estate sector and the management of companies. Highest earnings per workers are in utilities, followed by company management. The lowest earnings are in accommodation and food services, real estate, and in all other services.

Regional Industrial Transactions

Table 13. Regional Industrial Input and Output Transactions Summary

<u>Payments to:</u>	<u>Type of Transaction</u>	
Inputs &	Imports and Other...	7,562.34
	Local Suppliers.....	5,588.36
	Subtotal Inputs.....	13,150.69
Value Added	Employees.....	4,751.90
	Proprietors.....	679.84
	Investors.....	2,340.79
	Indirect Taxes.....	605.98
	Subtotal Value Added.	8,378.51
<i>Equals</i>	<i>Total Inputs.....</i>	<i>21,529.20</i>
Sales to:		
Local Consumers &	Local Industries.....	5,588.36
	Households.....	3,842.23
	Subtotal Local.....	9,430.59
External Consumers	Exports and Other	
	Final Demand	12,098.61
<i>Equals</i>	<i>Total Outputs.....</i>	<i>21,529.20</i>

Indications

An important element to understanding regional economic activity is to isolate the components of production that have local consequences and those that are external to the regional economy. Industrial production is accounted for by virtue of the value of all inputs and the value of outputs by area industries. These data are important because they allow us to understand the region's overall productivity and the region's overall dependence on local suppliers versus imports and on sales to external consumers versus local consumers.

Findings

In requiring \$21.53 billion in inputs, the region made \$13.2 billion in payments to commodity and service inputs, 57.5 percent of which were imported. Of the \$9.43 billion in sales made locally, \$5.59 billion were made to local industries, or 59 percent. Of all output, \$12.1 billion went to final demand or exports, 56 percent of all output.

Regional Industrial Inputs and Outputs

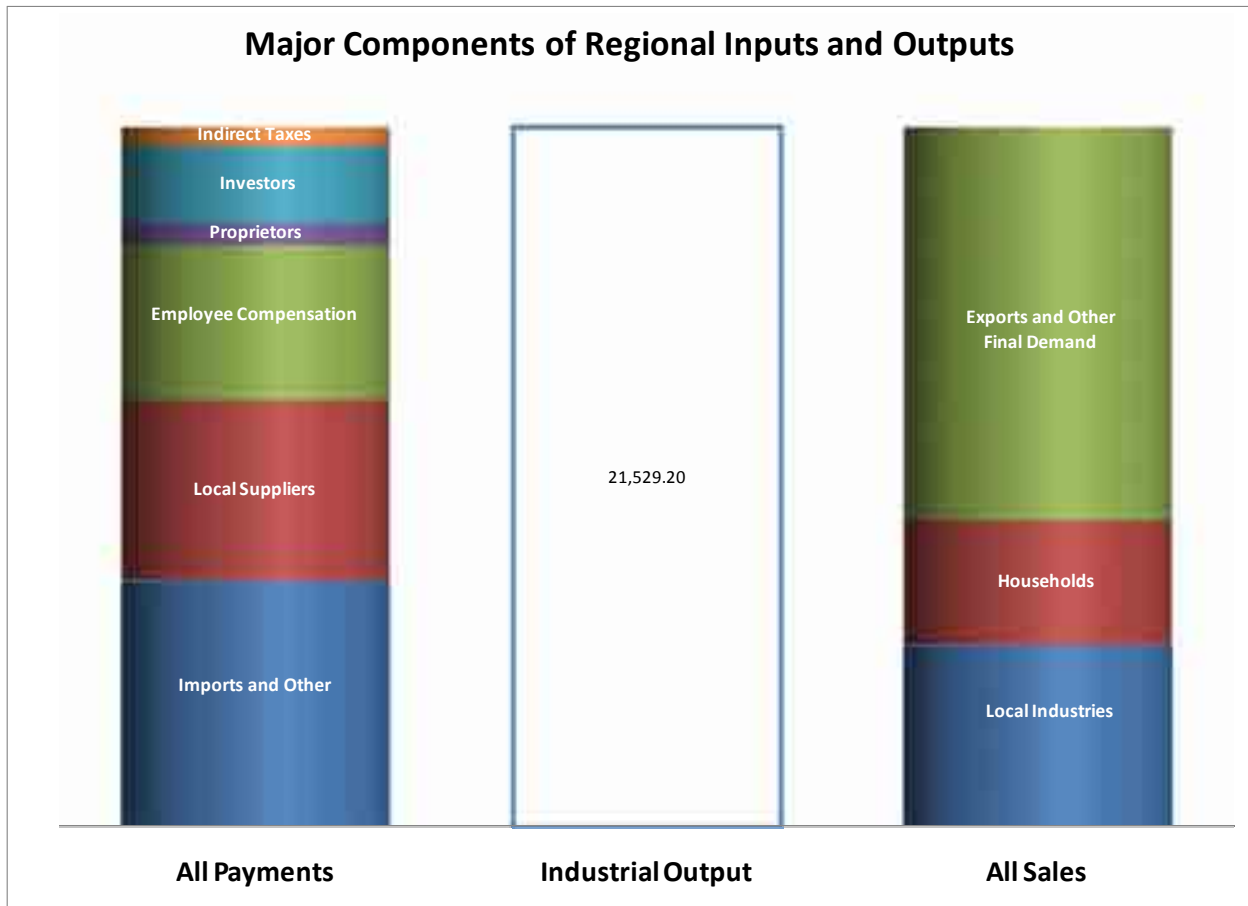


Figure 11

Indications

This is an alternative demonstration of the data in Table 13. It allows the reader to understand, visually, the flow of resources into production or the flow of sales from regional industries.

Findings

This graph is useful because it allows for a proportional understanding of the production process in our region. On the inputs (payments) side, it gives a sense of the amount of locally supplied and imported production inputs. On the sales side (outputs) we get a sense of the region's overall dependence on internal and external markets.

Regional Export and Import Summary

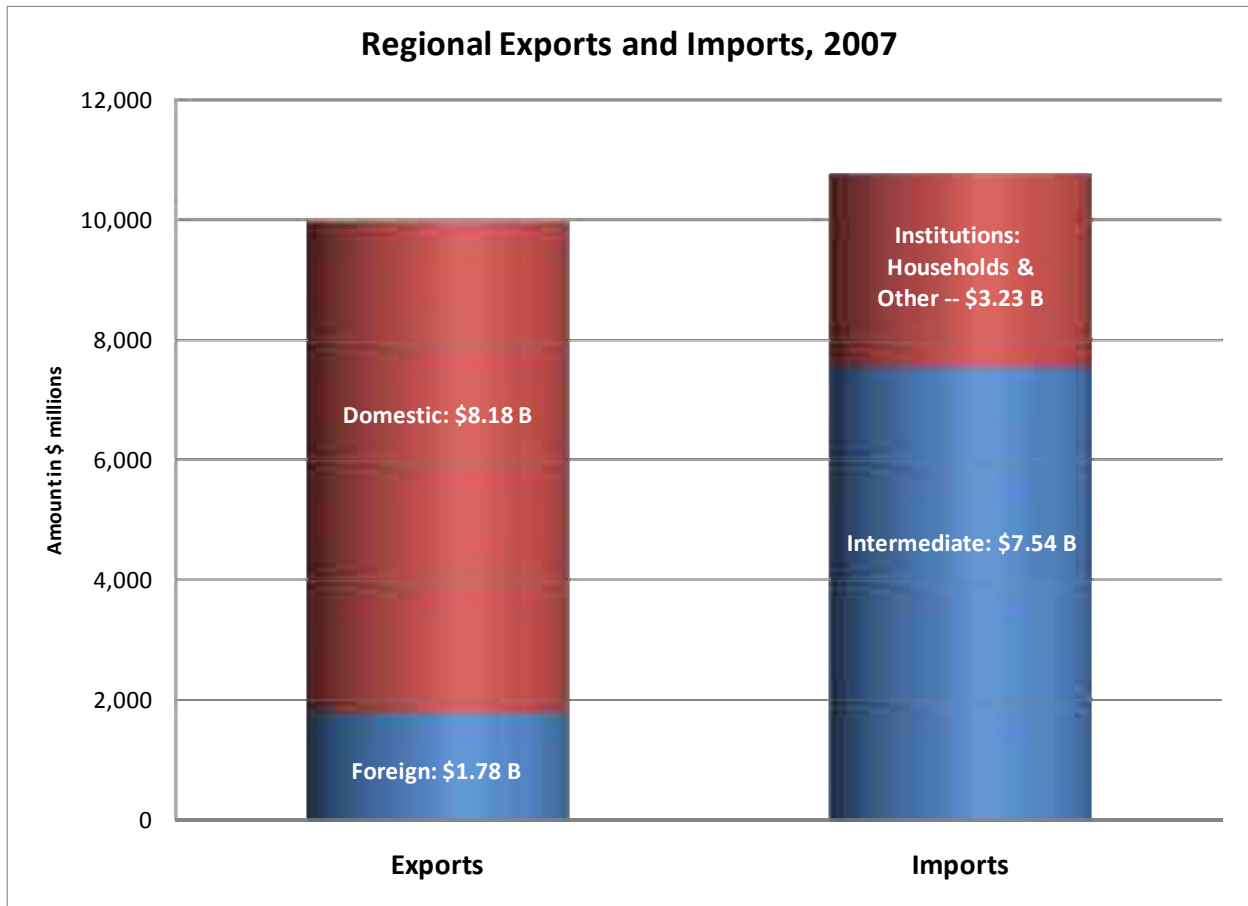


Figure 12

Indications

When we scrutinize a regional economy, we pay attention to the types and the amounts of commodity and service imports and exports. The region's industries make sales to domestic buyers (outside of the region), and foreign buyers (outside of the country). The region also purchases imported inputs into production (intermediate), and its institutions and households must import goods and services that cannot or are not produced in the region. The use of the term import refers to any purchase of a good or service that is produced outside of the region of study.

Findings

Domestic demand for goods and services produced in the region was \$8.2 billion, and foreign demand was \$1.8 billion. In contrast, its industrial sector required \$7.54 billion in imports. Outside of its producing sectors, the region's institutions, mainly governments and households, required an additional \$3.23 billion in imports.

Regional Exports by Type

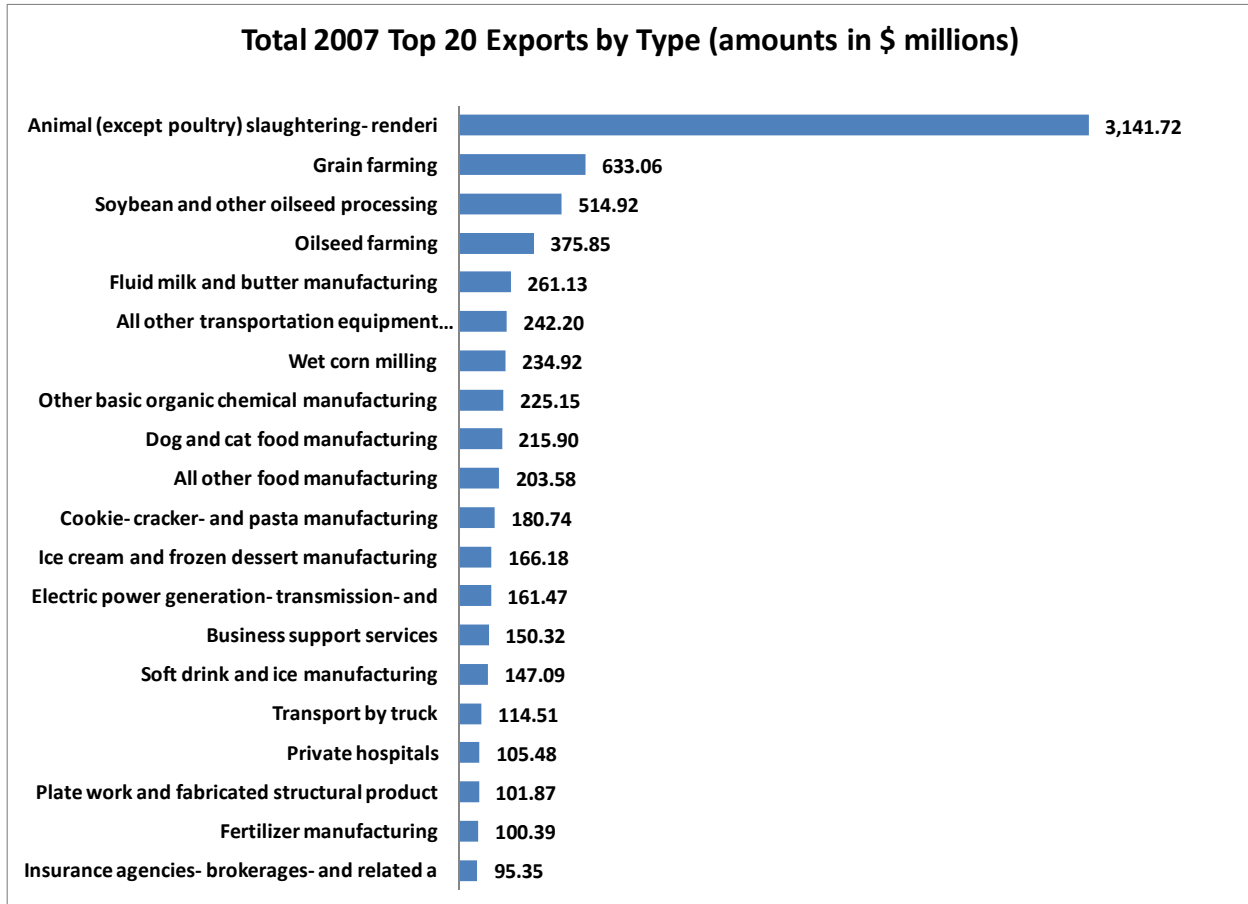


Figure 13

Indications

This isolates the sum of all exports in the region to either external domestic or external foreign demanders. Sales to external demand reflect the degree to which an area's economy is responsive to exogenous factors, those outside of the region. They also give us a sense of scope of exports. This figure lists the top 10 exports, which amounted to 74 percent of estimated export sales in 2007.

Findings

Export values are dominated by meat products at \$3.14 billion and just under a third of all sales. In fact, agriculture or ag-related manufacturing constituted \$6.4 billion of the values in this table. There also are urban agglomeration indications in that business support services, hospitals, and insurance are in evidence. Only one durable goods product, platework and fabricated structural products, made it into the top 20.

Regional Imports by Type

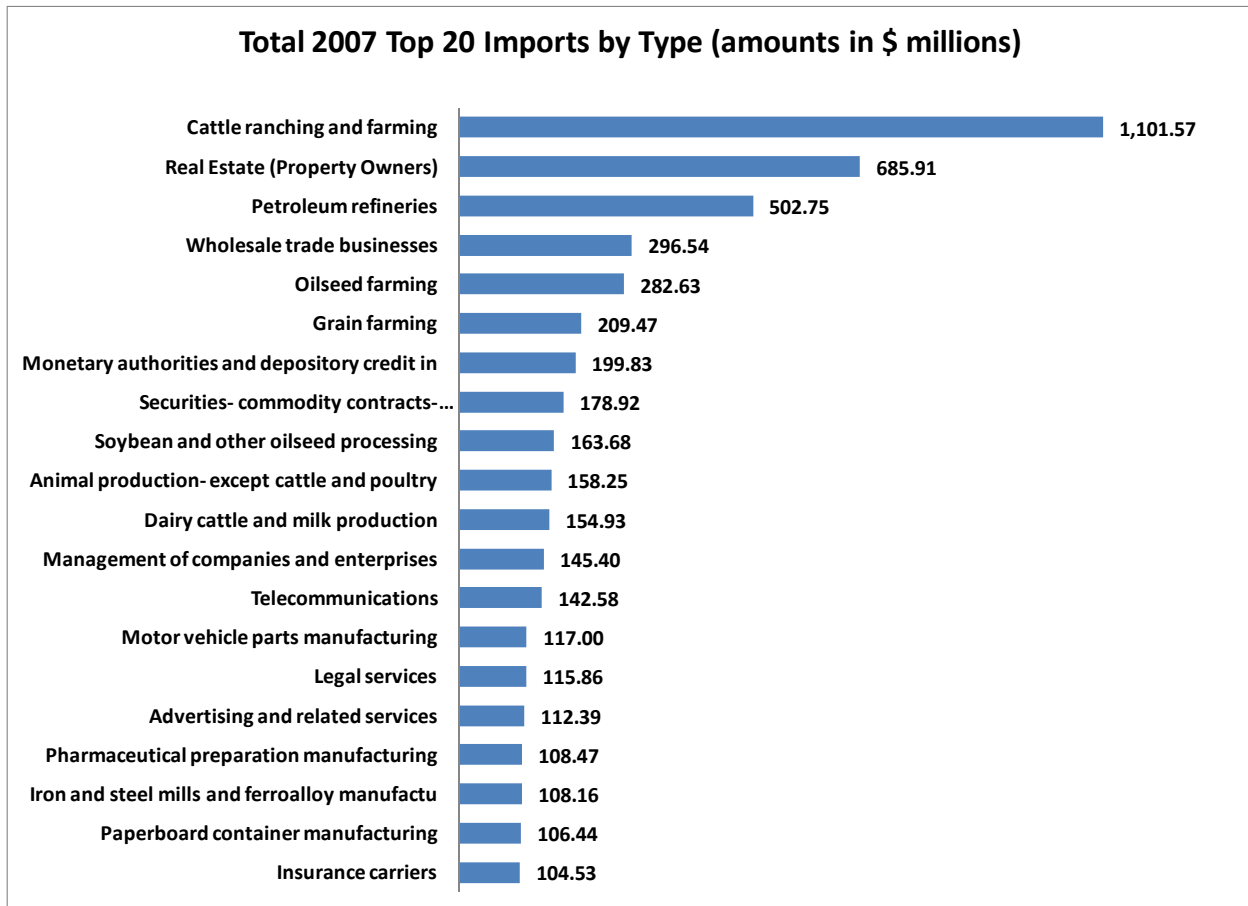


Figure 14

Indications

This isolates the sum of all imports, both for intermediate demand by industry, and as final consumption goods and services to institutions, primarily households and government entities. These commodity and service imports represent 46.4 percent of all intermediate and institutional imports in the region. It is possible for a region to target categories of imports as a strategy to develop more local production and boost jobs and incomes.

Findings

Owing to the export proportions, the region depends strongly on cattle imports from suppliers from outside of the region. The region also must make rental payments to absentee owners of property, and the region must import refined petroleum products. It is evident that much of what must be obtained from outside of the region fuels the region's food processing and other ag-related manufacturing activities.

IV. Identifying Regional Key Industries

This section isolates the region's industrial strengths. Those strengths are evaluated by virtue of industries' sheer size and competitiveness score, as measured by location quotients. Another important criterion is degree of valuable supply and processing linkages that intertwines business activity in the region. Key industries usually have strong inter-relationships with other regional industries that have usually evolved over a period of time. There are also qualitative measures to consider such as overall productivity values and average earnings.

Key Industry Evaluation Criteria

Key industries were first chosen based on their *specialization index*, also known as the location quotient, and a minimum of 100 *jobs* in the industry. A location quotient is the percentage of jobs in an industry locally divided by the national percentage. A value of 1.0 means that you have the average or expected number of jobs in an industry, and a value of greater than 1.0 indicates specialization. These two criteria, the specialization number and the jobs number, need to be satisfied for the following industries to be included in the grouping. The industries were next evaluated according to the following indicators:

Value added in total and *value added per job* are measures of the final value of production in the region and the amount of that production attributable to workers. *Average earnings as a percentage of the U.S. average* gives us a sense of the wage value of working in our selected industries.

Export jobs percentage tells us the fraction of jobs in the industry that are working to satisfy external, or exogenous, demand. The *local concentration or dispersion measure* tells us whether the firms in the selected are concentrated in just one county or whether they have a region-wide presence. The *local linkages (or Type I employment multiplier)* tells us the degree to which the key industries stimulate jobs from supplying industries.

There are three job or output growth performance indicators: the first compares our industries to U.S. job growth, 1996 to 2006 to see how these industries performed nationally recently. Next in the *projected annual average growth rate in U.S. jobs 2006 – 2016*, we show the expected national growth in these industries. The same measure is applied in the projected annual average growth rate in U.S. output, 2006 - 2016 to gauge gross productivity growth.

In subsequent tables, low values are coded red in color, medium coded gray, and high or more desirable values are coded in the color blue.

Table 14

Evaluation Criteria For the Key Industry Assessment

Evaluation Criteria	Low	Medium	High
Specialization Index	NA	1.25 to 5	>5
Jobs	100 to 250	250 to 999	>1,000
Value Added	NA	NA	NA
Value Added Per Job	< \$50K per job	\$50-100K per job	>\$100K per job
Average Earnings Per Job (Percentage of U.S. Average)	< 85%	85-100%	> 100%
Export Jobs Percentage	< 50 percent	50 - 90 percent	> 90 percent
Local Concentration or Dispersion	= 1	0.5 - 1	< 0.5
Local Linkages (Type 1 Employment Multiplier)	< 1.5	1.5 - 2.0	> 2.0
U.S. Job Growth rate 1996 to 2006	< 0	< 1%	> 1%
Projected Annual Average Growth Rate in U.S. Jobs, 2006-2016	< 0	< 1%	> 1%
Projected Annual Average Growth Rate in U.S. Output, 2006-2016	< 0	< 3%	> 3%

Key Industry Ratings

The following tables illustrate the ratings for the key industries using the evaluation criteria described above. Table 15 shows the specialization, jobs, value added, and average earnings measures. Table 16 shows the export jobs, concentration, and linkage measures. Table 17 shows the growth measures for jobs and output.

Specialization, Size, Value Added, and Earnings Measures

Table 15

	Industry	Specialization Index	Jobs	Value Added (\$millions)	Value Added Per Job	Average Earnings
PRODUCTION AG & FOOD PROCESSING	Animal (except poultry) slaughtering and processing	38.8	9,043	447.0	■	■
	Grain farming	7.5	4,302	248.2	■	■
	Animal production, except cattle and poultry and eggs	8.0	2,871	190.4	■	■
	Oilseed farming	10.6	1,821	204.0	■	■
	Cattle ranching and farming	2.8	938	64.6	■	■
	All other food mfg.	16.7	880	39.2	■	■
	Cookie, cracker, and pasta mfg.	13.3	606	40.1	■	■
	Fluid milk and butter mfg.	11.5	573	79.5	■	■
	Ice cream and frozen dessert mfg.	22.8	382	27.9	■	■
	Wet corn milling	33.6	246	22.5	■	■
	Soft drink and ice mfg.	2.6	233	15.7	■	■
	Soybean and other oilseed processing	18.4	223	24.6	■	■
	Dog and cat food mfg.	12.9	213	29.6	■	■
	Confectionery from purchased chocolate mfg.	4.0	122	4.5	■	■
OTHER MANUFACTURING	Truck trailer mfg.	19.1	621	33.9	■	■
	All other transportation equipment mfg.	55.4	613	71.3	■	■
	Plate work and fabricated structural product mfg.	2.0	329	37.7	■	■
	Farm machinery and equipment mfg.	6.4	321	30.7	■	■
	Wood windows and doors and millwork mfg.	1.9	263	16.6	■	■
	Lawn and garden equipment mfg.	15.1	253	19.5	■	■
	Other commercial and service industry machinery mfg.	4.8	218	14.4	■	■
	Household cooking appliance mfg.	14.0	204	15.4	■	■
	Travel trailer and camper mfg.	4.7	184	8.1	■	■
	Fluid power process machinery mfg.	5.5	179	11.4	■	■
	Construction machinery mfg.	2.4	158	20.0	■	■
	Other concrete product mfg.	2.6	154	9.5	■	■
	Wood container and pallet mfg.	2.2	126	6.0	■	■
	Stationery product mfg.	4.5	119	18.6	■	■
	Fertilizer mfg.	6.1	118	35.0	■	■
	Motor vehicle body mfg.	2.0	116	7.3	■	■
	Prefabricated wood building mfg.	4.6	107	7.0	■	■
	Other basic organic chemical mfg.	2.8	106	26.0	■	■
	ALL OTHER	Transport by truck	2.4	4,241	238.4	■
Business support services		3.4	2,944	99.4	■	■
Insurance agencies, brokerages, and related		1.7	1,758	50.5	■	■
Commercial and industrial M&E repair and maintenance		1.9	674	50.8	■	■
Electric power generation, transmission, and distribution		1.8	638	310.6	■	■

Indications

Table 15 lists the specialization index, jobs, value added, value added per job, and the average earnings measure. The first three measures are numeric and the last color coded. The key industries are organized as (1) production agriculture and food processing, (2) other manufacturing, and (3) all other industries. Five of the industries are animal and grain agricultural production categories, 27 are either food or food-related production or other manufacturing industries, and 5 industries are some other non-manufacturing industry.

Findings

Table 15 contains variables that tell us about the size and value of our key industries. Nearly half of the industries have location quotients, or specialization indices, in excess of 5.0. The highest is in transportation equipment at 55.5, followed by animal slaughtering at 38.8 and wet corn milling at 33.6.

The jobs are ordered most to least within each major category. First, there are 36,897 jobs, or 24 percent of the regional total, in these key industries. Comparatively higher job counts are found in animal processing sectors, grain farming, truck transport, and all business support services.

Value added is a measure that is the same as gross domestic product. It accounts for all payments to workers, sole proprietors, investors, plus indirect production taxes. The \$2.576 billion in value added in these key industries was 31 percent of the regional total. Animal processing had the highest value added at \$447 million, followed by electric power generation, and grain farming.

On a value added per job basis, 11 industries have values in excess of \$100,000. Seven had values less than \$50,000 per job, to include, notably, the very dominating meat packing sector. On an earnings-per-job measure as a fraction of the national average per industry, 14 provided compensation that was greater than the national average for that industry, and 16 paid at less than 85 percent of the national norm.

Export, Linkage, and Dispersion Measures

Table 16

	Industry	Export Jobs Percentage	Local Linkages	Local Dispersion	
PRODUCTION AG & FOOD PROCESSING	Animal (except poultry) slaughtering and processing	■	■	■	
	Grain farming	■	■	■	
	Animal production, except cattle and poultry and eggs	■	■	■	
	Oilseed farming	■	■	■	
	Cattle ranching and farming	■	■	■	
	All other food mfg.	■	■	■	
	Cookie, cracker, and pasta mfg.	■	■	■	
	Fluid milk and butter mfg.	■	■	■	
	Ice cream and frozen dessert mfg.	■	■	■	
	Wet corn milling	■	■	■	
	Soft drink and ice mfg.	■	■	■	
	Soybean and other oilseed processing	■	■	■	
	Dog and cat food mfg.	■	■	■	
	Confectionery from purchased chocolate mfg.	■	■	■	
OTHER MANUFACTURING	Truck trailer mfg.	■	■	■	
	All other transportation equipment mfg.	■	■	■	
	Plate work and fabricated structural product mfg.	■	■	■	
	Farm machinery and equipment mfg.	■	■	■	
	Wood windows and doors and millwork mfg.	■	■	■	
	Lawn and garden equipment mfg.	■	■	■	
	Other commercial and service industry machinery mfg.	■	■	■	
	Household cooking appliance mfg.	■	■	■	
	Travel trailer and camper mfg.	■	■	■	
	Fluid power process machinery mfg.	■	■	■	
	Construction machinery mfg.	■	■	■	
	Other concrete product mfg.	■	■	■	
	Wood container and pallet mfg.	■	■	■	
	Stationery product mfg.	■	■	■	
	Fertilizer mfg.	■	■	■	
	Motor vehicle body mfg.	■	■	■	
	Prefabricated wood building mfg.	■	■	■	
	Other basic organic chemical mfg.	■	■	■	
	ALL OTHER	Transport by truck	■	■	■
		Business support services	■	■	■
Insurance agencies, brokerages, and related		■	■	■	
Commercial and industrial M&E repair and maintenance		■	■	■	
Electric power generation, transmission, and distribution		■	■	■	

Indications

This table lists the export job values of the industries, the local job linkages, and a measure of the industry's dispersion in the area. Export jobs are the fraction of the jobs in the previous table that are estimated to be producing for external demand. The local job linkage is a measure of the number of jobs in supplying industries that are sustained by employment in our key industries. This is an important indicator of the value of inter-industrial dependence. The higher the multiplier, the richer and more potentially important a firm might be in helping to boost jobs in supplying sectors, although at the outset it must be noted that all food processing or other agricultural value adding industry will have, by default, high indirect linkages to the farming sector. The dispersion measure lets us know whether or key firms are scattered or concentrated – whether they have region-wide presences or only highly localized significance.

Findings

Export jobs are 90 percent of the job total or greater in 13 of the 37 industries. They are less than 50 percent of the total jobs in four industries. The weighted average for all of the key industries is 80.4 percent of jobs producing for export.

High local job linkages, those in excess of 2, are found in eight firms. These are all entities that have strong linkages to agriculture or are large, declining cost firms with relatively few workers relative to gross sales. A linkage value of 2.0 means that for every job at the key industry, there is at least one job in all of the supplying sectors to that firm. Comparatively lower linkages, those less than 1.5 are found in 13 firms.

The dispersion measure indicates that 15 of the 37 industries have high dispersion, they are widely represented in the region. Ten of the industries are concentrated in just one or a few areas.

Growth Measures

Table 17

Industry	U.S. Job Growth 1996-2006	Projected U.S. Job Growth 2000-2016	Projected U.S. Output Growth 2006 - 2016	
PRODUCTION AG & FOOD PROCESSING	Animal (except poultry) slaughtering and processing	■	■	■
	Grain farming	■	■	■
	Animal production, except cattle and poultry and eggs	■	■	■
	Oilseed farming	■	■	■
	Cattle ranching and farming	■	■	■
	All other food mfg.	■	■	■
	Cookie, cracker, and pasta mfg.	■	■	■
	Fluid milk and butter mfg.	■	■	■
	Ice cream and frozen dessert mfg.	■	■	■
	Wet corn milling	■	■	■
	Soft drink and ice mfg.	■	■	■
	Soybean and other oilseed processing	■	■	■
	Dog and cat food mfg.	■	■	■
	Confectionery from purchased chocolate mfg.	■	■	■
OTHER MANUFACTURING	Truck trailer mfg.	■	■	■
	All other transportation equipment mfg.	■	■	■
	Plate work and fabricated structural product mfg.	■	■	■
	Farm machinery and equipment mfg.	■	■	■
	Wood windows and doors and millwork mfg.	■	■	■
	Lawn and garden equipment mfg.	■	■	■
	Other commercial and service industry machinery mfg.	■	■	■
	Household cooking appliance mfg.	■	■	■
	Travel trailer and camper mfg.	■	■	■
	Fluid power process machinery mfg.	■	■	■
	Construction machinery mfg.	■	■	■
	Other concrete product mfg.	■	■	■
	Wood container and pallet mfg.	■	■	■
	Stationery product mfg.	■	■	■
	Fertilizer mfg.	■	■	■
	Motor vehicle body mfg.	■	■	■
	Prefabricated wood building mfg.	■	■	■
	Other basic organic chemical mfg.	■	■	■
ALL OTHER	Transport by truck	■	■	■
	Business support services	■	■	■
	Insurance agencies, brokerages, and related	■	■	■
	Commercial and industrial M&E repair and maintenance	■	■	■
	Electric power generation, transmission, and distribution	■	■	■

Indications

This table gives us the recent and the expected future growth potential of our key industries. Unlike our previous studies, the sets of counties from the three-state area did not yield reliable government-sourced statistics on industrial employment change in recent years to give us a sense of potentially emerging industries region wide. There were simply too many industrial gaps to fill to allow for a reliable and confident conclusion. As a substitute we chose national industrial growth rates over the previous decade to give us a sense of whether our industries are in alignment or not with national growth. If we are, then we can be said to have a desirable industrial mix, i.e., a mix that will have a high probability of following or dovetailing with national growth patterns. If we do not, then we find a negative or undesirable industrial mix. That means that there are downward national pressures that must be overcome for our region to grow. The two chosen measures are estimates of job change in the last decade, and the next decade's job and industrial output projections.

Findings

Recent and future job growth prospects among the region's key industries are not favorable. In the last decade, employment contracted in 22 of the key industries, and posted average annual growth rates in excess of 1 percent in seven industries.

In terms of projected job growth nationally, 27 of the firms are expected to post annual job declines at the national level, although some, like organic chemicals (ethanol) will grow some in Iowa despite persistent job erosions in all other organic chemical production nationally. Only three industries are anticipated to exceed 1 percent per annum growth.

The last measure is output. Only four of the industries are expected to have declining real output levels over the next decade, and nine are expected to post output gains in excess of 3 percent per annum.

This region is heavily dependent of firms that either have not grown nationally or are not expected to grow over the next decade. This represents an important structural impediment to the region's future growth – a factor that must be acknowledged and cannot be ignored for the region to bolster its production base and improve its job creation prospects.

IV. Key Occupation Analysis

This next section addresses the region's occupational structure. It is designed to give the participants a clear perspective on the characteristics of the region's workforce by virtue of the occupations, education levels, and skills that are currently being demanded by the region's industries.

It must be emphasized that the occupational structure developed for this assessment is based on the region's industrial composition and the *expected staffing* that those industries would require. We have not surveyed regional industries to gauge occupations; no one would be able to garner enough occupational detail with sufficient numbers of respondent in the many critical occupational categories to generate statistical confidence in the results without surveying a very large fraction of the existing regional population. Even the very excellent Public Use Micro Sample data from the U.S. Census would not have sufficient cell sizes in many occupational subgroups to allow for statistically valid conclusions of their sizes or whether their numbers differed meaningfully from other occupational subgroups. As a consequence, we cannot rely on small area survey data to guide us.

Instead we have identified employment in specific industries in the region and then we applied national average industrial staffing components to the regional industrial structure as an occupational staffing proxy measure. We are assuming at the outset that the region is of sufficient size and its industries are of a nature and size as well that they are more likely to resemble the national average than an aberrant, outlying pattern. We have confidence in our highly detailed industrial employment statistics as they are derived significantly from the Quarterly Census of Employment and Wages, which is administered by the U.S. Department of Labor, with supplemental estimates from survey data to inform nonprivate industrial activity and proprietorships estimates. The Occupational Employment Survey, administered by the U.S. Bureau of Labor Statistics (BLS), provides the source of the industry-by-occupation staffing patterns data. Occupational distributions for industries that are excluded from the BLS staffing matrix were obtained from the 2000 Census, U.S. Census Bureau.

Key Occupation Evaluation Criteria

Like our previous key industry assessments, we have compiled location quotient indicators for the region by occupation. The location quotient is the percentage of occupations in a subsector locally of the total occupations locally as compared to the same occupational percentage at the national level. For this analysis, we have calculated two sets of location quotients to describe the region's occupational structure. The first set is based on the region's estimated occupational distribution of wage and salary workers. The second set of location quotients examines the region's occupational distribution considering an expanded definition of the regional workforce that includes farmers and other self-employed persons. Most of the subsequent analysis in this section employs the wage and salary-based location quotients; however, the expanded location quotients are presented at the end of this section for comparison purposes (see Table 21).

Using the wage and salary-based location quotients, we have chosen the top 25 occupations, those where the region has strong location quotients, and the bottom 25 occupations, those where the area has weak location quotients – occupations that the current industrial structure does not demand.

Next we compiled several qualitative and quantitative measures for our occupational groupings.

1. Projected growth. The compounded annual growth rates in employment by occupation from 2006-2016 are based on estimates for the United States from the Bureau of Labor Statistics. Occupations with projected employment declines are coded as “low” and are colored red, occupations with growth rates below the all-occupation average of .99 percent are “moderate” and colored grey, and occupations projected to grow more rapidly than the average rates are “high” and coded blue.
2. Average earnings. Average annual wages by occupation for the United States were calculated using 2006 data from the Bureau of Labor Statistics. Occupations earning less than 85 percent of the all-occupation average are coded as “low,” occupations between 85 and 100% of average are “moderate,” and occupations earning above the average wages are “high.”
3. Education. The education index measures the percentage of workers from 25 to 44 years of age in that occupation with a 4-year college degree or higher educational attainment. This measure may be used to evaluate the educational requirements of various occupations as well as the relative attractiveness of those occupations to young, college-educated workers. The data were obtained from Occupational Projections and Training Data files from the Bureau of Labor Statistics. All occupations were ranked in order of the college-educated worker percentages. In this report, occupations coded in red fall into the lowest quarter of all U.S. occupations. In these occupations, fewer than 8.7 percent of young workers have a college degree. Occupations coded in grey are in the second lowest quartile of U.S. occupations, with values between 8.7 percent and 18.6 percent. Occupations coded in blue are among the top half of U.S. occupations, ranked by percentage of young workers with a college degree.
4. Science, technology and engineering, and mathematics knowledge indicators. The knowledge index scores are based upon a national data set that describes the type, level, and importance of knowledge typically required to perform jobs in different occupations. The information used here was obtained from the O*NET Version 13.0 database, maintained by the U.S. Department of Labor, Employment and Training Administration. The O*NET database contains data for more than 900 occupations and 33 knowledge areas including engineering and technology, mathematics, science, business and management, production, logistics, health services, education and training, and others. Occupations in the national data set are rated in each knowledge area by the level of knowledge (1-7) and its importance (1-5) in performing the job. The scores for each occupation were obtained by combining the level and importance scores and then standardizing them on a one to ten scale. A subset of these 33 knowledge areas were used to construct the Science, Technology and Engineering, and Mathematics (STEM) scores.

The occupations are color-coded according to their national average knowledge requirements. Local differences in knowledge requirements are not captured within this analysis. Occupations falling in the bottom fourth of all U.S. occupations, as measured by their knowledge index, are coded in red. Occupations in the second and third quartiles are coded in gray, and occupations in the top quartile are coded in blue.

Table 18

Evaluation Criteria for Occupational Analysis

Criteria	Low	Moderate	High
Evaluation Criteria	■	■	■
Average annual U.S. employment growth, 2006-2016	<0	<= 0.99%	> 0.99%
U.S. average annual earnings index	< 85%	85-100%	> 100%
% College degree or higher educational attainment for workers ages 25-44	< 9%	9 - 19%	> 19 %
Science knowledge index	< 1.4	1.4 - 2.7	> 2.7
Technology & Engineering knowledge index	< 1.1	1.1 - 3.4	> 3.4
Mathematics and Computer Science knowledge index	< 3.4	3.4 - 5.1	> 5.1

Key Occupation Ratings

The following tables illustrate the ratings for the key occupations using the evaluation criteria described above. Table 19 shows the ratings for the top 25 occupations, those where the region has strong location quotients. Table 20 shows the ratings for the bottom 25 occupations, those where the area has weak location quotients – occupations that the current industrial structure does not demand. Finally, Table 21 lists the top 10 key occupations for the region as determined by total employment, which includes farm and self-employment along with wage and salary employment. Ratings for these occupations are not shown, as all but the farm occupations are evaluated in Table 19.

Key Occupation Strengths

Table 19

SOC	Occupation Group	Location Quotient U.S.	Projected U.S. Growth	U.S. Average Earnings	College Index	Science Index	Technology & Engineering Index	Math & Computer Science Index
51-3000	Food Processing Workers.....	8.6	■	■	■	■	■	■
51-9000	Other Production Occupations.....	1.6	■	■	■	■	■	■
45-2000	Agricultural Workers.....	1.6	■	■	■	■	■	■
51-1000	Supervisors, Production Workers.....	1.4	■	■	■	■	■	■
53-4000	Rail Transportation Workers.....	1.4	■	■	■	■	■	■
53-3000	Motor Vehicle Operators.....	1.4	■	■	■	■	■	■
53-7000	Material Moving Workers.....	1.3	■	■	■	■	■	■
53-1000	Supervisors, Transportation and Material Moving Workers.....	1.3	■	■	■	■	■	■
43-2000	Communications Equipment Operators.....	1.2	■	■	■	■	■	■
39-5000	Personal Appearance Workers.....	1.2	■	■	■	■	■	■
31-1000	Nursing, Psychiatric, and Home Health Aides.....	1.1	■	■	■	■	■	■
25-2000	Primary, Secondary, and Special Education School Teachers.....	1.1	■	■	■	■	■	■
41-9000	Other Sales and Related Workers.....	1.1	■	■	■	■	■	■
51-8000	Plant and System Operators.....	1.1	■	■	■	■	■	■
49-3000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers.....	1.1	■	■	■	■	■	■
25-9000	Other Education, Training, and Library Occupations.....	1.1	■	■	■	■	■	■
43-5000	Material Recording, Scheduling, Dispatching, and Distributing Workers.....	1.0	■	■	■	■	■	■
43-3000	Financial Clerks.....	1.0	■	■	■	■	■	■
49-1000	Supervisors of Installation, Maintenance, and Repair Workers.....	1.0	■	■	■	■	■	■
31-2000	Occupational and Physical Therapist Assistants and Aides.....	1.0	■	■	■	■	■	■
41-2000	Retail Sales Workers.....	1.0	■	■	■	■	■	■
41-1000	Supervisors, Sales Workers.....	1.0	■	■	■	■	■	■
35-2000	Cooks and Food Preparation Workers.....	1.0	■	■	■	■	■	■
49-9000	Other Installation, Maintenance, and Repair Occupations.....	1.0	■	■	■	■	■	■
51-2000	Assemblers and Fabricators.....	1.0	■	■	■	■	■	■

Indications

This table contains our occupation specialization measure, the location quotient compared to the U.S. average, expected growth in occupational employment in the United States during the next decade, average earnings per job, the percent of jobs requiring a college education, and then a science, technology and engineering, and a math and computer science knowledge index.

Findings

These are just the top 25 occupational groups out of an aggregated list of 93 groups defined under the Standard Occupational Classification system. As measured by regional specialization, the highest by a large measure is in food processing workers with a location quotient of 8.6, followed by other production workers and a comparatively high demand for agricultural workers (hired help). Fifteen of the top 25 occupational groups, however, had comparatively modest location quotients ranging between 1.0 to 1.1. One of the problems with this kind of analysis is that strong concentration in a select set of categories yields, automatically, lower values in other categories.

U.S. growth through 2016 in excess of 1 percent per year is expected in nine of the top 25 and is expected to contract in seven. Earnings are at or above the national norm in eight occupations, and 85 percent of the national average in 14. Only three of the occupations required a workforce in which 20 percent had college educations and 11 required, on average, less than 10 percent to be college educated.

STEM: Four of the occupations scored among the top quartile for required level of science knowledge among all 96 occupational groups, while 20 of the 93 scored in the lowest quartile. Five scaled in the highest quartile in the technology and engineering group, and 6 were in the lowest quartile. Finally, two occupations scored in the top quartile in required mathematics and computer science knowledge, and 10 scored in the lowest quartile.

Key Occupation Deficits

Table 20

SOC	Occupation Group	Location Quotient U.S.	Projected U.S. Growth	U.S. Average Earnings	College Index	Science Index	Technology & Engineering Index	Math & Computer Science Index
17-3000	Drafters, Engineering, and Mapping Technicians.....	0.5	■	■	■	■	■	■
17-2000	Engineers.....	0.6	■	■	■	■	■	■
19-2000	Physical Scientists.....	0.6	■	■	■	■	■	■
15-1000	Computer Specialists.....	0.6	■	■	■	■	■	■
19-1000	Life Scientists.....	0.7	■	■	■	■	■	■
51-6000	Textile, Apparel, and Furnishings Workers.....	0.7	■	■	■	■	■	■
33-9000	Other Protective Service Workers.....	0.7	■	■	■	■	■	■
27-1000	Art and Design Workers.....	0.7	■	■	■	■	■	■
23-1000	Lawyers, Judges, and Related Workers.....	0.7	■	■	■	■	■	■
51-5000	Printing Workers.....	0.7	■	■	■	■	■	■
19-4000	Life, Physical, and Social Science Technicians.....	0.7	■	■	■	■	■	■
23-2000	Legal Support Workers.....	0.7	■	■	■	■	■	■
47-1000	Supervisors, Construction and Extraction Workers.....	0.8	■	■	■	■	■	■
49-2000	Electrical and Electronic Equipment Mechanics, Installers, and Repairers.....	0.8	■	■	■	■	■	■
19-3000	Social Scientists and Related Workers.....	0.8	■	■	■	■	■	■
47-3000	Helpers, Construction Trades.....	0.8	■	■	■	■	■	■
47-2000	Construction Trades Workers.....	0.8	■	■	■	■	■	■
25-4000	Librarians, Curators, and Archivists.....	0.8	■	■	■	■	■	■
13-2000	Financial Specialists.....	0.8	■	■	■	■	■	■
39-2000	Animal Care and Service Workers.....	0.8	■	■	■	■	■	■
37-3000	Grounds Maintenance Workers.....	0.8	■	■	■	■	■	■
11-9000	Farming and Other Specialized Industry Managers.....	0.8	■	■	■	■	■	■
33-1000	First-Line Supervisors/Managers, Protective Service Workers.....	0.8	■	■	■	■	■	■
47-4000	Other Construction and Related Workers.....	0.8	■	■	■	■	■	■
51-4000	Metal Workers and Plastic Workers.....	0.8	■	■	■	■	■	■

Indications

This table contains our measure of occupation specialization measure, the location quotient compared to the U.S. average, expected growth in occupational employment in the United States during the next decade, average earnings per job, the percent of jobs requiring a college education, and then a science, technology and engineering, and a math and computer science knowledge index.

Findings

These are the bottom 25 occupational categories out of an aggregated list of 93 major occupations. The bottom five occupations are all highly skilled and creative occupations. The industrial structure of the region simply is not demanding these occupations. Owing again to the powerful concentration of food processing occupations, it is safe to assume that values of, say, .8 or more might be considered normal and that one should not read too much into those values.

Still, 14 of these occupations are expected to grow by 1 percent per year through 2016, while just three are expected to contract. Earnings levels in these occupations are at or above the national norm in 14, and less than 85 percent of the U.S. average in four. College educations in excess of 20 percent of the total occupational employment are required in 12 of the occupations, and five fell into the under 10 percent category.

STEM: Six of the occupations scored in the highest quartile on science knowledge, while 6 scored in the lowest quartile. Nine scored in the highest quartile in the technology and engineering group, and 5 were in the lowest. Finally, nine scored in the highest quartile in mathematics and computer science, and 4 scored in the lowest.

Top 10 Occupations Based on Location Quotients for All Regional Workers, Including Farmers and Self-Employed Persons

Table 21

SOC	Occupation Group	All workers, including farmers and self-employed	Wage & salary workers	Wage & salary LQ ranking
51-3000	Food Processing Workers.....	8.2	8.6	1
45-2000	Agricultural Workers.....	3.3	1.6	3
45-1000	Supervisors, Farming, Fishing, and Forestry Workers.....	2.7	na	
51-9000	Other Production Occupations.....	1.5	1.6	2
11-9000	Farming and Other Specialized Industry Managers.....	1.5	na	
53-3000	Motor Vehicle Operators.....	1.4	1.4	6
51-1000	Supervisors, Production Workers.....	1.4	1.4	4
53-4000	Rail Transportation Workers.....	1.4	1.4	5
53-1000	Supervisors, Transportation and Material Moving Workers.....	1.3	1.3	8
53-7000	Material Moving Workers.....	1.3	1.3	7

Indications

Farmers and other self-employed workers are excluded from many occupational analyses, due in part to a scarcity of data, but also due to their unique combination of managerial and specialized skills related to their businesses.

Findings

This table demonstrates how the inclusion of farmers and self-employed workers slightly alters the occupational location quotients for the region. The table lists the top 10 occupational categories based location quotients that were calculated using the region’s total employment, which includes farmers and self-employed workers as well as wage and salary workers. The regional location quotients that were previously calculated using wage and salary employment are included for comparison.

When farmers and self-employed workers are included, two new occupational groups enter the region’s top 10: supervisors of farming, fishing, and forestry workers, and farming and other specialized industry managers, which include farmers. Agricultural workers move up to second from their third place ranking under the wage and salary-based location quotients. Motor vehicle operators retain their 6th place ranking, but are now ahead of supervisors of production workers and rail transportation workers. Communications equipment operators and personal appearance workers drop out of the region’s top 10 occupational groups.

VI. Synthesis: Knowledge and Skill Requirements for Jobs in the Tri-State Siouxland Region

Thus far, we have developed highly detailed occupational employment estimates for the region based on the expected demand for those occupations by the region's industries. Next, we make use of a national occupational database¹ that characterizes, in very high detail, the types and levels of skills and knowledge required of workers in those occupations. This information, when applied to the region's occupational structure, may be used to translate the region's demand for occupations into measures of aggregate demand for workers by degree of educational attainment and specific types of skills and knowledge. The measures can then be used to compare regional demand levels with national averages to find areas where the region is requiring relatively more or less of certain skill and knowledge areas from the workforce.

Educational Attainment Category Descriptions

The first qualitative dimension for analysis is the relative regional demand for workers by their level of educational attainment. For each occupation, we can determine the percentage of workers by degree level required. The categories for required level of education are summarized below.

- Less than a High School Diploma
- High School Diploma (or GED or High School Equivalence Certificate)
- Post-Secondary Certificate - awarded for training completed after high school (for example, in Personnel Services, Engineering-related Technologies, Vocational Home Economics, Construction Trades, Mechanics and Repairers, Precision Production Trades)
- Some College Courses
- Associate's Degree (or other 2-year degree)
- Bachelor's Degree
- Post-Baccalaureate Certificate - awarded for completion of an organized program of study; designed for people who have completed a Baccalaureate degree, but do not meet the requirements of academic degrees carrying the title of Master.
- Master's Degree
- Post-Master's Certificate - awarded for completion of an organized program of study; designed for people who have completed a Master's degree, but do not meet the requirements of academic degrees at the doctoral level.

¹ The O*NET 13.0 database provides the source for the qualitative occupational data. O*NET is a Department of Labor, Employment and Training Administration (DOL/ETA) sponsored project. The O*NET system includes information about more than 900 detailed occupations. Each occupation is rated along several dimensions such as required level of education, knowledge areas, skill requirements, and others. The ratings are determined through a combination of industry surveys and expert analysis.

- First Professional Degree - awarded for completion of a program that: requires at least 2 years of college work before entrance into the program, includes a total of at least 6 academic years of work to complete, and provides all remaining academic requirements to begin practice in a profession
- Doctoral Degree
- Post-Doctoral Training

Skill Area Descriptions

The second dimension of analysis examines the types and levels of skills required of local workers. The skill ratings are based on the average levels and relative importance of particular skills in performing jobs in specific occupations. The region's occupational employment levels are then used to calculate the weighted average demand for each particular skill across all jobs in the region. In all, we assess the region's demand for 35 individual skill areas. Detailed descriptions of each skill area are included in Appendix A. Broadly, these skills fall within two major categories and several sub-categories described below.

- Basic skills – This category describes developed capacities that facilitate learning or the more rapid acquisition of knowledge. The basic skills category includes sub-categories for Content and Process skills.
- Cross-functional skills – This category describes developed capacities that facilitate performance of activities that occur across jobs. The Cross-Functional skills category includes sub-categories for Social, Complex Problem-Solving, Technical, Systems, and Resource Management skills

The overall average skill demand profiles for the region are compared to the national averages. More detailed analyses of each individual skill area are included in Appendix A.

Knowledge Area Descriptions

The third functional dimension assessed regards the broad categories of knowledge that workers are expected to possess given, of course, their respective job responsibilities. We expect our job holders to be able, for example, to communicate in English, deal with the public, manage personnel and operations, have demonstrable categorical educational foundations, and apply their skills and educations in a broad array of industrial and human needs categories. These very important job attributes are evaluated and contained in detail in Appendix B.

Regional Evaluation for Educational Attainment, Skill, and Knowledge Area Demand

Figures 15-17 illustrate summary comparisons for the region's aggregate demand for workers by educational attainment, skills, and knowledge area. The regional values are contrasted with national average levels of demand.

Demand by Educational Attainment

Educational Requirements

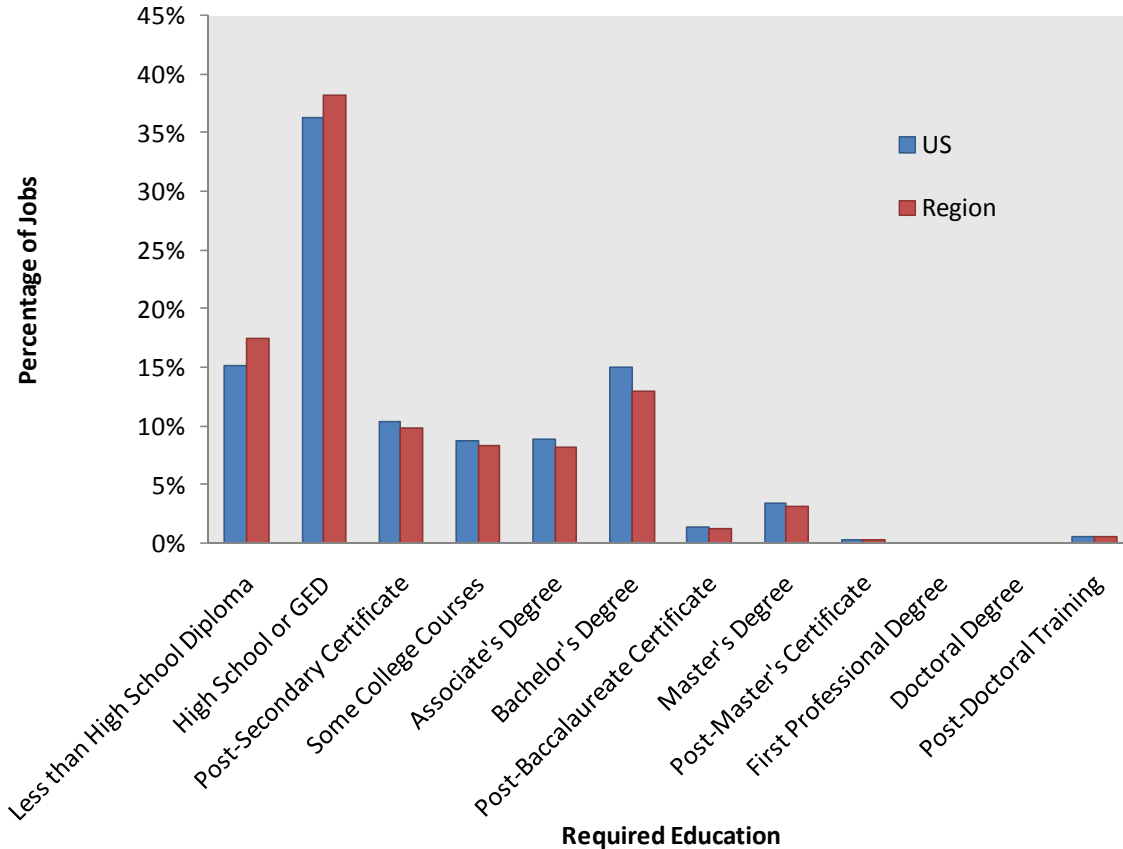


Figure 15

Indications

This chart compares the region's average demand for workers by degree of educational attainment with the national average demand levels. The values along the horizontal axis represent increasing levels of educational attainment. The values along the vertical axis represent the percentage of jobs that requires that particular level of education.

Findings

The region requires comparatively fewer workers at the higher ends of the educational spectrum when compared to national averages. In the U.S., slightly more than 15 percent of jobs require a bachelor's degree, compared with slightly fewer than 13 percent in the region. A similar pattern holds for all levels of education beyond a high school diploma or GED. In contrast, the region's jobs are slightly more likely than the national average to require only a high school diploma or lower educational attainment.

Demand by Skill Area

Comparative Demand for Skills in the U.S. and the Siouxland Region

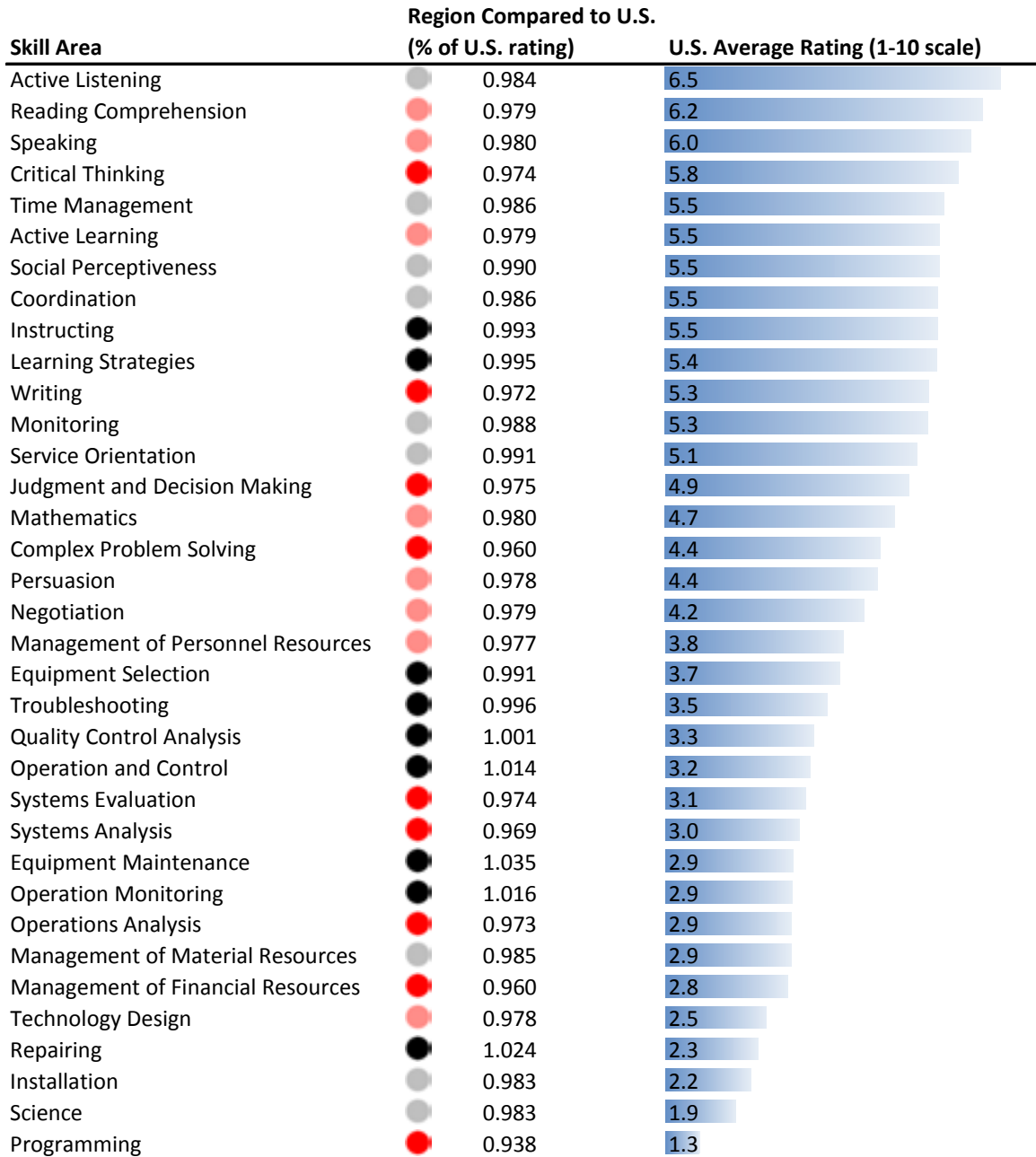


Figure 16

Indications

This chart illustrates the relative demand for various types of skills across jobs in the United States. The blue bars indicate the average rating for each skill on a scale of 1 to 10, with 10 indicating the highest rating for skill level and importance. The black, gray, and red dots indicate how regional demand levels vary from the national averages. The black dots show the first quartile of categories where the region is demanding comparatively more of a skill. The gray dots indicate next quartile of skills that demanded in more or less the same degree as the U.S. average. The light red dots show skills that are in slightly less demand regionally, and the dark red dots indicate which skills are in relatively low demand within the region.

Findings

The U.S. as a whole places the highest demand on communications-related skills such as listening, reading, and speaking. Most jobs, regardless of the occupation or industry, require at least functional levels of these types of skills. In contrast, highly specialized skills such as programming, science, and installation are have relatively low demand within the overall economy. Although these skills may be extremely important within a few types of occupations, they are not required broadly across the workforce.

For the most part, the region's skill demand profile resembles the national average. The region does demonstrate notable differences among some of the more specialized skills at the bottom of the figure. For example, the region demands relatively more of operation and control, equipment maintenance, operation monitoring, and repairing skills. The region demands relatively less of programming, management of financial resources, and complex problem-solving skills. Notably seven of the categories the region demands the most of (the black dots) are in the lower half of this graph.

Demand by Knowledge Area

Comparative Demand for Knowledge Areas in the U.S. and the Siouxland Region

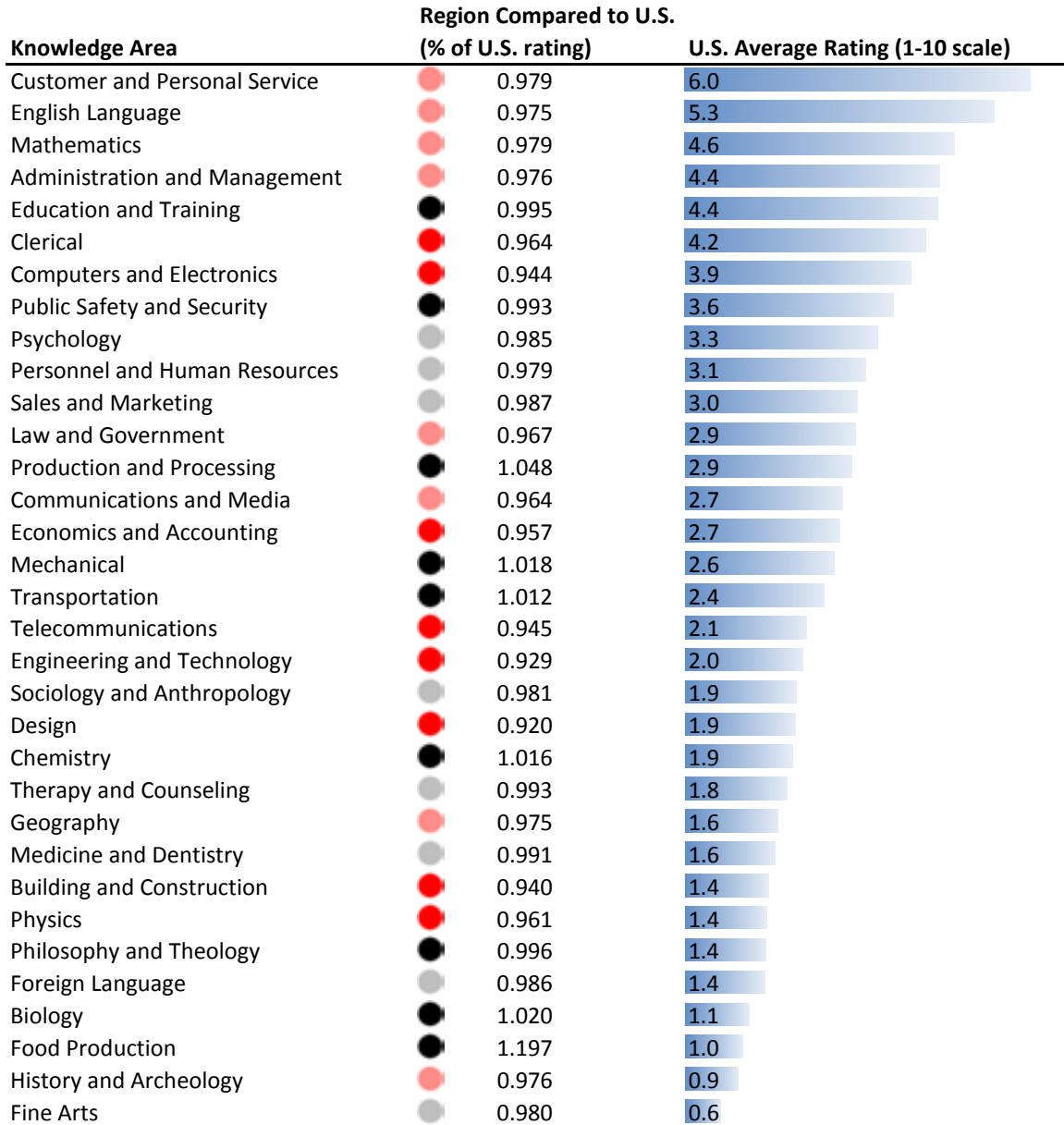


Figure 17

Indications

This chart illustrates the relative demand for various types of knowledge areas across jobs in the United States. The blue bars indicate the average rating for each area on a scale of 1 to 10, with 10 indicating the highest rating for knowledge area and importance. The black, gray, and red dots indicate how regional demand levels align with national averages. The black dots show the first quartile of knowledge areas where the region is demanding comparatively more of a category. The gray dots indicate the next quartile of knowledge areas that are demanded in more or less the same degree as the U.S. average. The light red dots show skills that are in slightly less demand regionally, and the dark red dots indicate which knowledge categories are in relatively low demand within the region.

Findings

The U.S. places the highest knowledge rating on customer service, English language, mathematics knowledge, and administration and management. It ranks lowest fine arts, history and archeology, food production and biology.

The region's knowledge areas are distributed more widely than its skills, but the weighted preponderance of regional demand is found in the middle to lower levels of the chart.

VII. A Discussion of the Study Area













The eleven participating counties represent a very large area within which to engage labor force and economic development planning. A question has been raised as to whether the overall region is over-defined – whether there are truly strong enough relationships among some of the outlying areas to warrant joint workforce development.

Table 22 demonstrates clearly that the counties of Woodbury, Dakota, Union, and Plymouth account for just over 82 percent of all of the workers in the primary employment counties of Woodbury, Dakota, and Union. Workers from the remaining seven counties are only 4.1 percent of all of the jobs in that three county area. Workers from all other counties are over three times greater than the contributions of Monona, Dixon, Clay, Crawford, Ida, Cherokee, and Thurston Counties.

This warrants emphasis: given the current propensity to work in the core region, for every 100 new jobs developed, only 4 would be filled workers in the outlying seven counties. It is not realistic to look at those areas as a viable future labor source. This is especially true given the first tables in this report demonstrating the generally high rates of population loss and high outmigration rates among those counties.

Table 22

County of Residence for Workers in Woodbury, IA, Dakota, NE, and Union, SD, Counties

	Jobs	Percent		Cumulative Percent
Woodbury	42,431	60.1%		60.1%
Dakota	8,604	12.2%		72.3%
Union	3,921	5.6%		77.9%
Plymouth	2,964	4.2%		82.1%
Monona	829	1.2%		83.3%
Dixon	617	0.9%		84.1%
Clay	531	0.8%		84.9%
Crawford	313	0.4%		85.3%
Ida	241	0.3%		85.7%
Cherokee	197	0.3%		85.9%
Thurston	162	0.2%		86.2%
All Other Counties	9,752	13.8%		100.0%

However much any individual county may contribute to the regional workforce, we must also consider each county's circumstances. While Monona County's contribution is just 1.2 percent to the core metro total, those 829 workers do represent a sizeable portion of the resident workforce. Figure 18 below

gives us a sense of the overall county dependences in employment in the Woodbury, Dakota, and Union region.

It is immediately evident that there are three levels of contribution to the regional core. Woodbury, Dakota, and Union County contribute 70 percent or more of their workers to jobs in that core. The next counties of Plymouth, Dixon, and Monona find from 19 to 23 percent of their jobs in that core and can be considered to have a moderate to important job dependence on the metro core. The last group of Clay, Thurston, Ida, Cherokee, and Crawford all yield fewer than 10 percent of their jobs from the three metro core counties. Crawford is the least dependent of the counties at just 2.5 percent of their workers' jobs in the metro area.

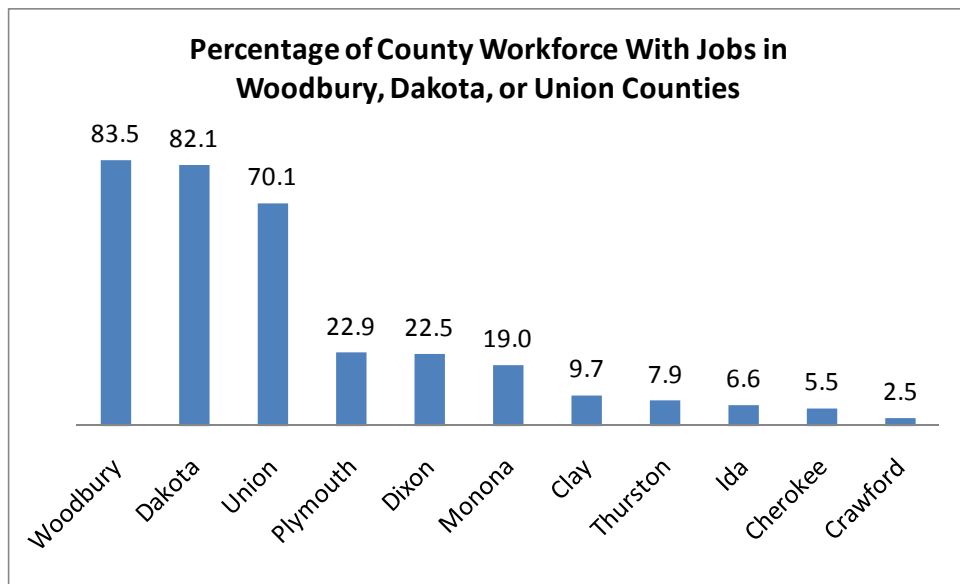


Figure 18

An alternative view can be obtained from the relative regional contribution of workers to the primary place of work cities of Sioux City, South Sioux City, North Sioux City, Dakota City, and Sergeants Bluff. That display is found in Figure 19. That figure is important because it isolates the more precise location of the workers that supply the region rather than the county wide estimates presented above.

It is often the case that communities and economic development planners promote the magnitude of their labor shed rather than the patterns of concentration in evidence. The map demonstrates that some workers come from relatively far away and that the regional labor shed is somewhat far-flung. It is also evident, however, that relative contributions of Clay, Cherokee, Ida, Crawford, and Thurston Counties to the region's worker needs is sparse.

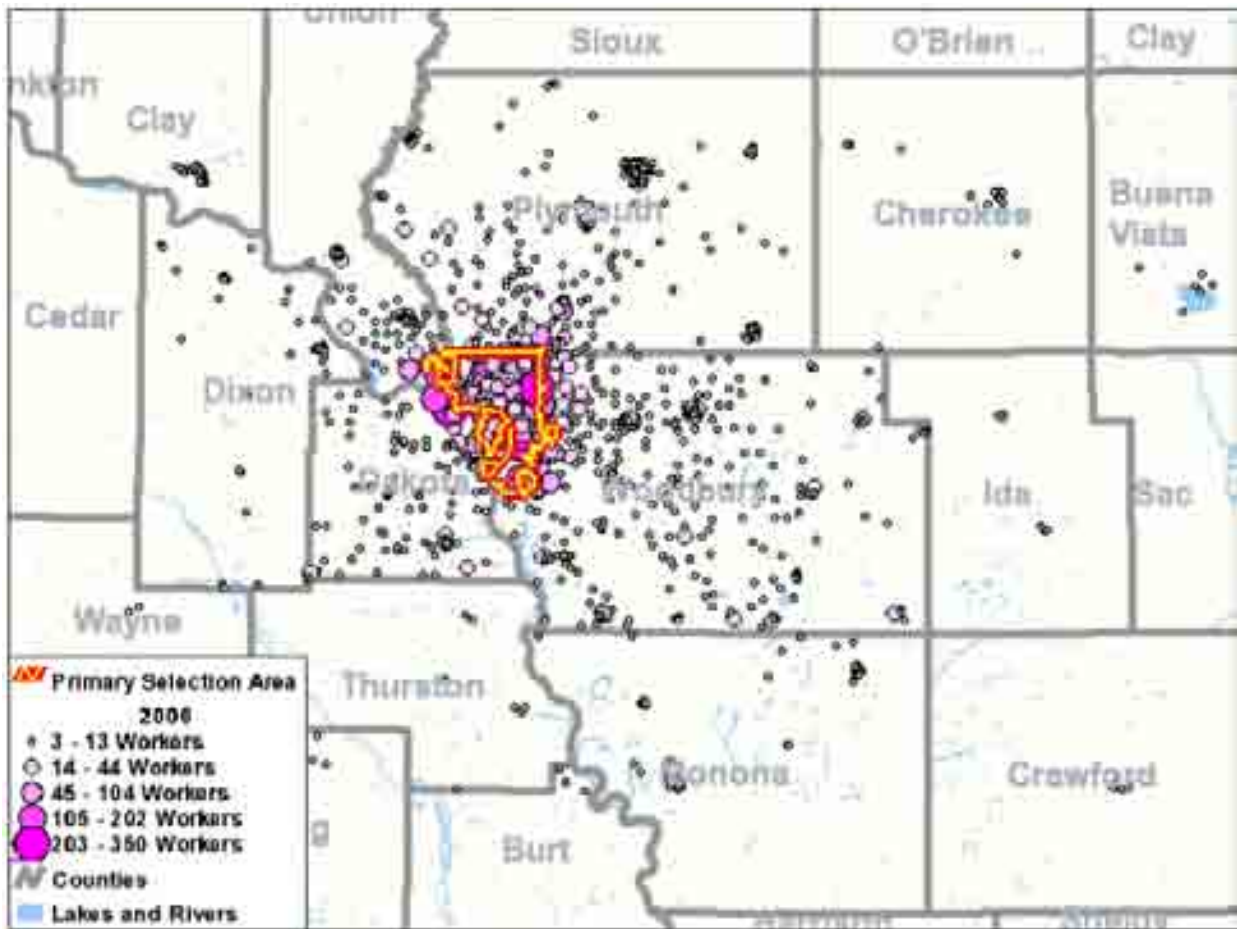


Figure 19:

Communities of Residence of Workers in Sioux City, North Sioux City, South Sioux City, Dakota City, and Sergeants Bluff

Appendix A: Skill Areas

Skill Areas
Basic Skills: Developed capacities that facilitate learning or the more rapid acquisition of knowledge
<i>Content: Background structures needed to work with and acquire more specific skills in a variety of different domains</i>
<ul style="list-style-type: none"> • Reading Comprehension: Understanding written sentences and paragraphs in work related documents.
<ul style="list-style-type: none"> • Active Listening: Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
<ul style="list-style-type: none"> • Writing: Communicating effectively in writing as appropriate for the needs of the audience.
<ul style="list-style-type: none"> • Speaking: Talking to others to convey information effectively.
<ul style="list-style-type: none"> • Mathematics: Using mathematics to solve problems.
<ul style="list-style-type: none"> • Science: Using scientific rules and methods to solve problems.
<i>Process: Procedures that contribute to the more rapid acquisition of knowledge and skill across a variety of domains</i>
<ul style="list-style-type: none"> • Critical Thinking: Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
<ul style="list-style-type: none"> • Active Learning: Understanding the implications of new information for both current and future problem-solving and decision-making.
<ul style="list-style-type: none"> • Learning Strategies: Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.
<ul style="list-style-type: none"> • Monitoring: Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
Cross-Functional Skills: Developed capacities that facilitate performance of activities that occur across jobs
<i>Social Skills: Developed capacities used to work with people to achieve goals</i>
<ul style="list-style-type: none"> • Social Perceptiveness: Being aware of others' reactions and understanding why they react as they do.
<ul style="list-style-type: none"> • Coordination: Adjusting actions in relation to others' actions.
<ul style="list-style-type: none"> • Persuasion: Persuading others to change their minds or behavior.
<ul style="list-style-type: none"> • Negotiation: Bringing others together and trying to reconcile differences.
<ul style="list-style-type: none"> • Instructing: Teaching others how to do something.
<ul style="list-style-type: none"> • Service Orientation: Actively looking for ways to help people.

Complex Problem Solving Skills: Developed capacities used to solve novel, ill-defined problems in complex, real-world settings

- Complex Problem Solving: Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Technical Skills: Developed capacities used to design, set-up, operate, and correct malfunctions involving application of machines or technological systems

- Operations Analysis: Analyzing needs and product requirements to create a design.
- Technology Design: Generating or adapting equipment and technology to serve user needs.
- Equipment Selection: Determining the kind of tools and equipment needed to do a job.
- Installation: Installing equipment, machines, wiring, or programs to meet specifications.
- Programming: Writing computer programs for various purposes.
- Operation Monitoring: Watching gauges, dials, or other indicators to make sure a machine is working properly.
- Operation and Control: Controlling operations of equipment or systems.
- Equipment Maintenance: Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
- Troubleshooting: Determining causes of operating errors and deciding what to do about it.
- Repairing: Repairing machines or systems using the needed tools.
- Quality Control Analysis: Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

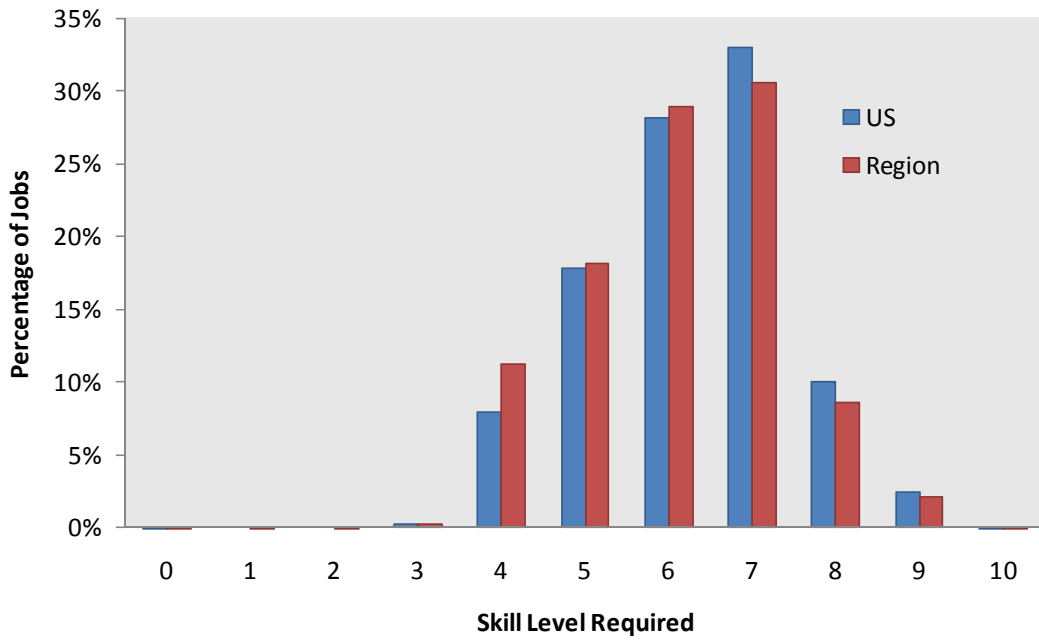
Systems Skills: Developed capacities used to understand, monitor, and improve socio-technical systems

- Judgment and Decision Making: Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Systems Analysis: Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- Systems Evaluation: Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

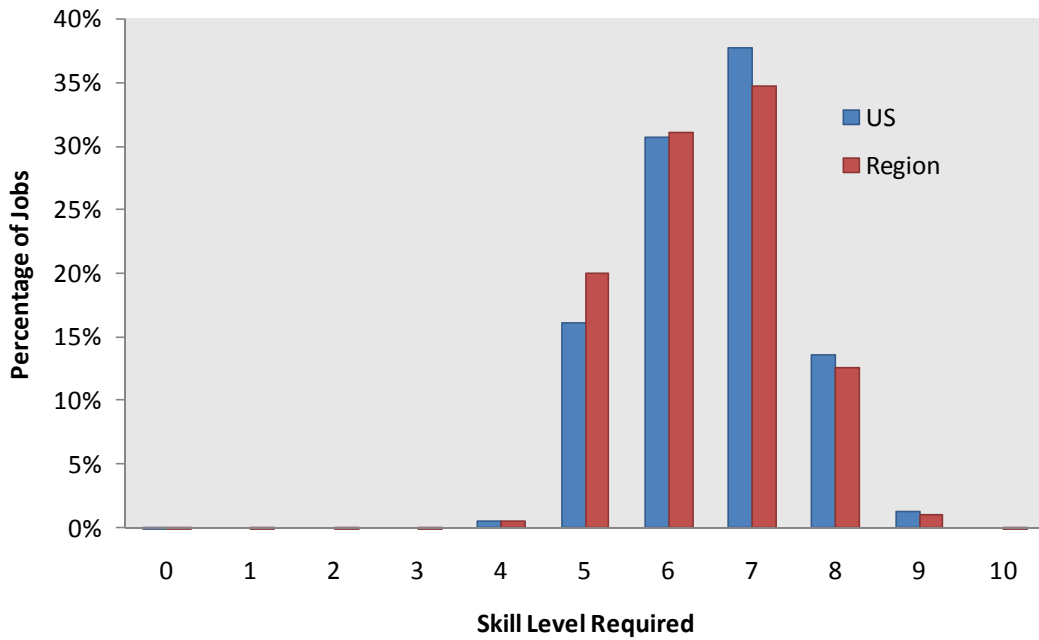
Resource Management Skills: Developed capacities used to allocate resources efficiently

- Time Management: Managing one's own time and the time of others.
- Management of Financial Resources: Determining how money will be spent to get the work done, and accounting for these expenditures.
- Management of Material Resources: Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.
- Management of Personnel Resources: Motivating, developing, and directing people as they work, identifying the best people for the job.

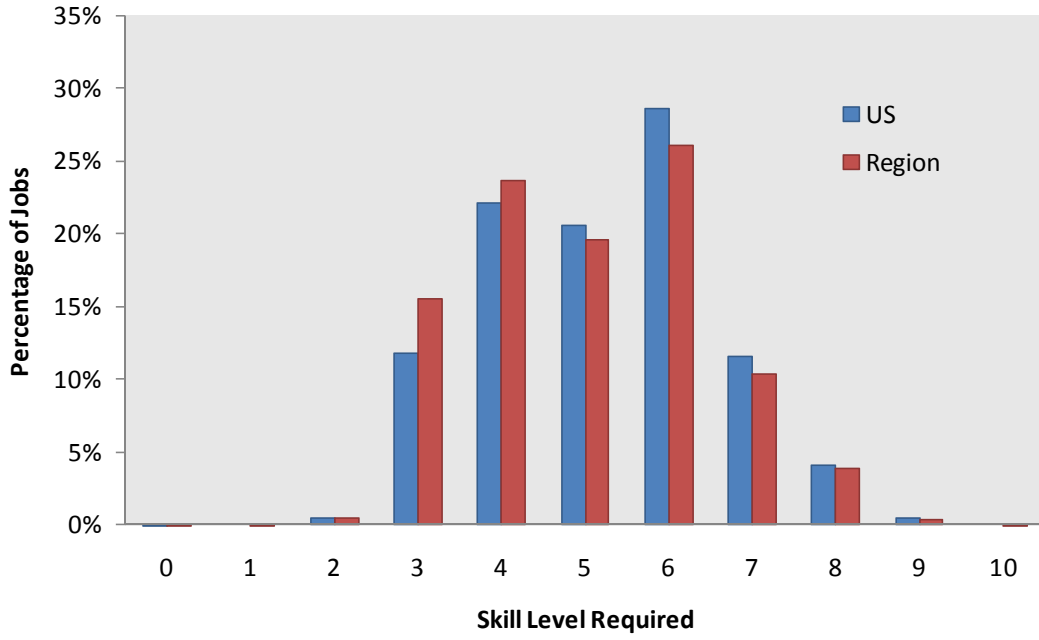
Reading Comprehension



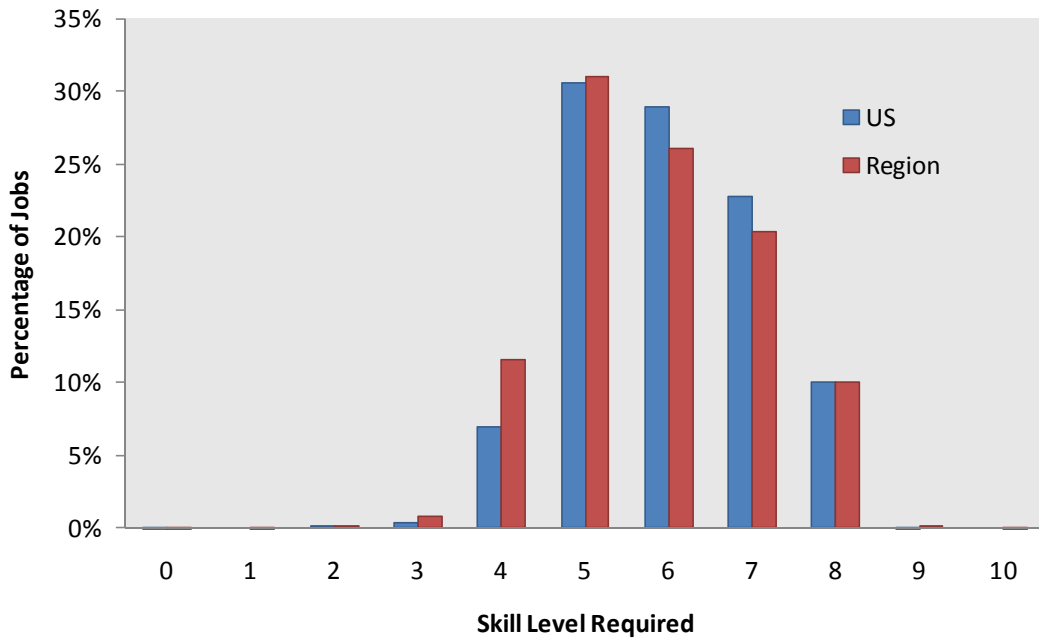
Active Listening



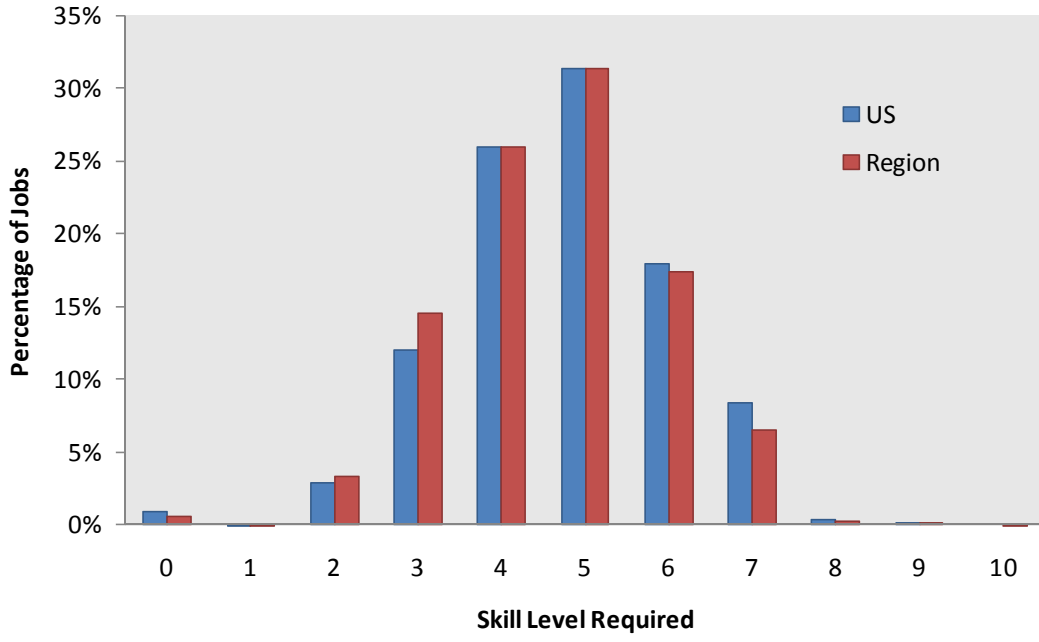
Writing



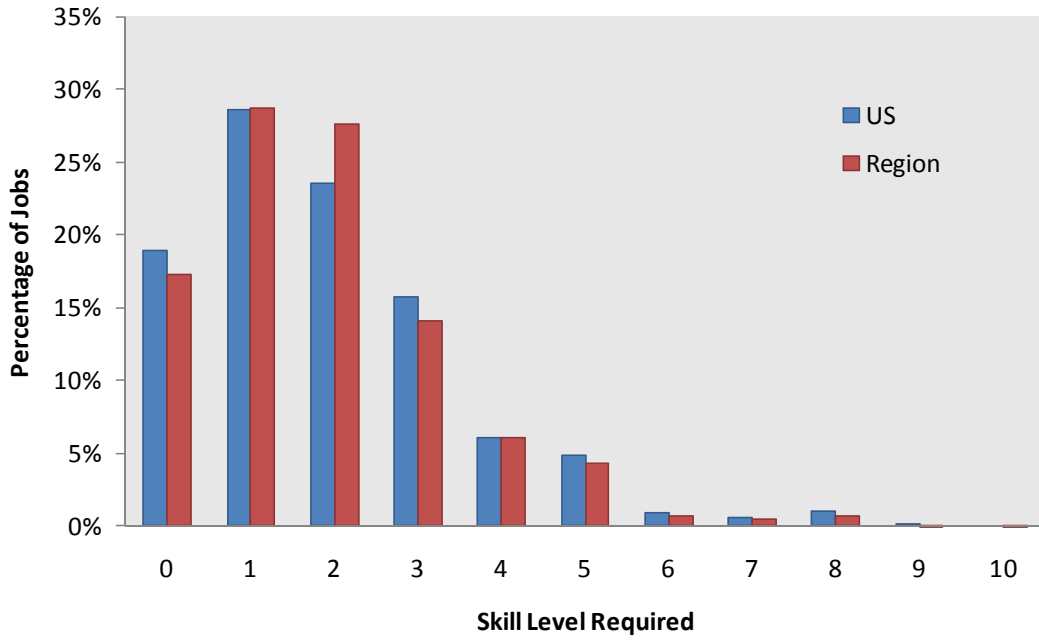
Speaking



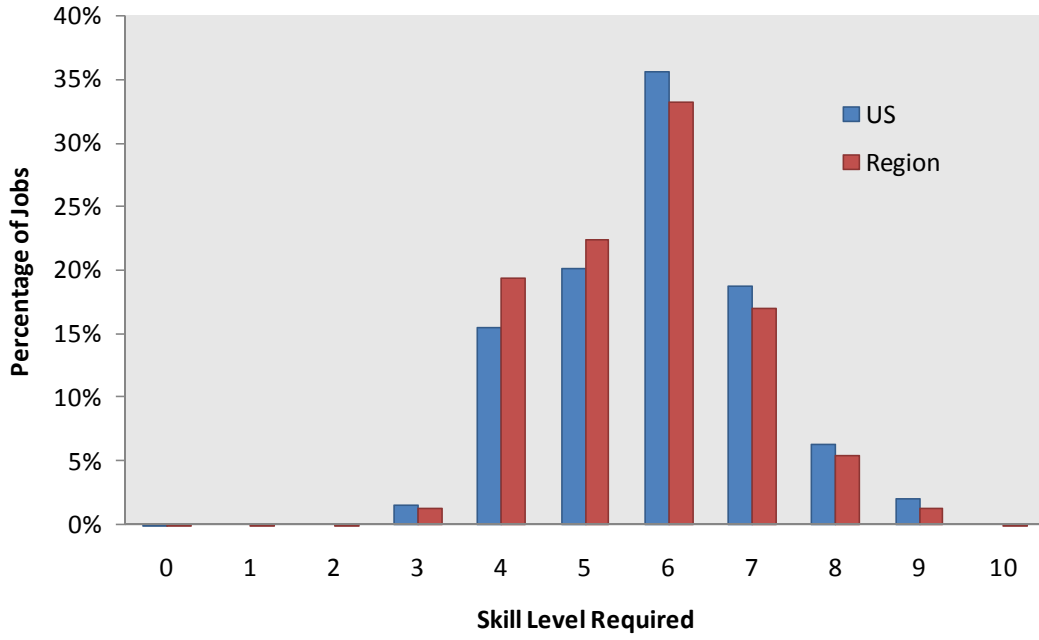
Mathematics



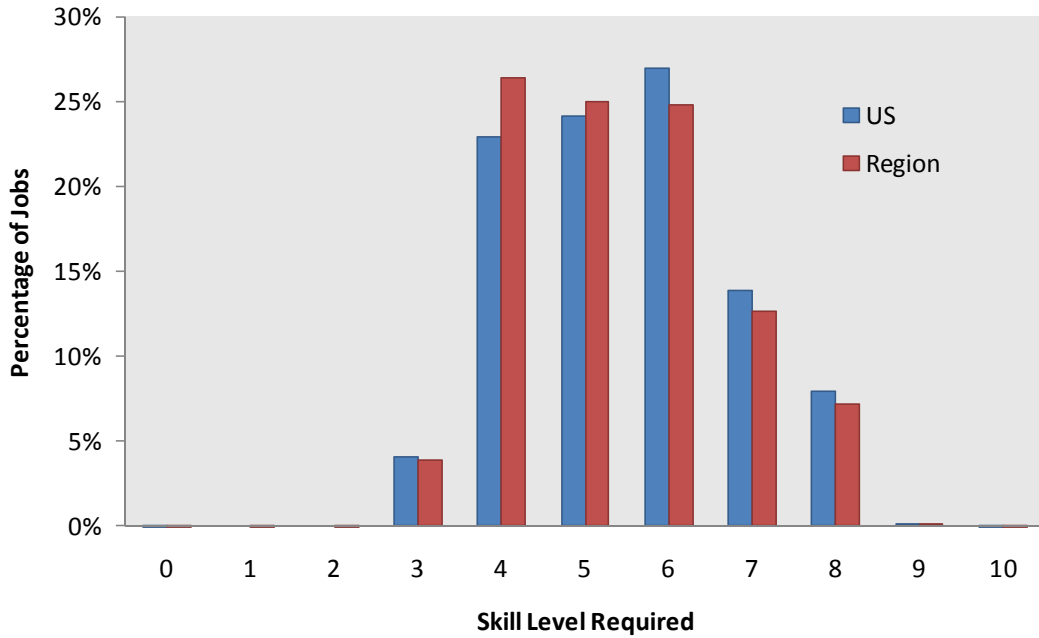
Science



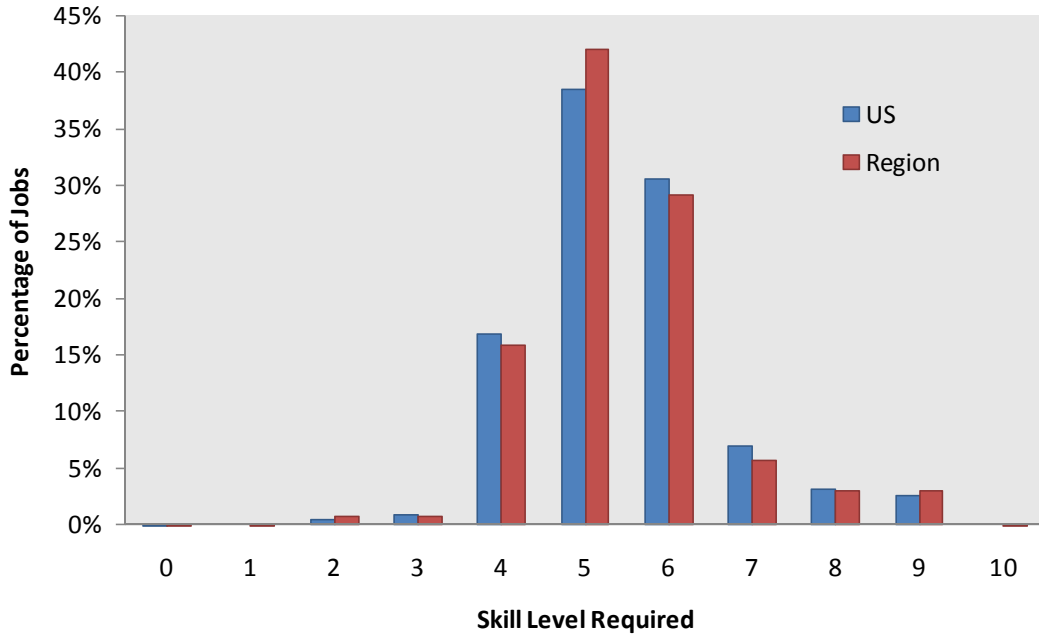
Critical Thinking



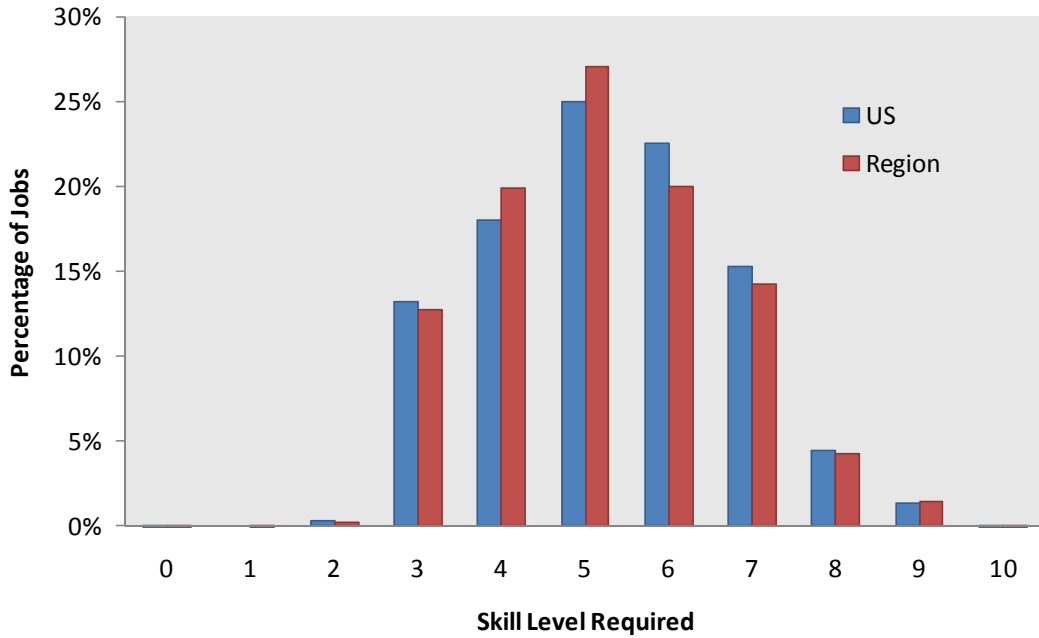
Active Learning



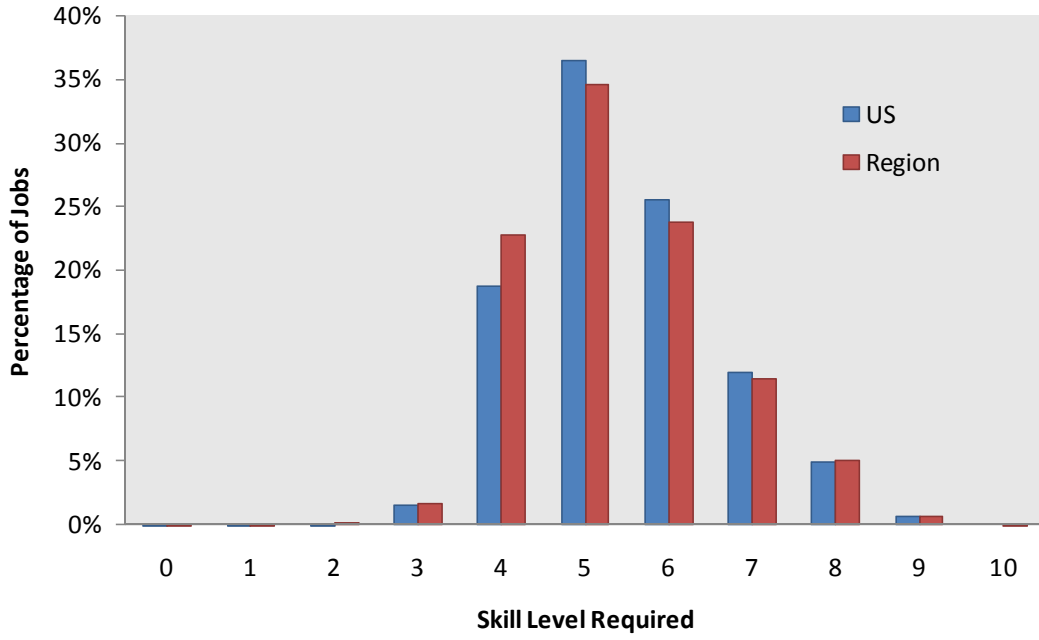
Learning Strategies



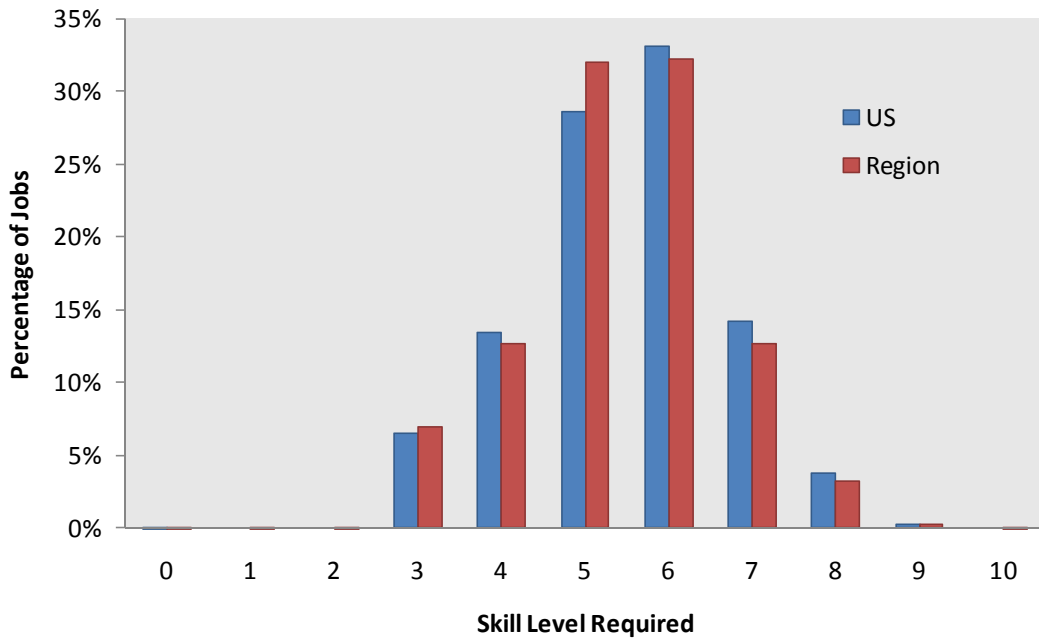
Monitoring



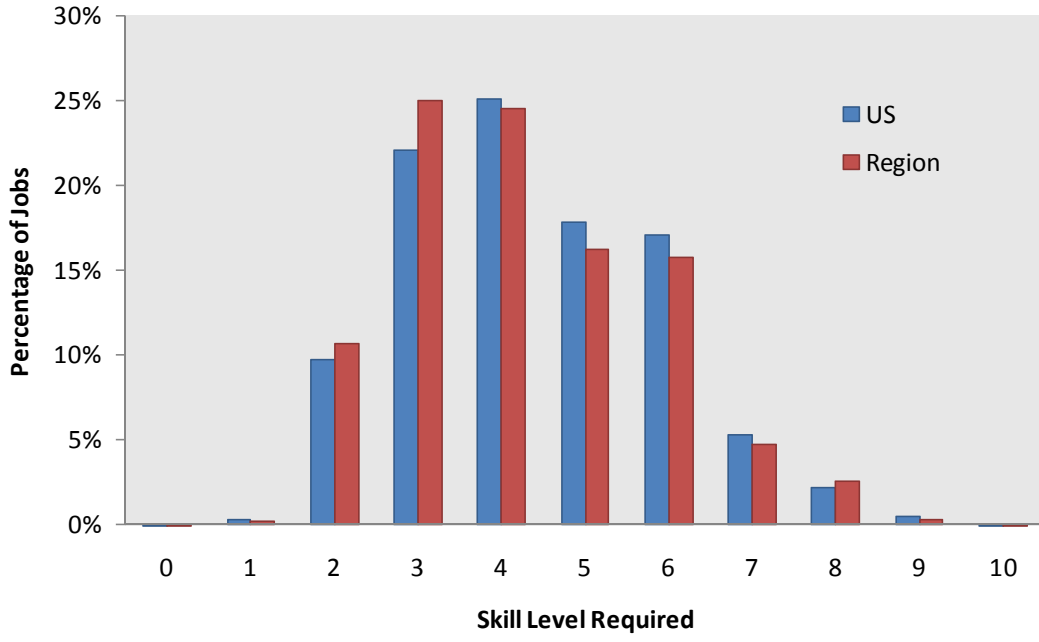
Social Perceptiveness



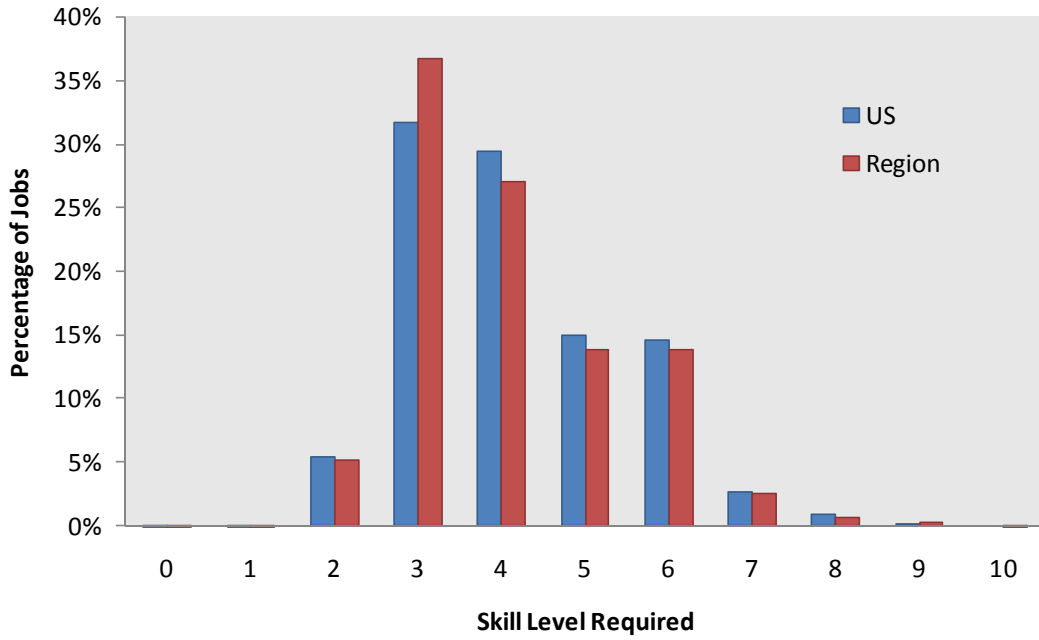
Coordination



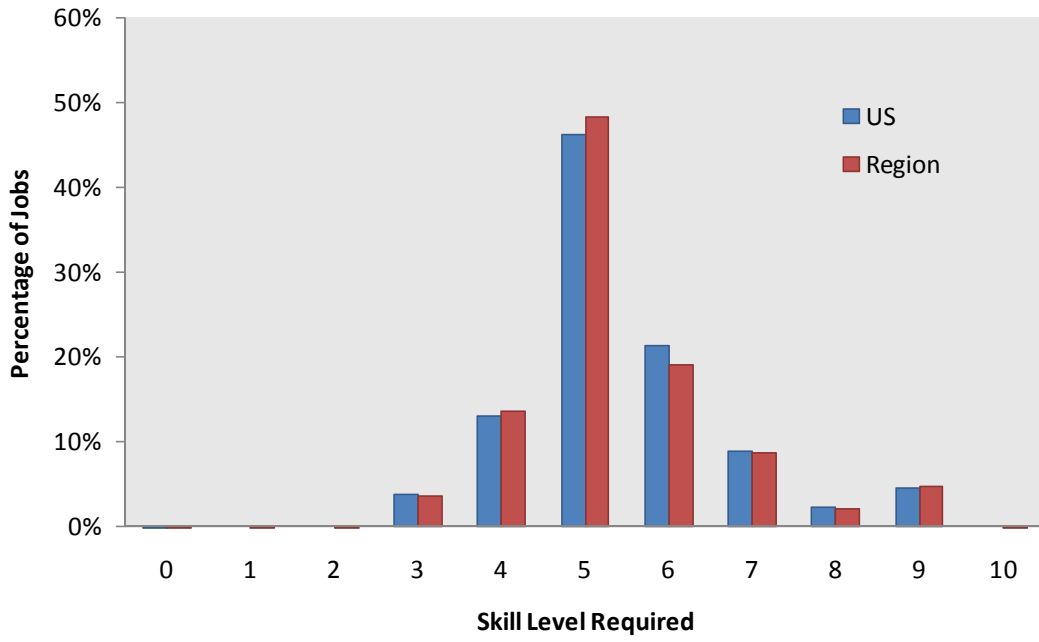
Persuasion



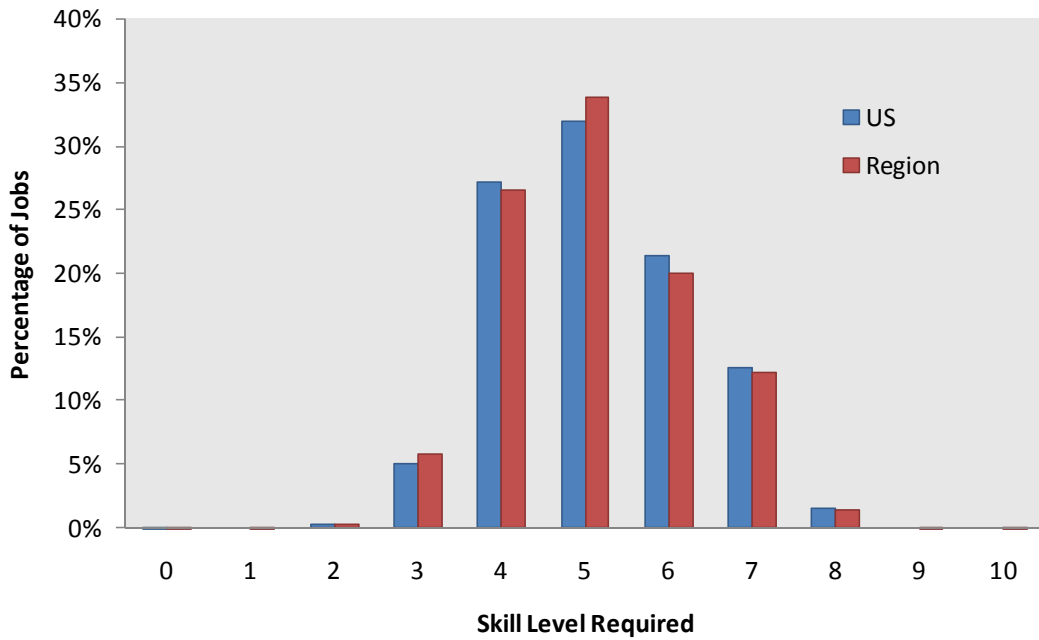
Negotiation



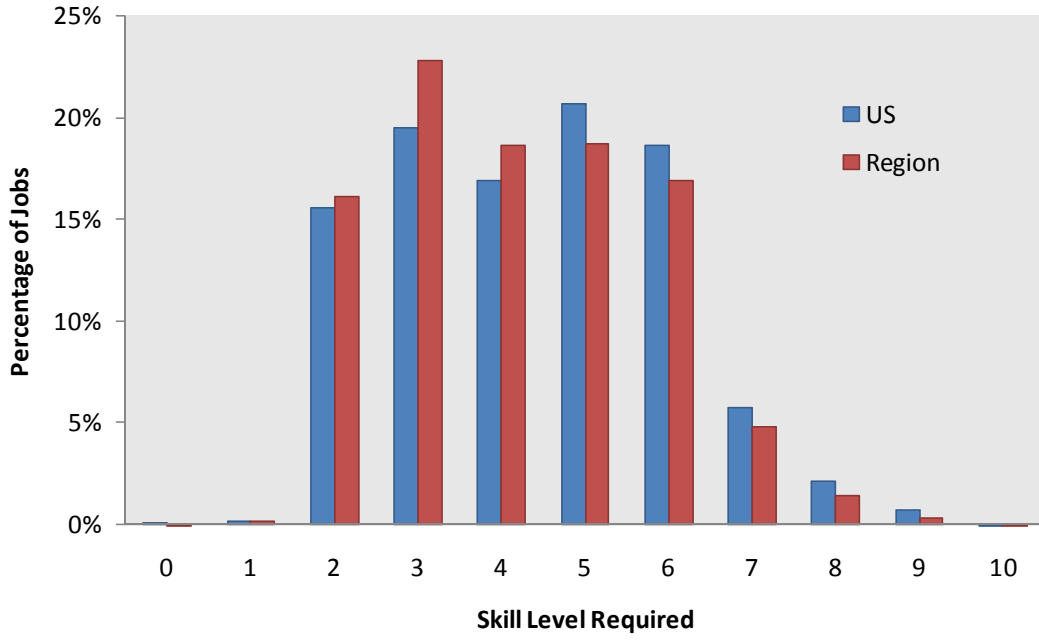
Instructing



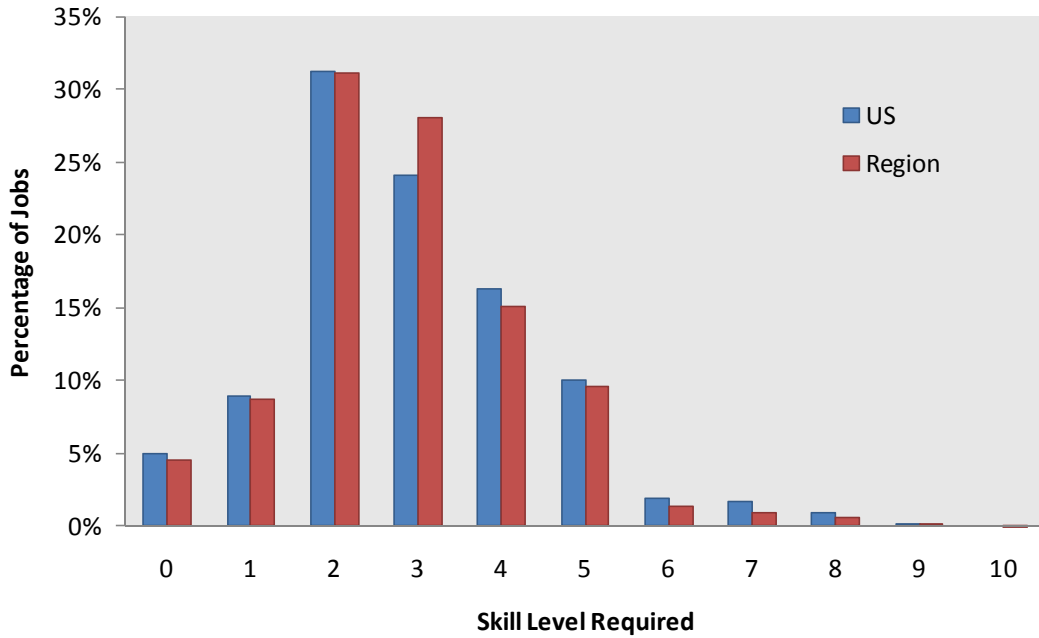
Service Orientation



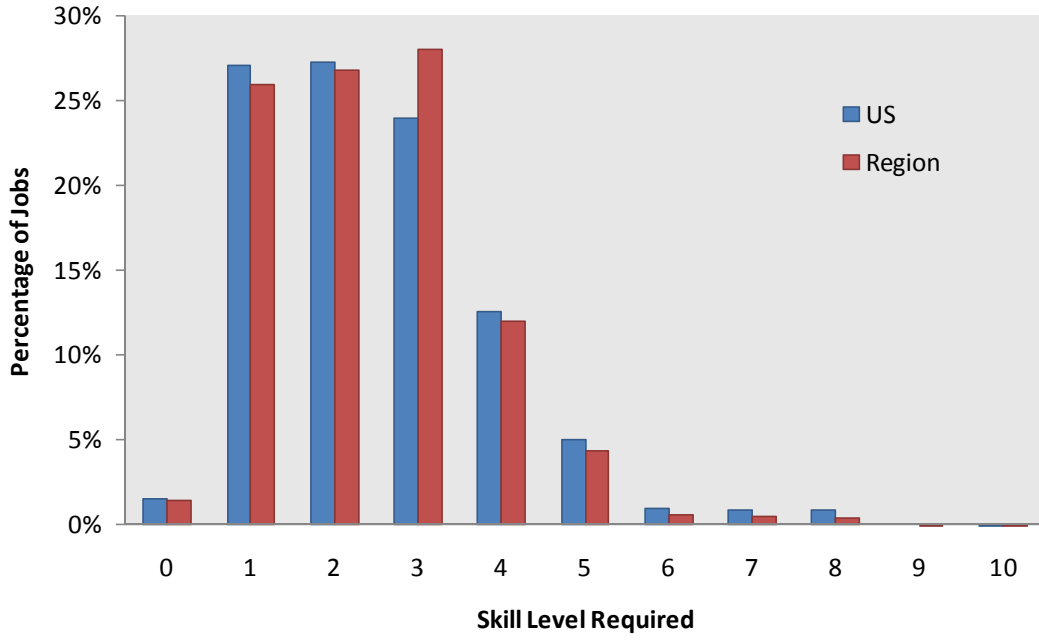
Complex Problem Solving



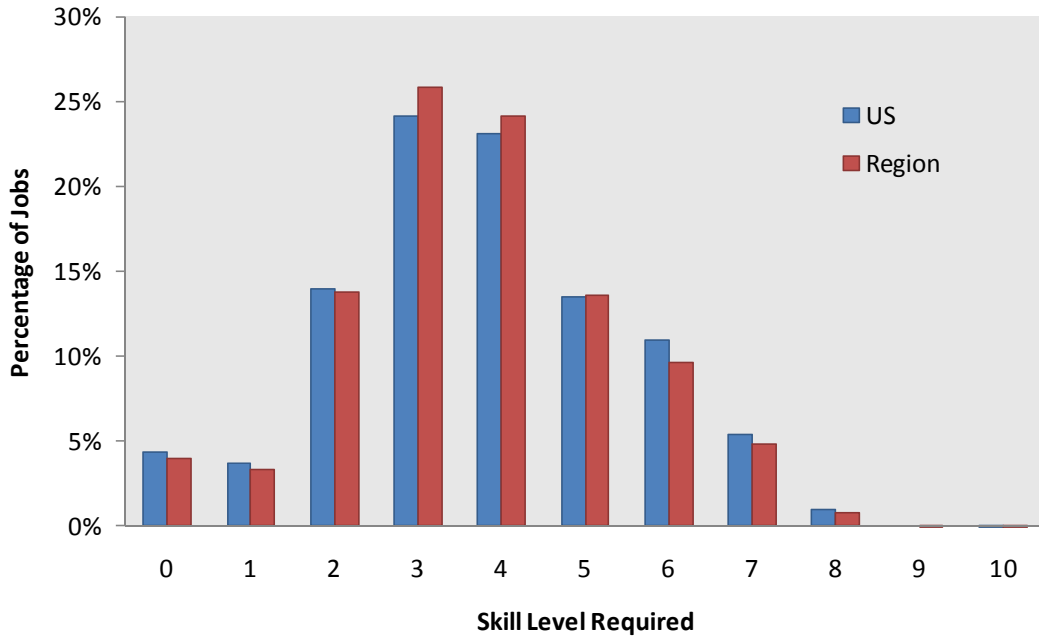
Operations Analysis



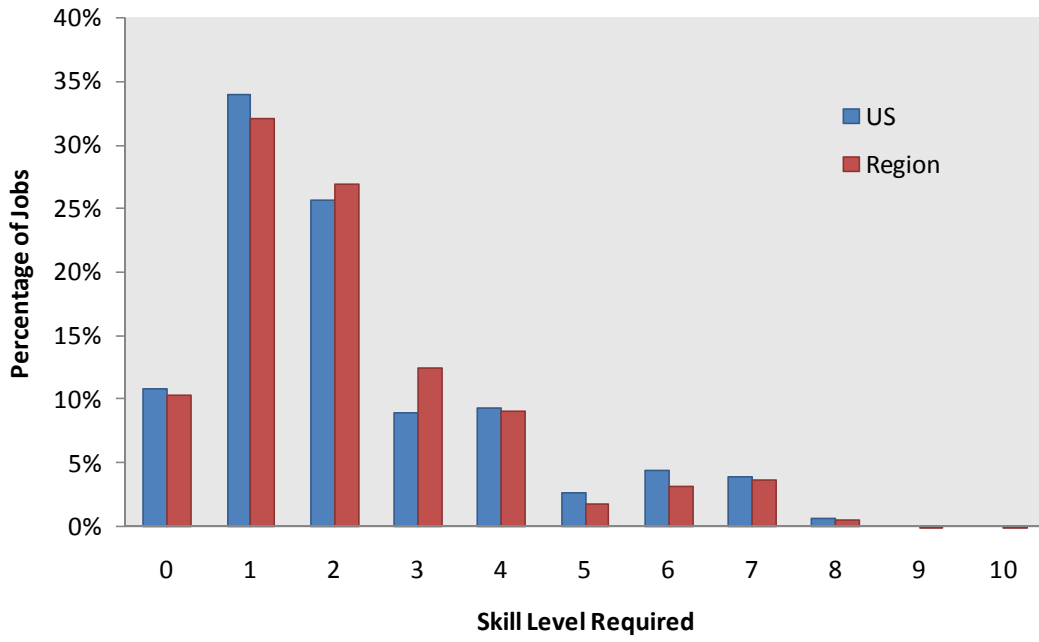
Technology Design



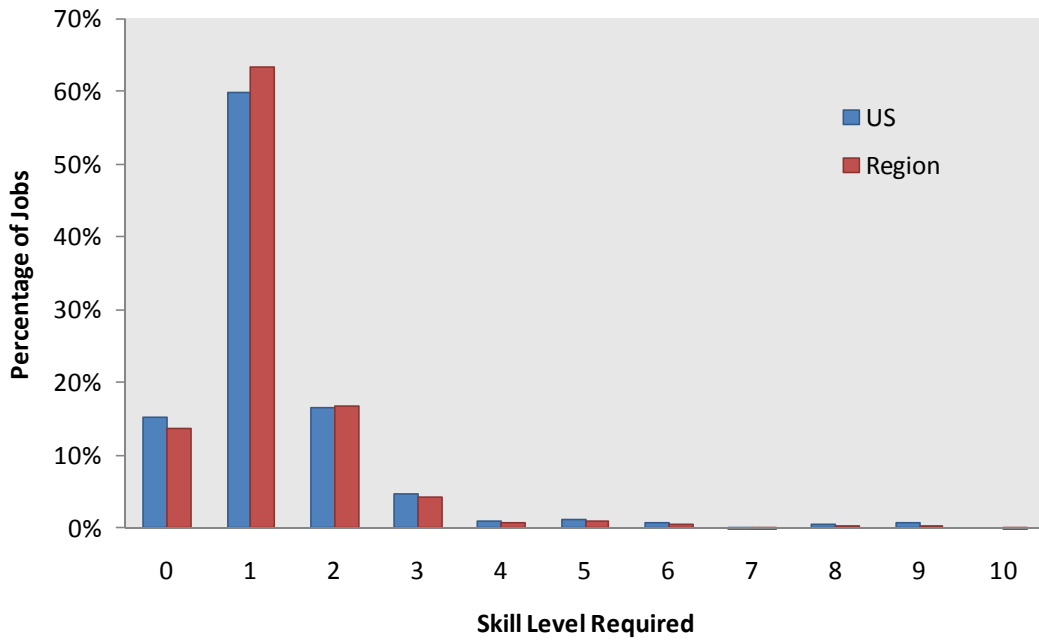
Equipment Selection



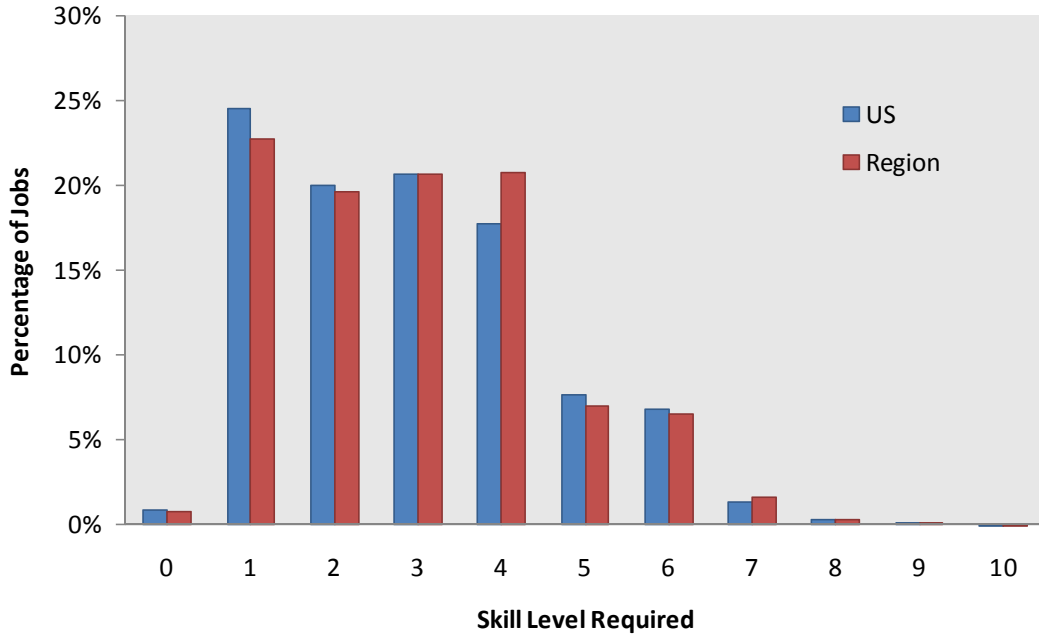
Installation



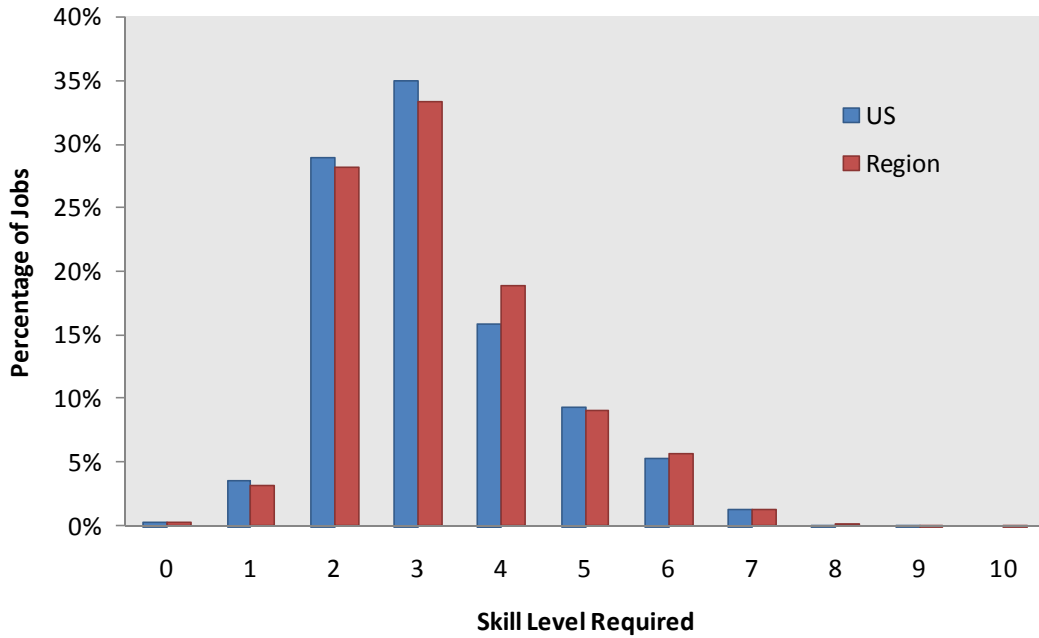
Programming



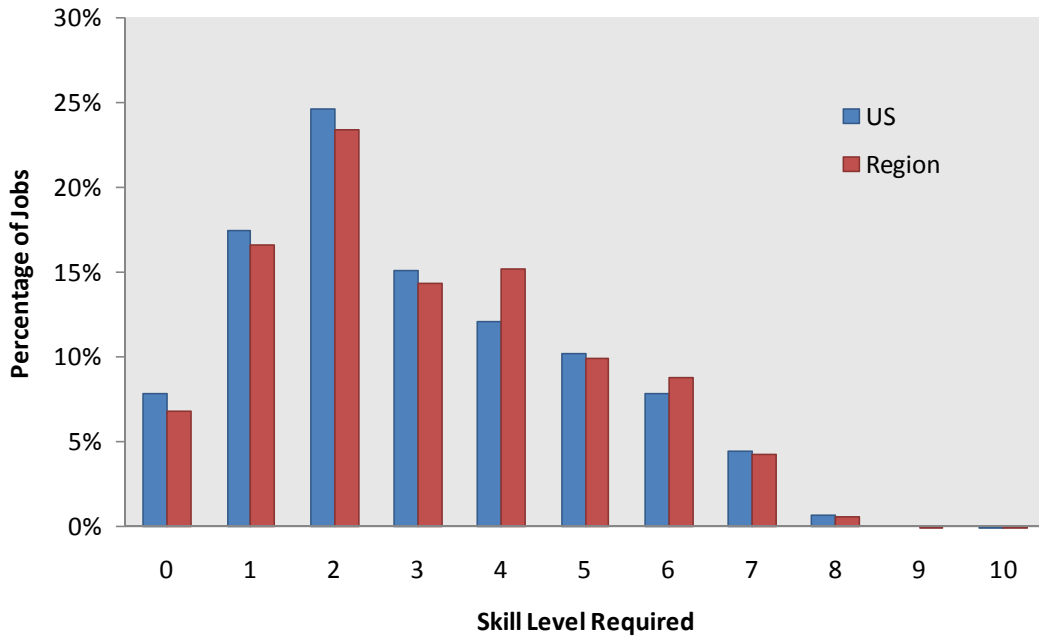
Operation Monitoring



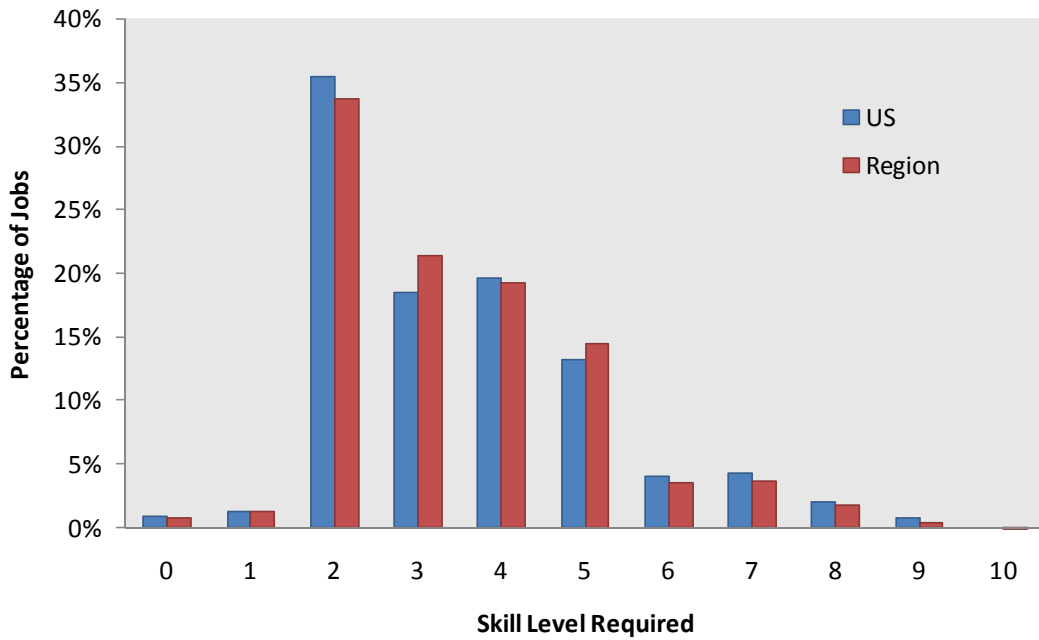
Operation and Control



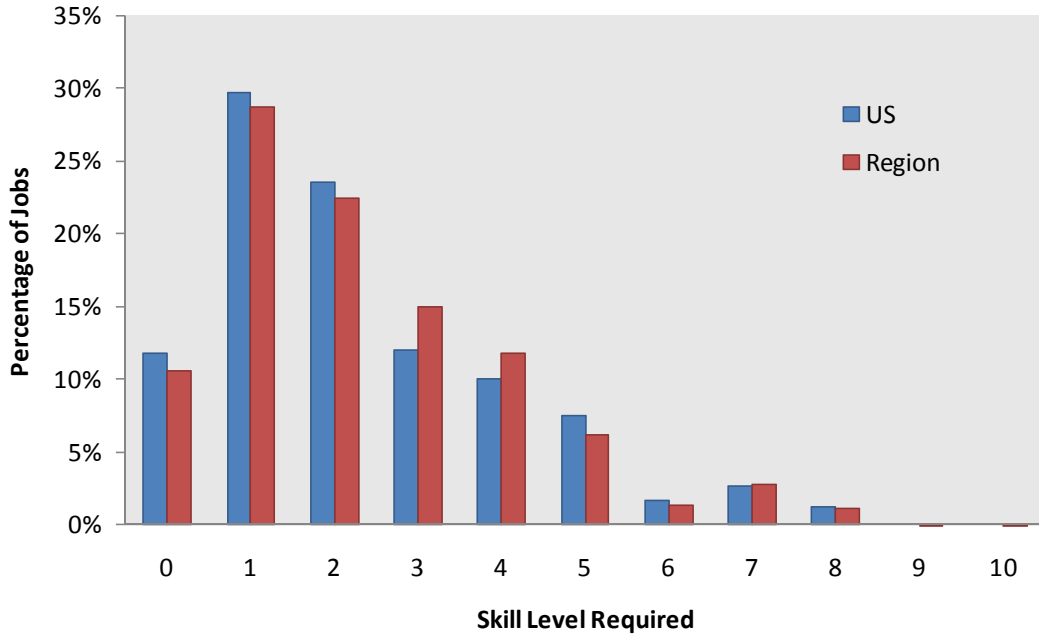
Equipment Maintenance



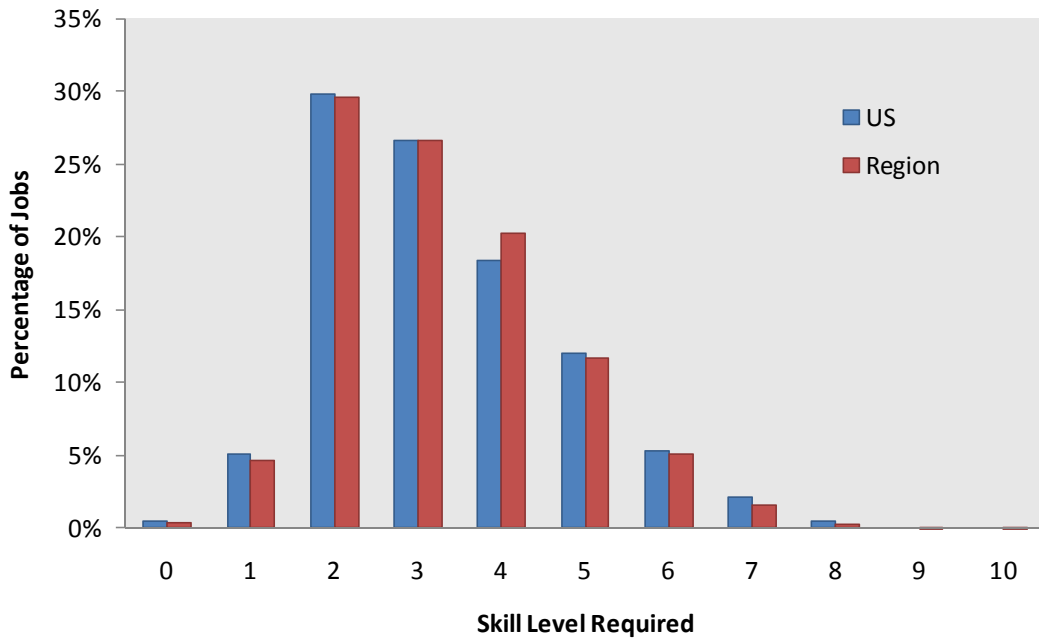
Troubleshooting



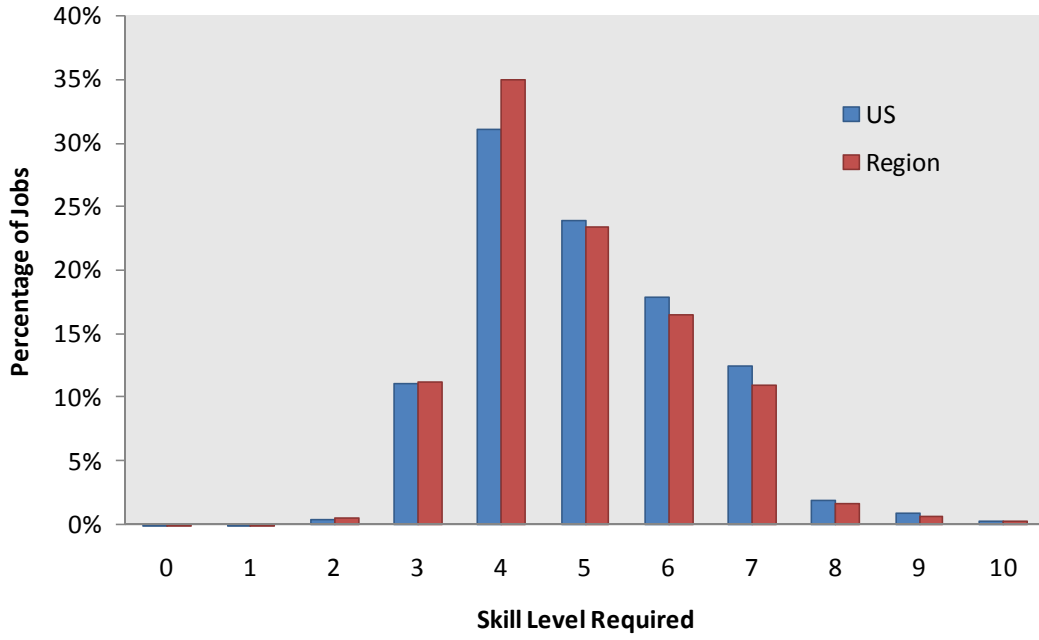
Repairing



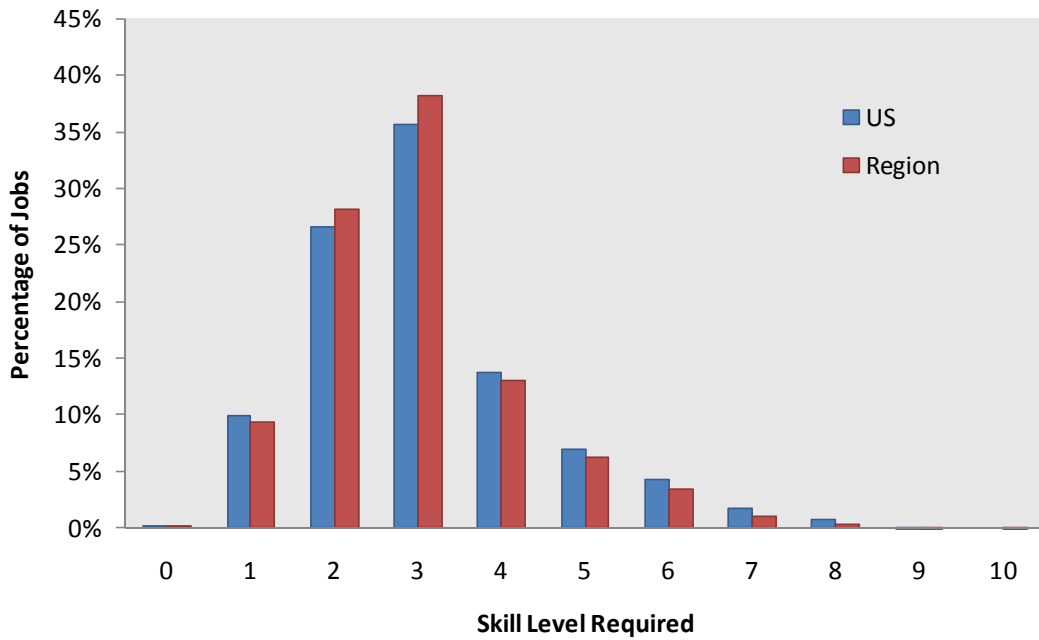
Quality Control Analysis



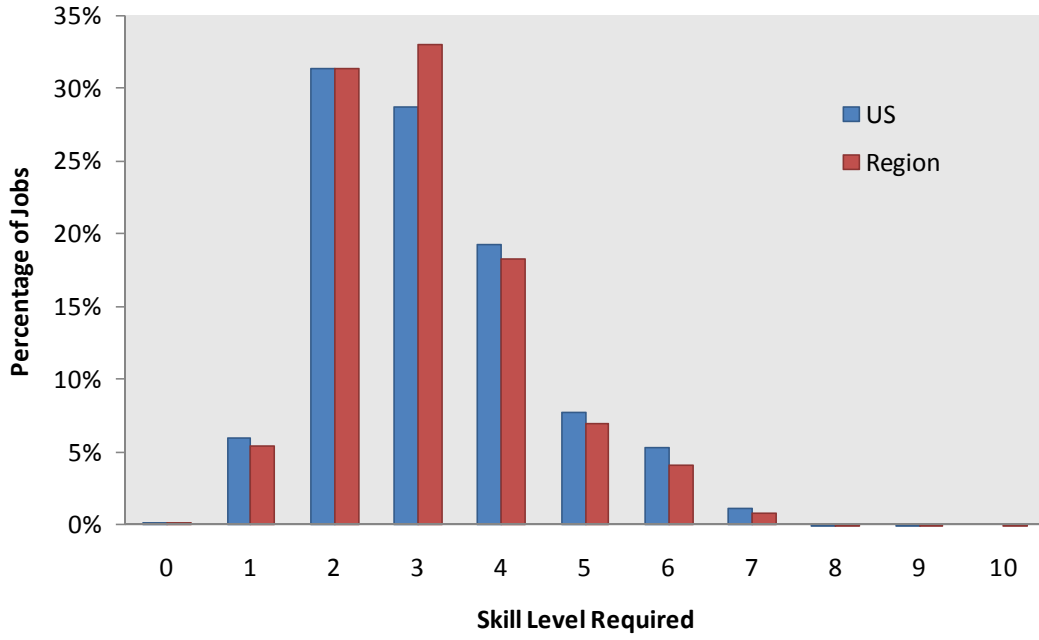
Judgment and Decision Making



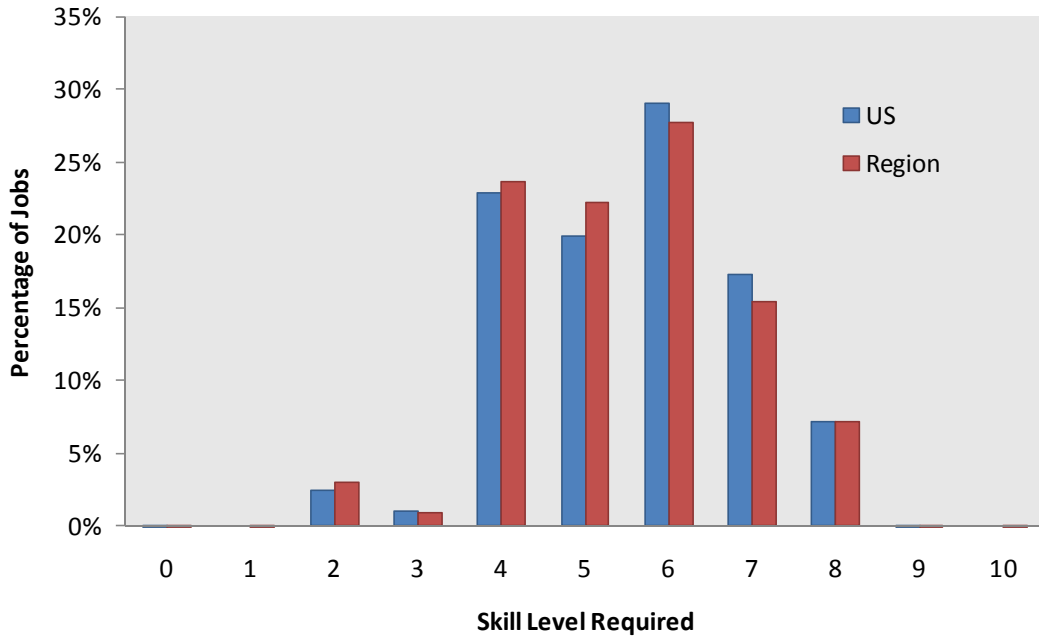
Systems Analysis



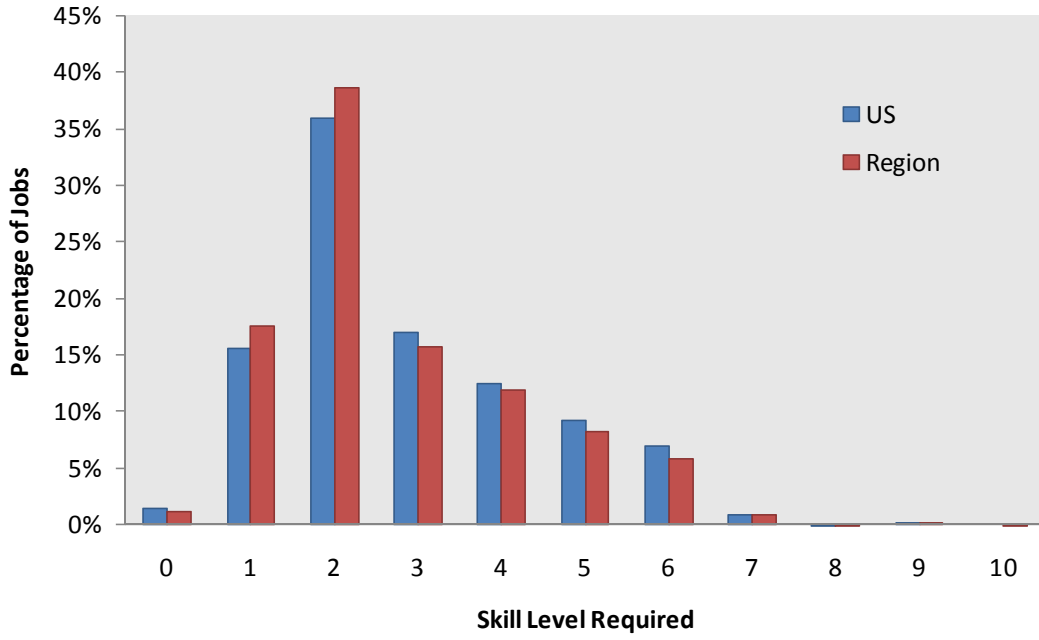
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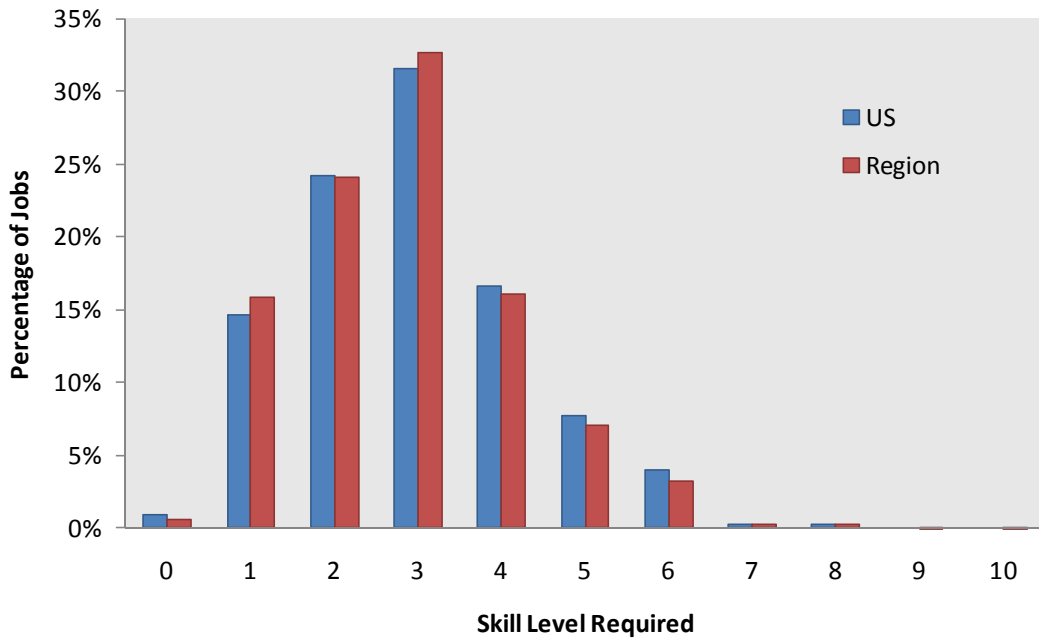
Time Management



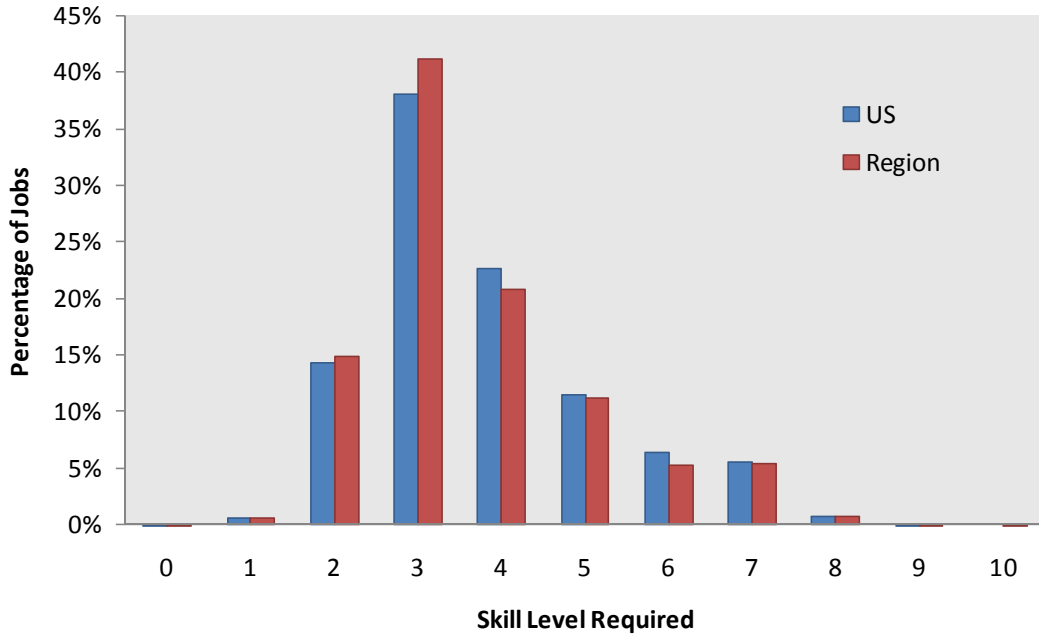
Management of Financial Resources



Management of Material Resources



Management of Personnel Resources



Appendix B: Knowledge Areas

Knowledge Areas
<i>Business and Management: Knowledge of principles and facts related to business administration and accounting, human and material resource management in organizations, sales and marketing, economics, and office information and organizing systems</i>
<ul style="list-style-type: none"> • Administration and Management: Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.
<ul style="list-style-type: none"> • Clerical: Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.
<ul style="list-style-type: none"> • Economics and Accounting: Knowledge of economic and accounting principles and practices, the financial markets, banking and the analysis and reporting of financial data.
<ul style="list-style-type: none"> • Sales and Marketing: Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.
<ul style="list-style-type: none"> • Customer and Personal Service: Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
<ul style="list-style-type: none"> • Personnel and Human Resources: Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.
<i>Manufacturing and Production: Knowledge of principles and facts related to the production, processing, storage, and distribution of manufactured and agricultural goods</i>
<ul style="list-style-type: none"> • Production and Processing: Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
<ul style="list-style-type: none"> • Food Production: Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.
<i>Engineering and Technology: Knowledge of the design, development, and application of technology for specific purposes.</i>
<ul style="list-style-type: none"> • Computers and Electronics: Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
<ul style="list-style-type: none"> • Engineering and Technology: Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

<ul style="list-style-type: none"> • Design: Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
<ul style="list-style-type: none"> • Building and Construction: Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
<ul style="list-style-type: none"> • Mechanical: Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
<p><i>Mathematics and Science: Knowledge of the history, theories, methods, and applications of the physical, biological, social, mathematical, and geography</i></p>
<ul style="list-style-type: none"> • Mathematics: Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
<ul style="list-style-type: none"> • Physics: Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub- atomic structures and processes.
<ul style="list-style-type: none"> • Chemistry: Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
<ul style="list-style-type: none"> • Biology: Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.
<ul style="list-style-type: none"> • Psychology: Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.
<ul style="list-style-type: none"> • Sociology and Anthropology: Knowledge of group behavior and dynamics, societal trends and influences, human migrations, ethnicity, cultures and their history and origins.
<ul style="list-style-type: none"> • Geography: Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.
<p><i>Health Services: Knowledge of principles and facts regarding diagnosing, curing, and preventing disease, and improving and preserving physical and mental health and well-being</i></p>
<ul style="list-style-type: none"> • Medicine and Dentistry: Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.
<ul style="list-style-type: none"> • Therapy and Counseling: Knowledge of principles, methods, and procedures for diagnosis, treatment, and rehabilitation of physical and mental dysfunctions, and for career counseling and guidance.
<p><i>Education and Training: Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.</i></p>

Arts and Humanities: Knowledge of facts and principles related to the branches of learning concerned with human thought, language, and the arts.

- English Language: Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.
- Foreign Language: Knowledge of the structure and content of a foreign (non-English) language including the meaning and spelling of words, rules of composition and grammar, and pronunciation.
- Fine Arts: Knowledge of the theory and techniques required to compose, produce, and perform works of music, dance, visual arts, drama, and sculpture.
- History and Archeology: Knowledge of historical events and their causes, indicators, and effects on civilizations and cultures.
- Philosophy and Theology: Knowledge of different philosophical systems and religions. This includes their basic principles, values, ethics, ways of thinking, customs, practices, and their impact on human culture.

Law and Public Safety: Knowledge of regulations and methods for maintaining people and property free from danger, injury, or damage; the rules of public conduct established and enforced by legislation, and the political process establishing such rules.

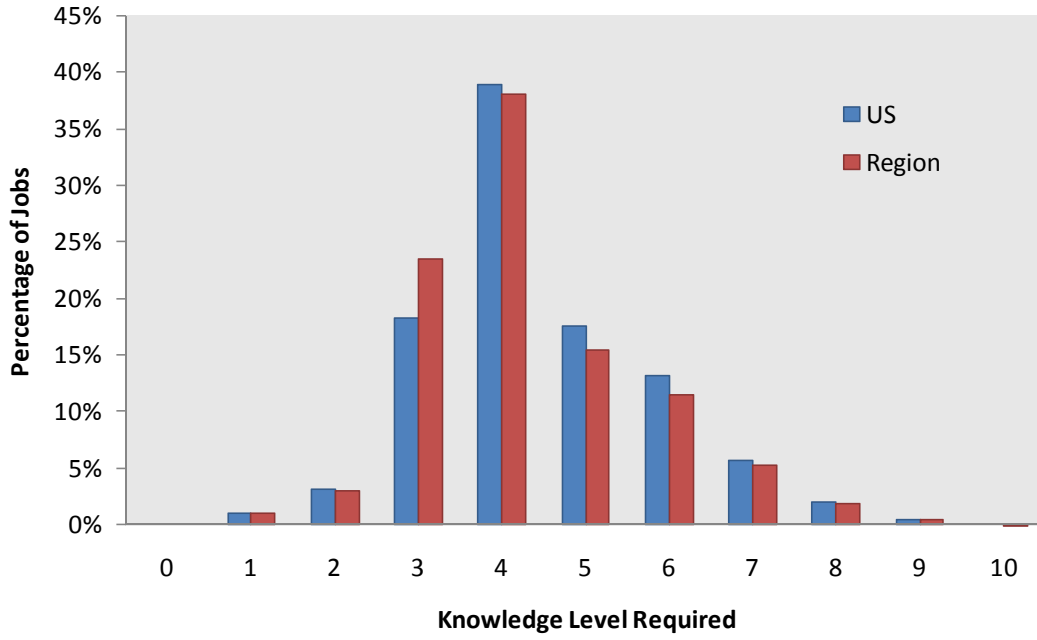
- Public Safety and Security: Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- Law and Government: Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.

Communications: Knowledge of the science and art of delivering information

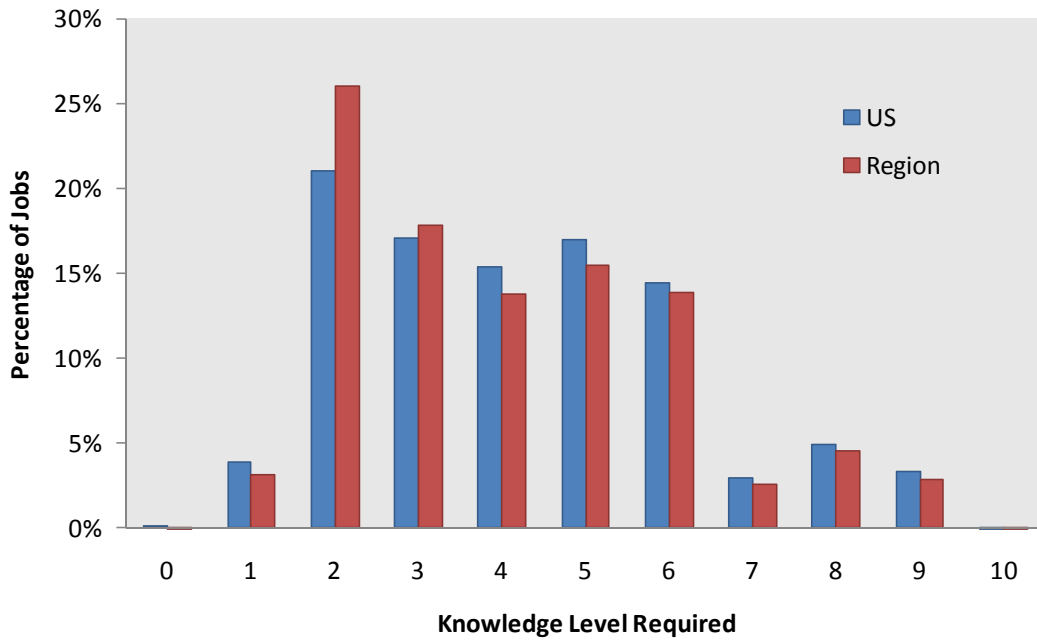
- Telecommunications: Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.
- Communications and Media: Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.

Transportation: Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.

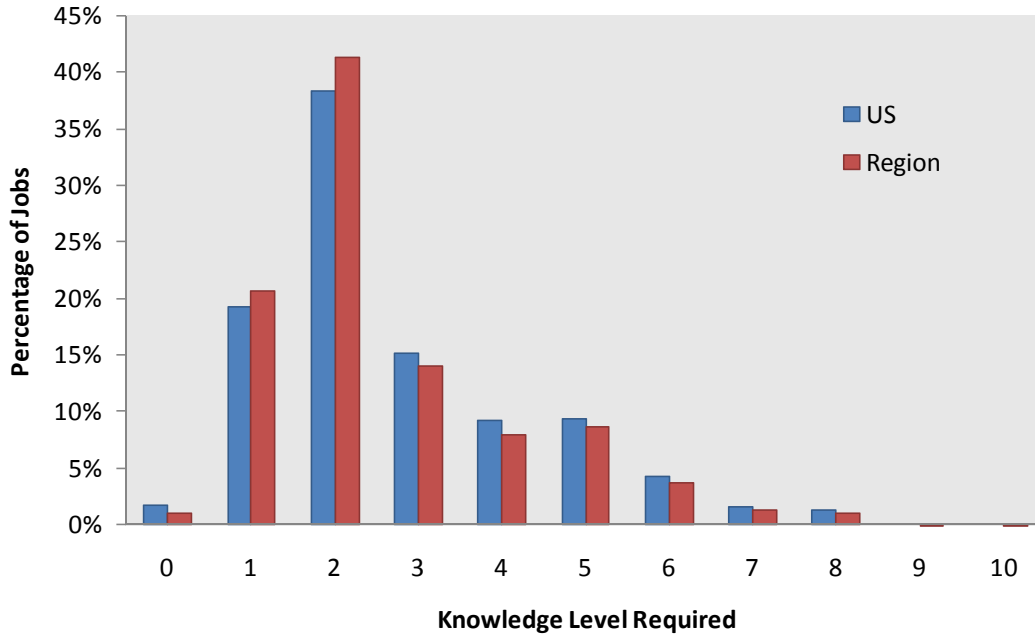
Administration and Management



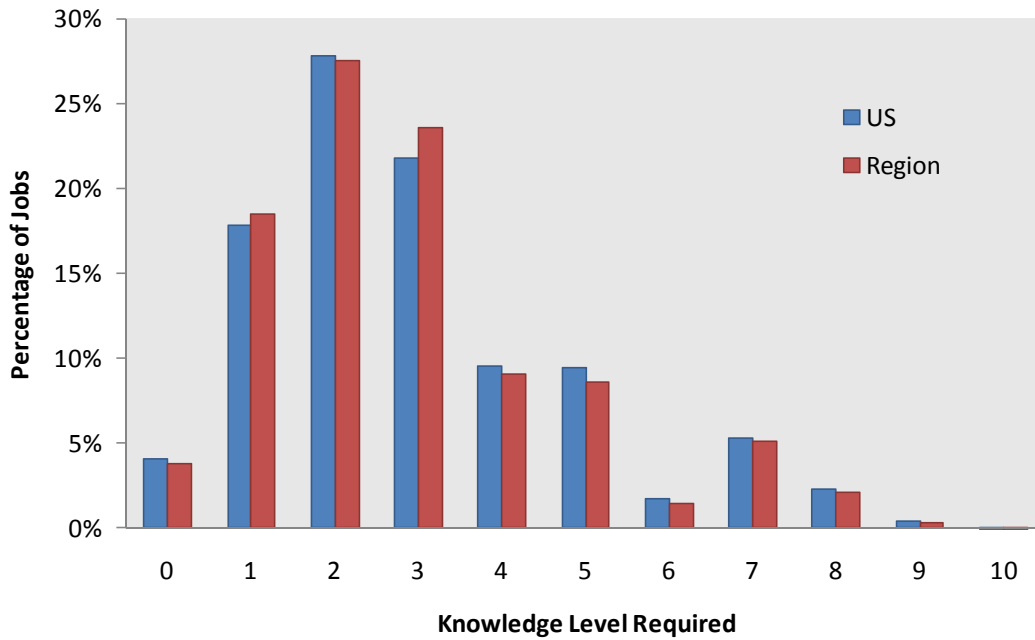
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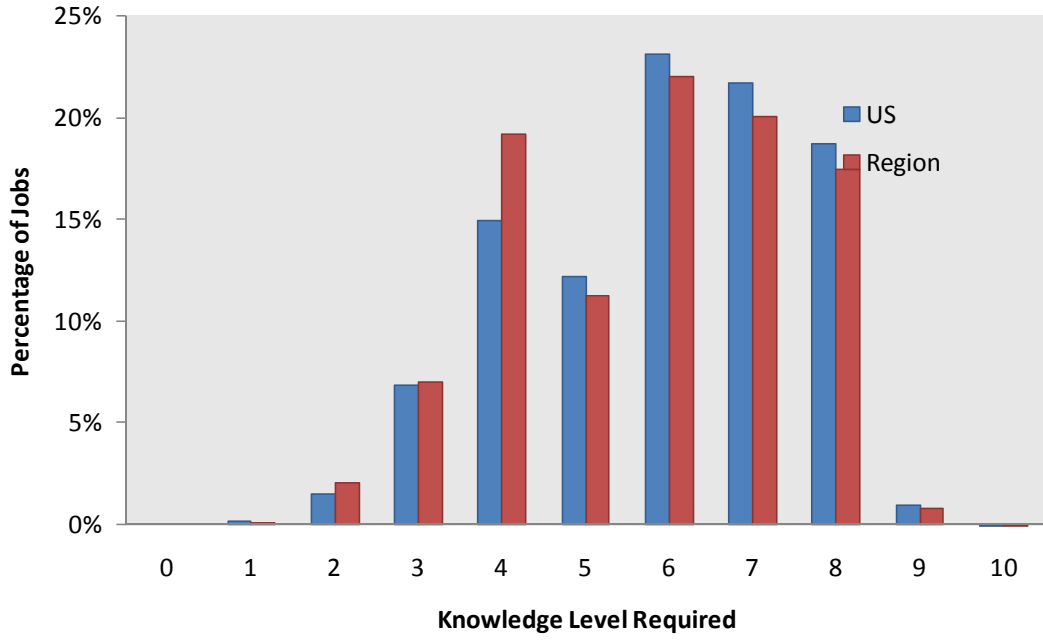
Economics and Accounting



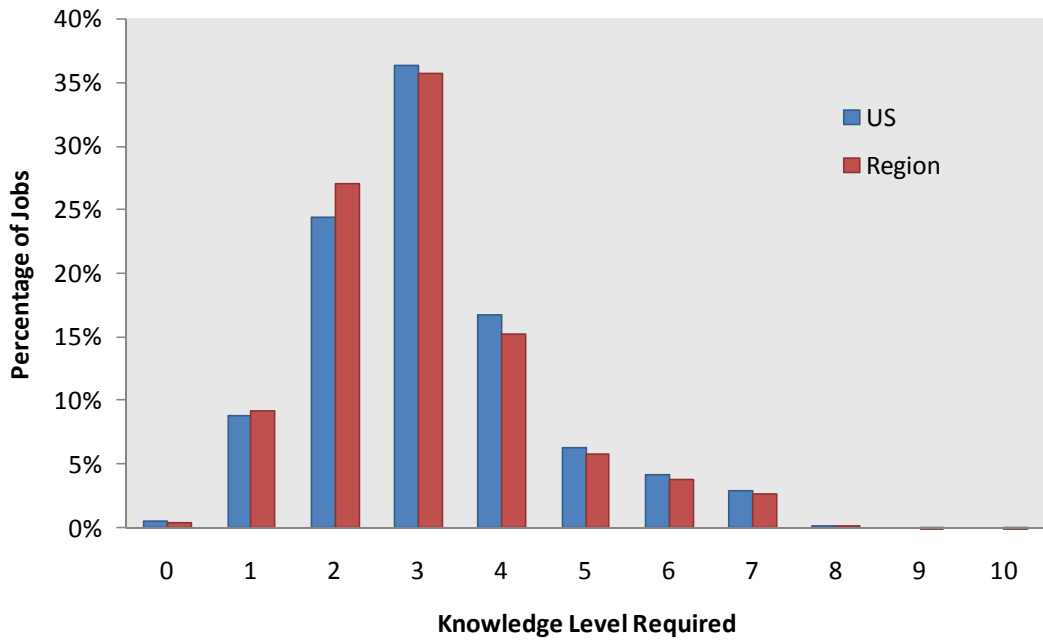
Sales and Marketing



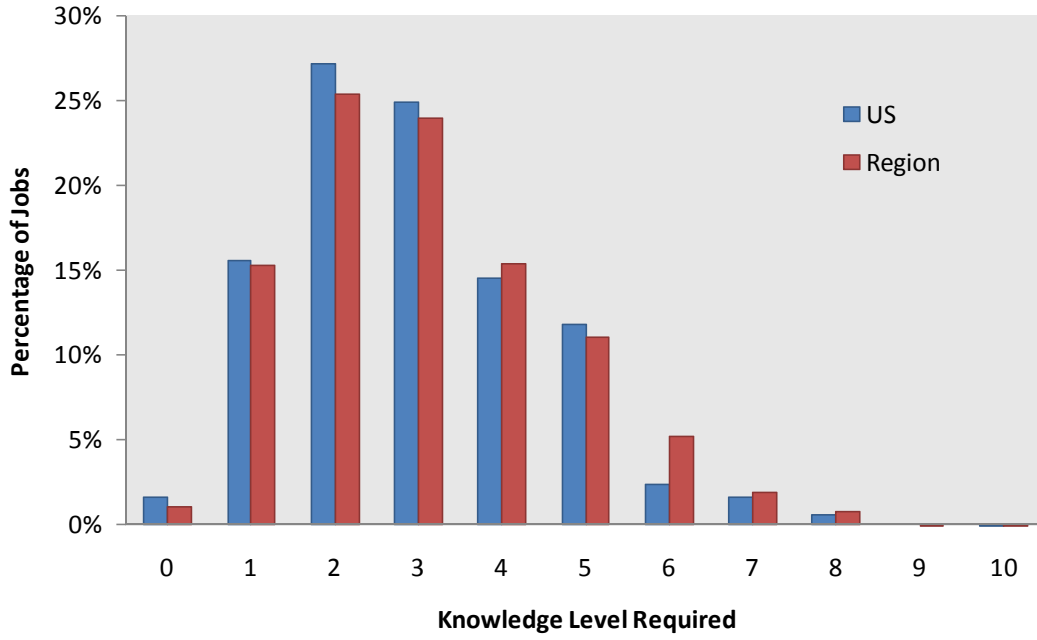
Customer and Personal Service



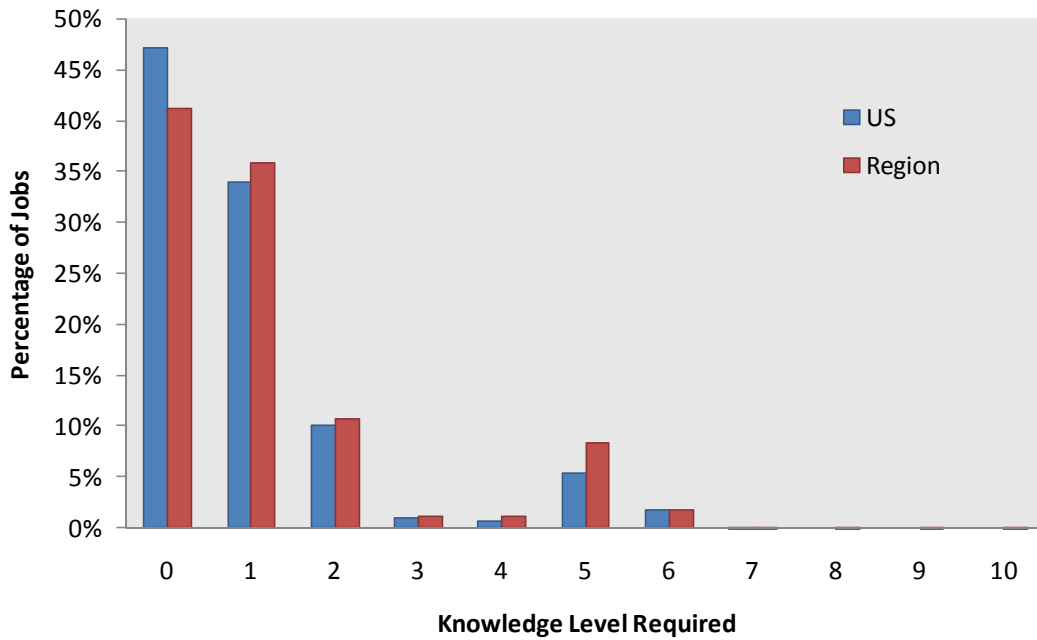
Personnel and Human Resources



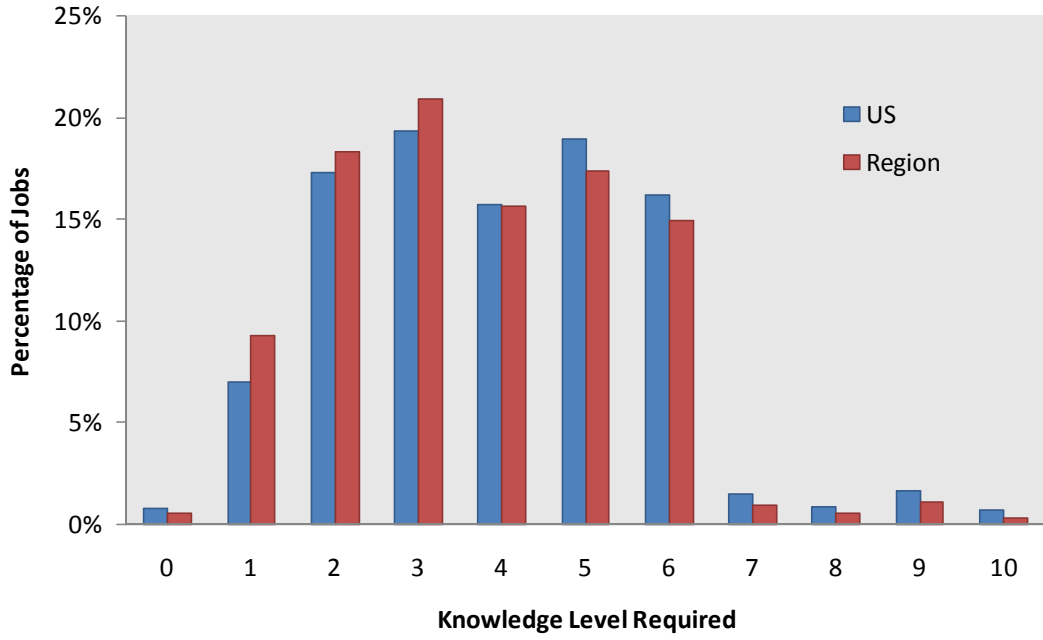
Production and Processing



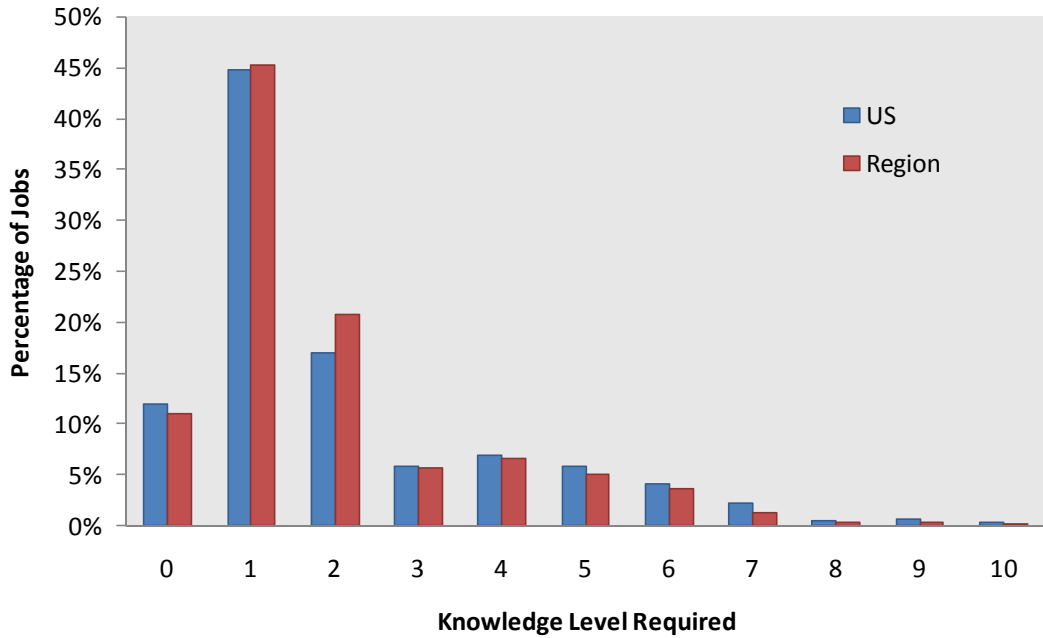
Food Production



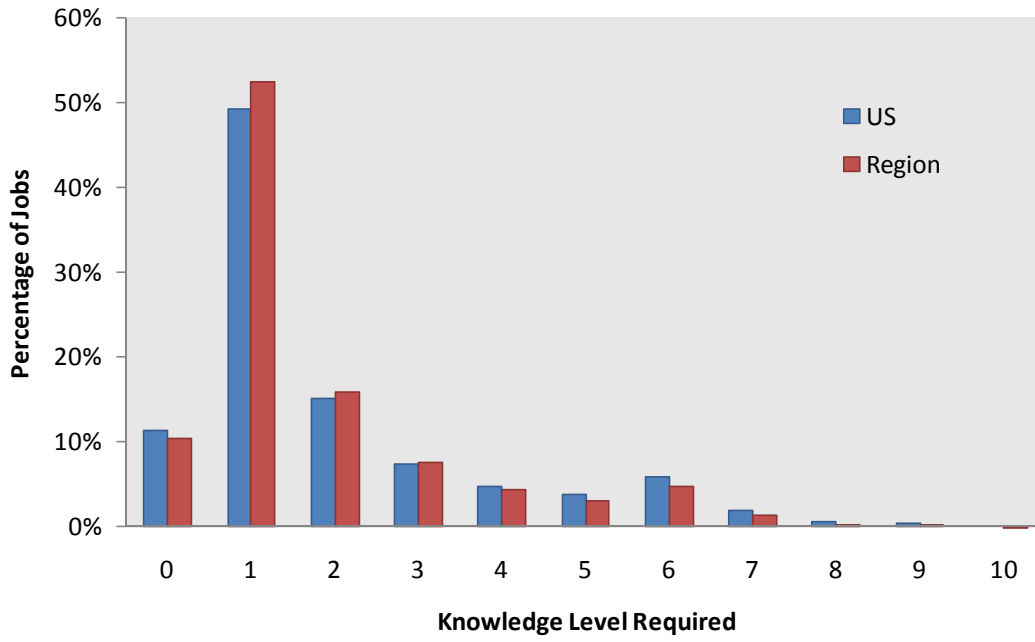
Computers and Electronics



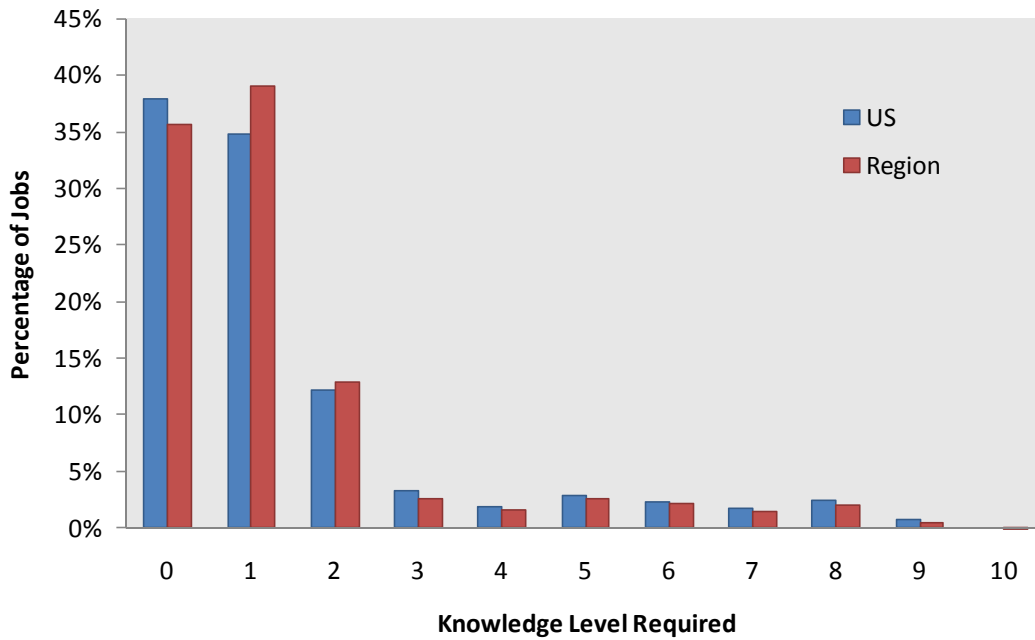
Engineering and Technology



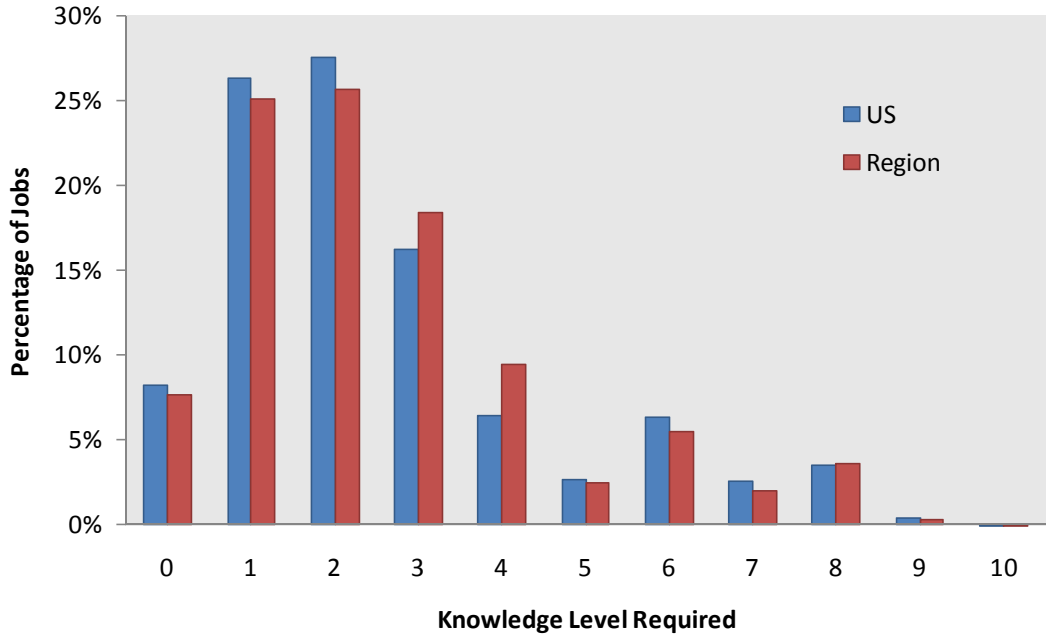
Design



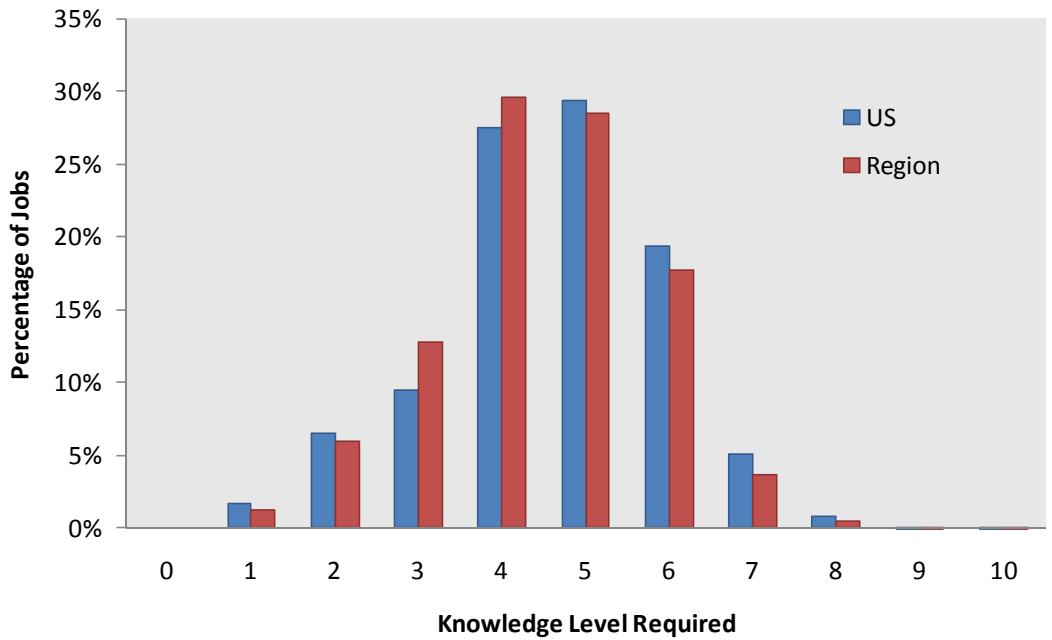
Building and Construction



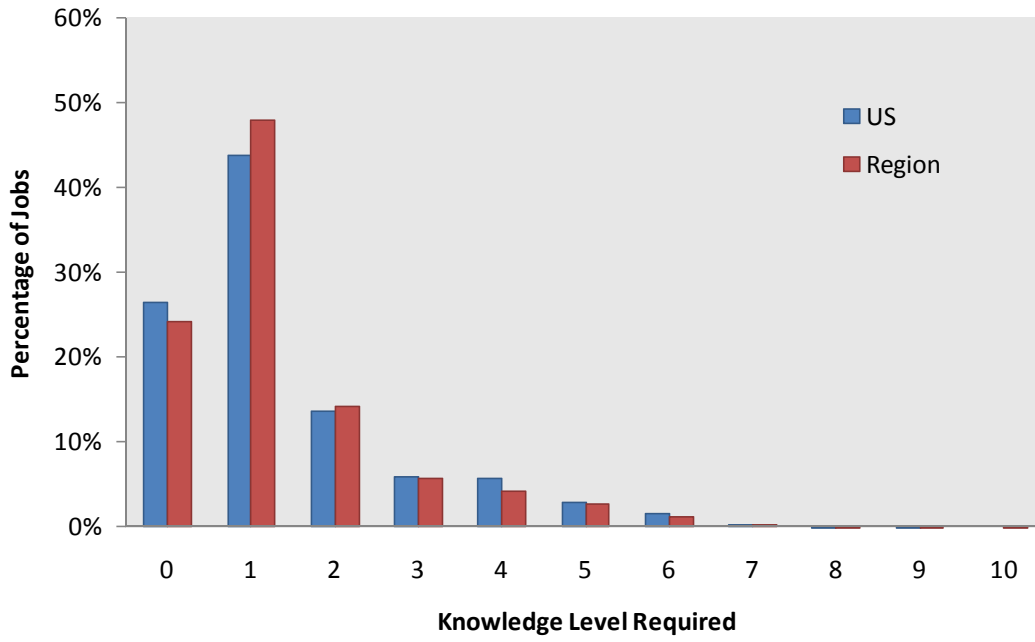
Mechanical



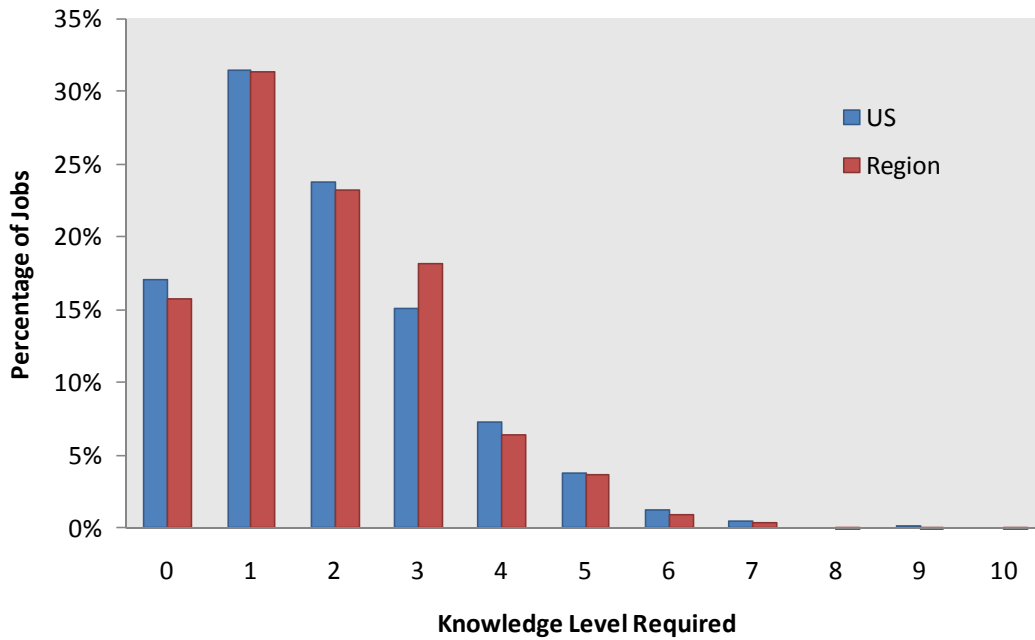
Mathematics



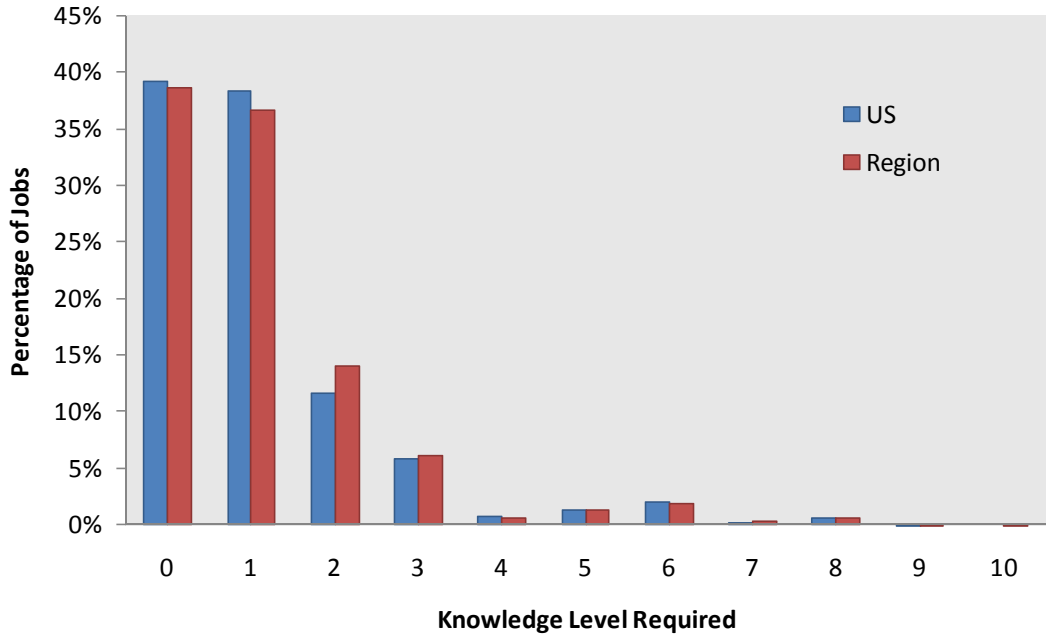
Physics



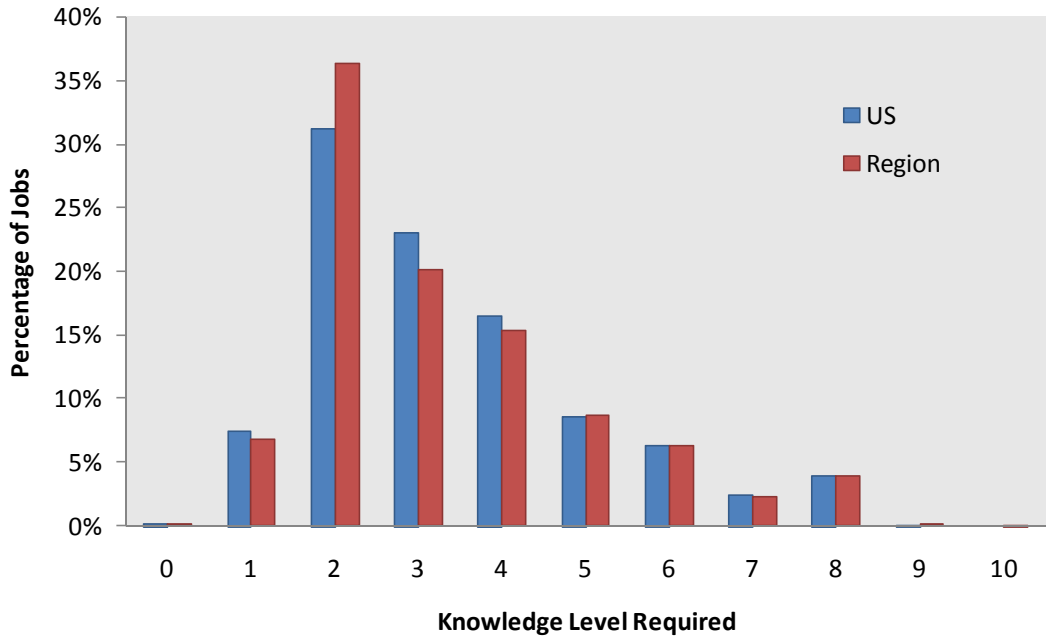
Chemistry



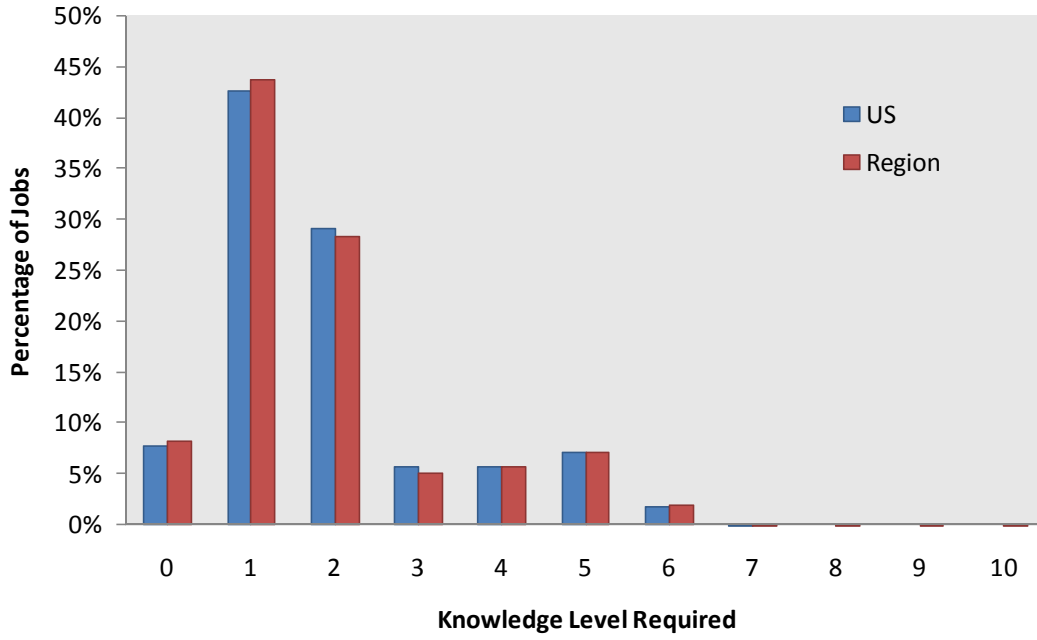
Biology



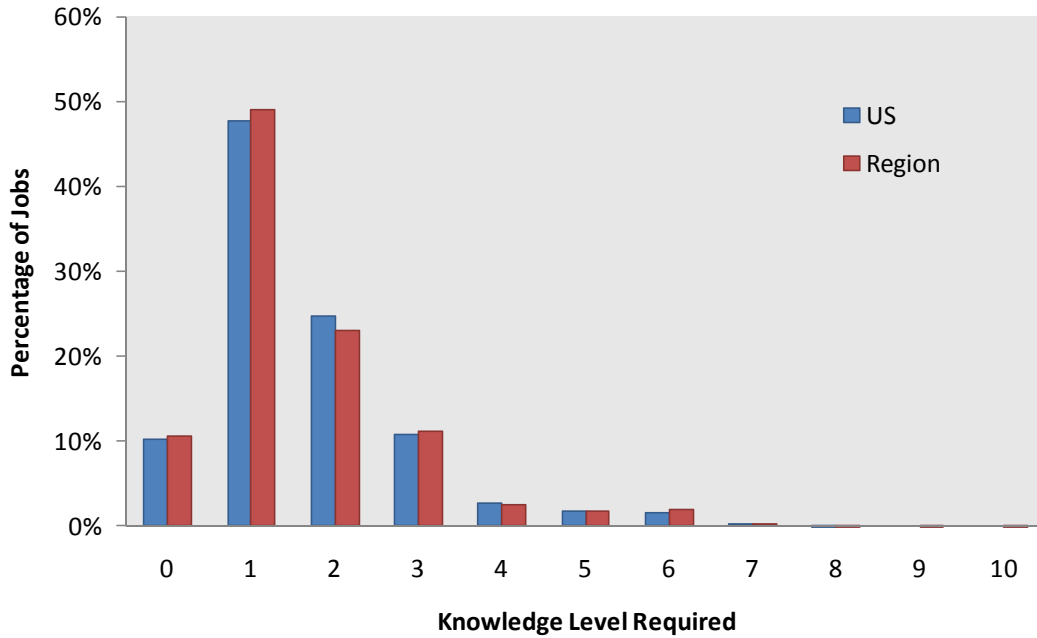
Psychology



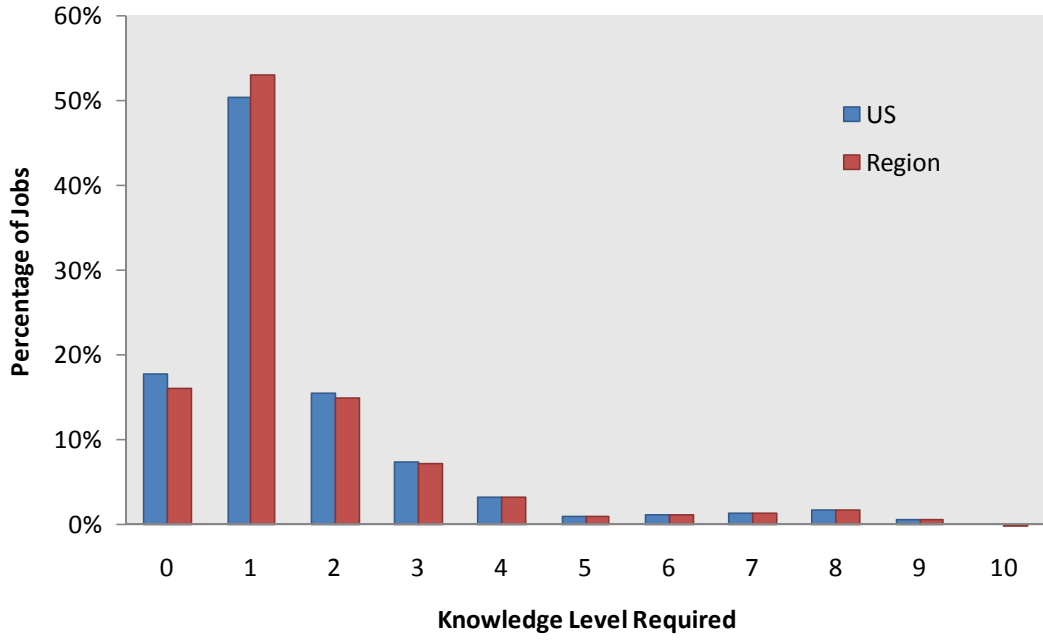
Sociology and Anthropology



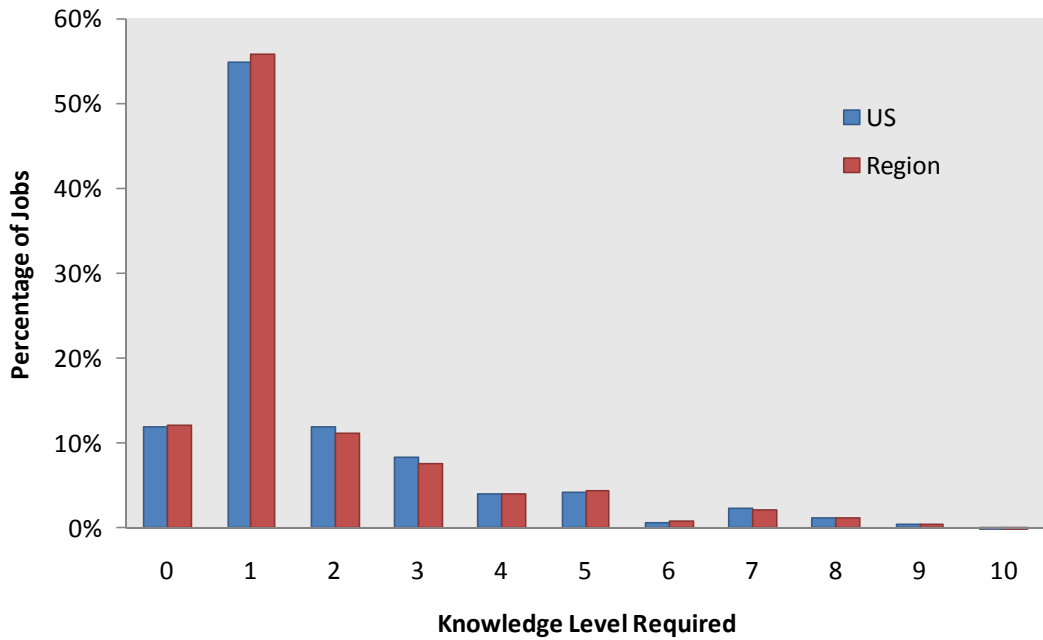
Geography



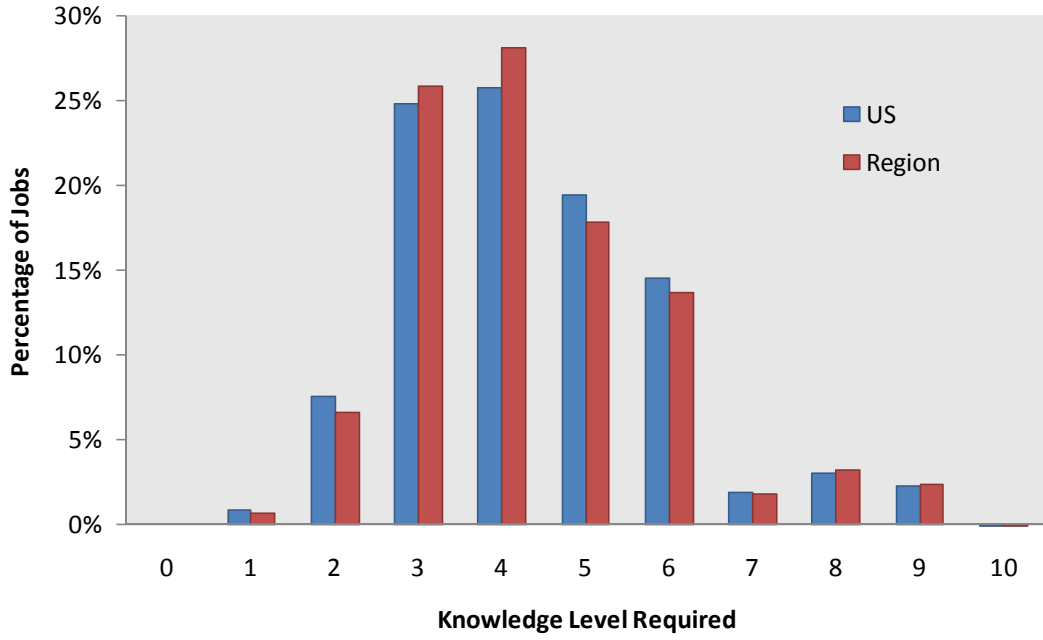
Medicine and Dentistry



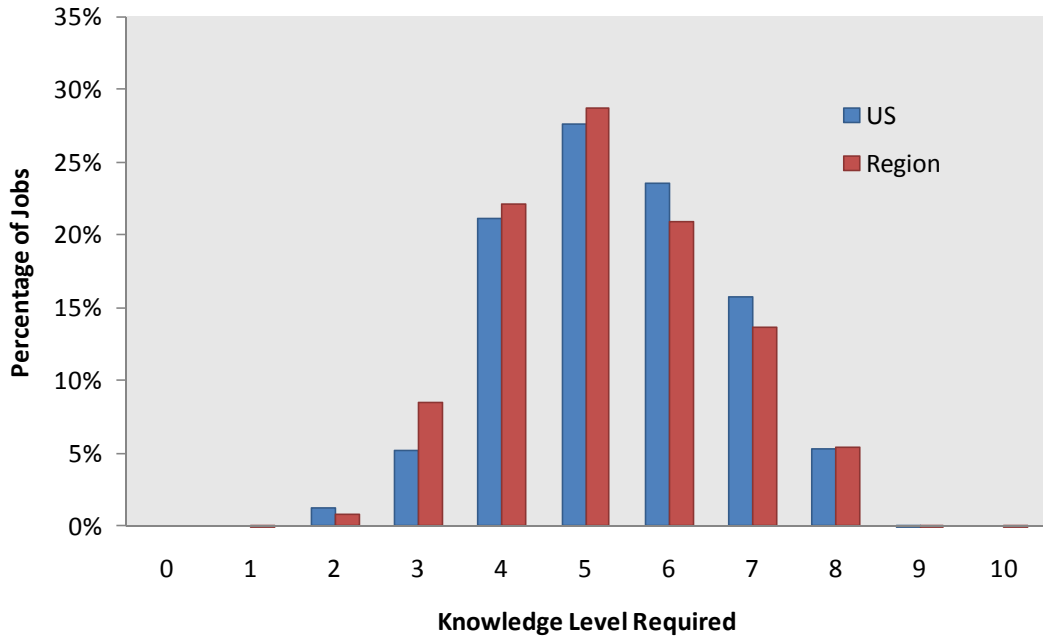
Therapy and Counseling



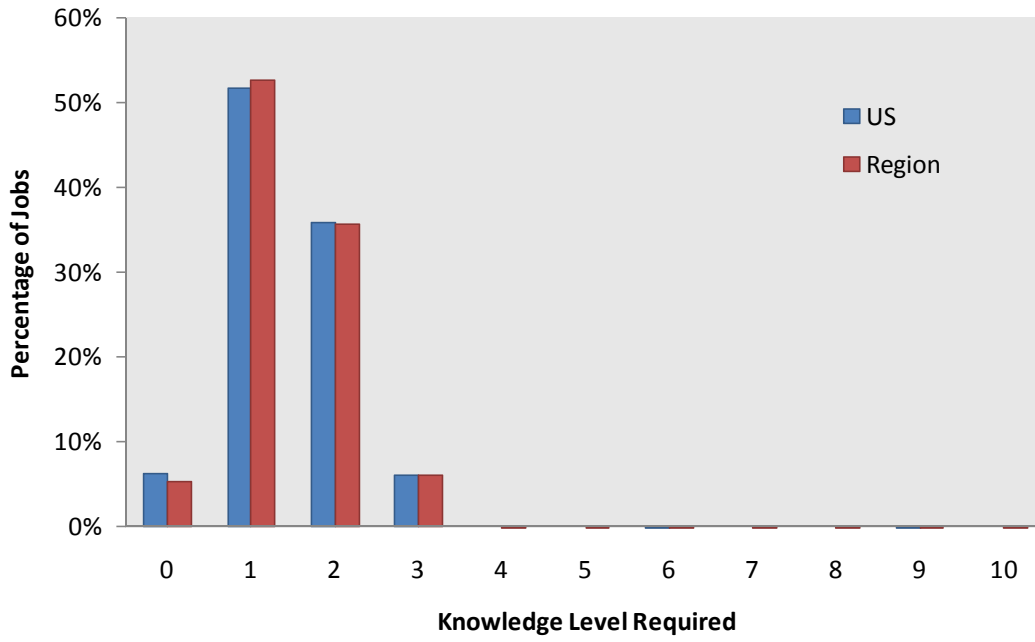
Education and Training



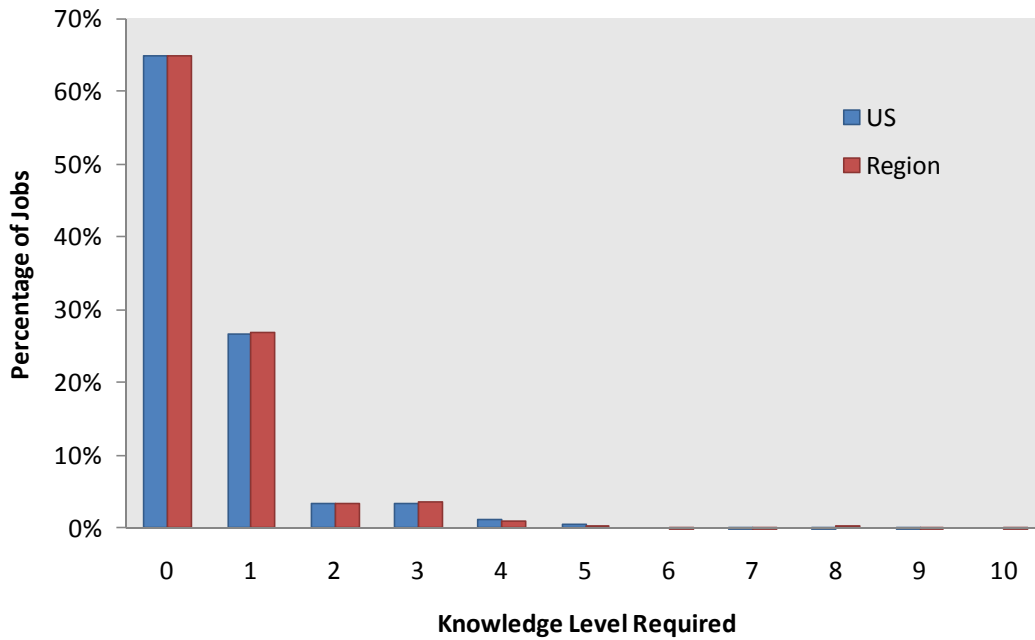
English Language



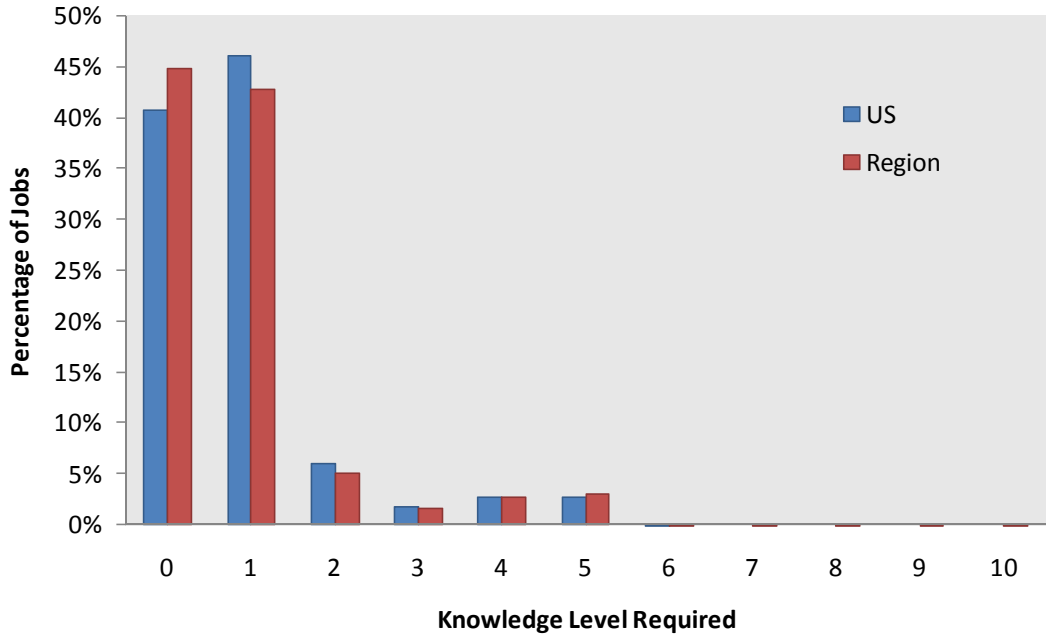
Foreign Language



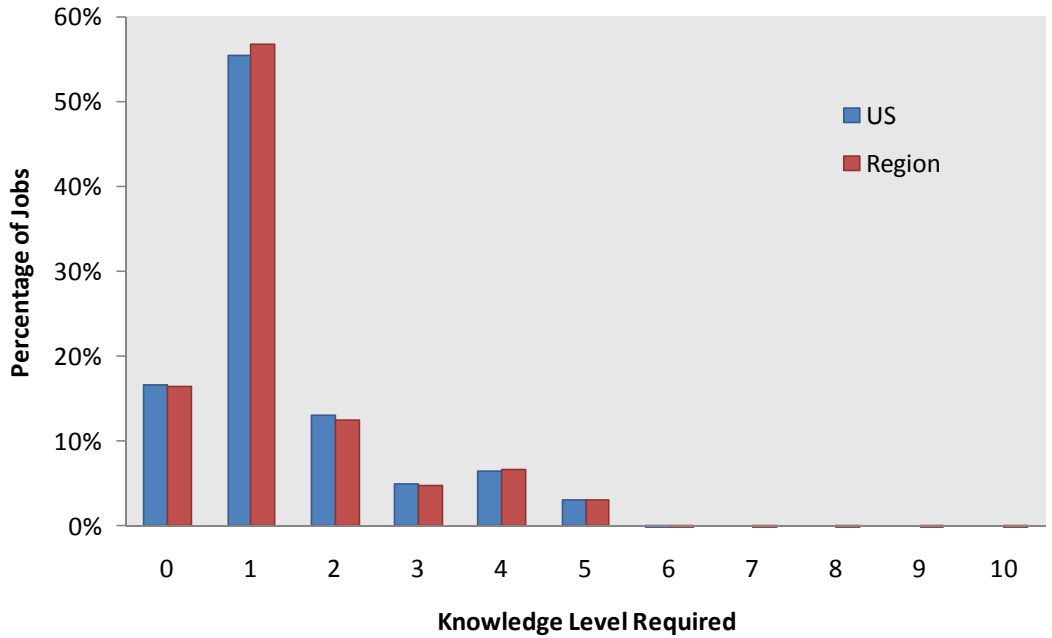
Fine Arts



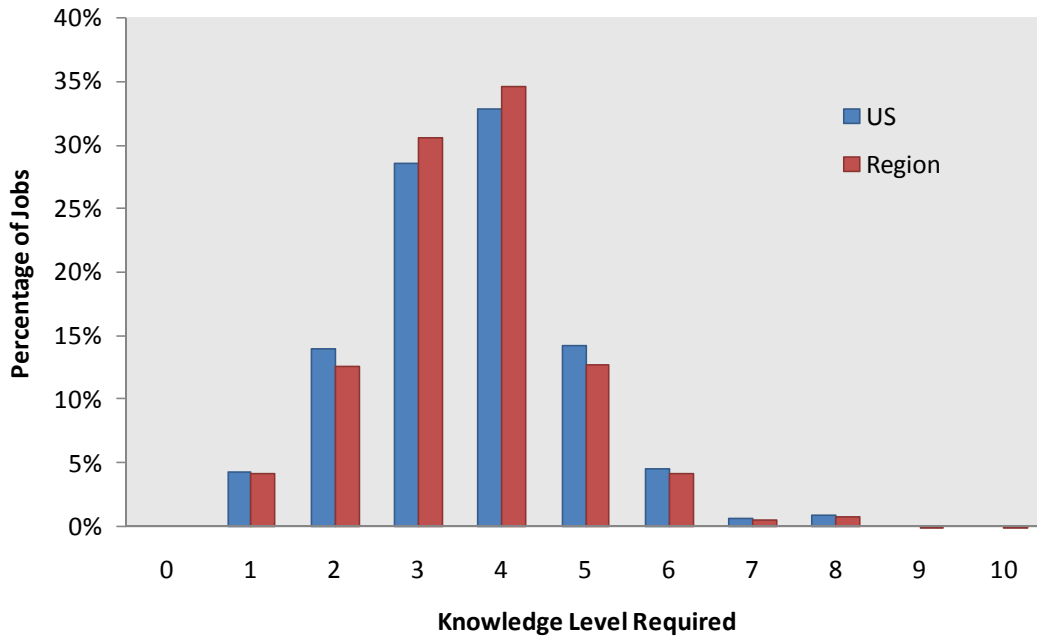
History and Archeology



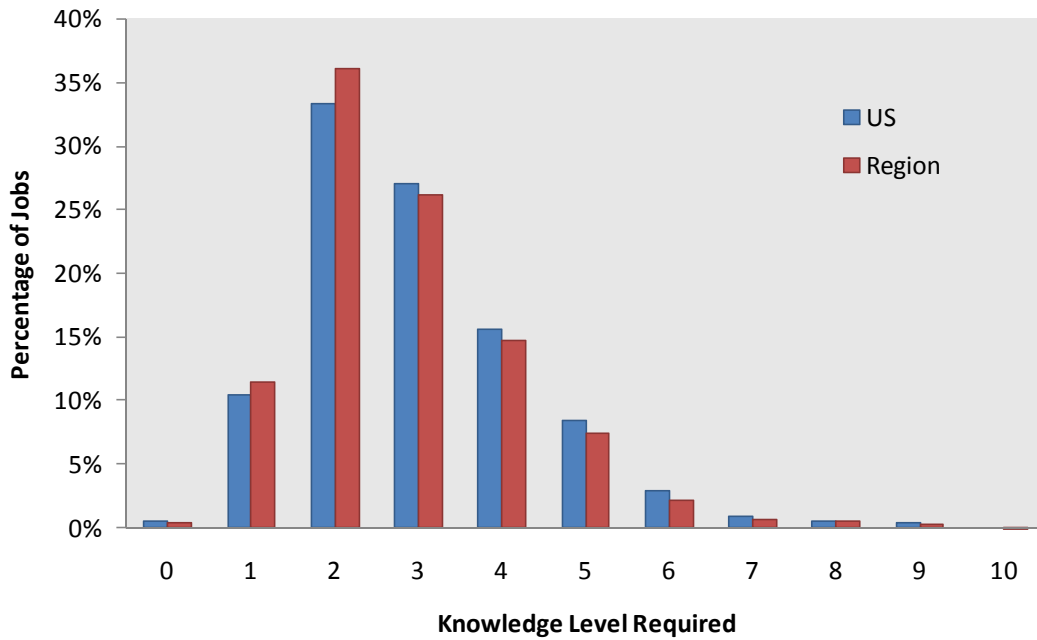
Philosophy and Theology



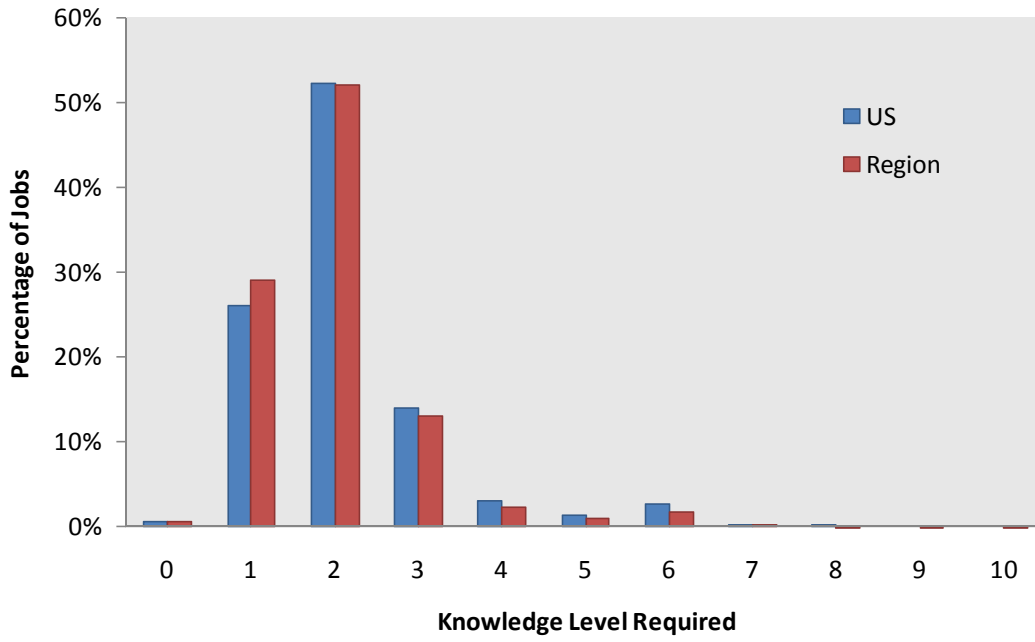
Public Safety and Security



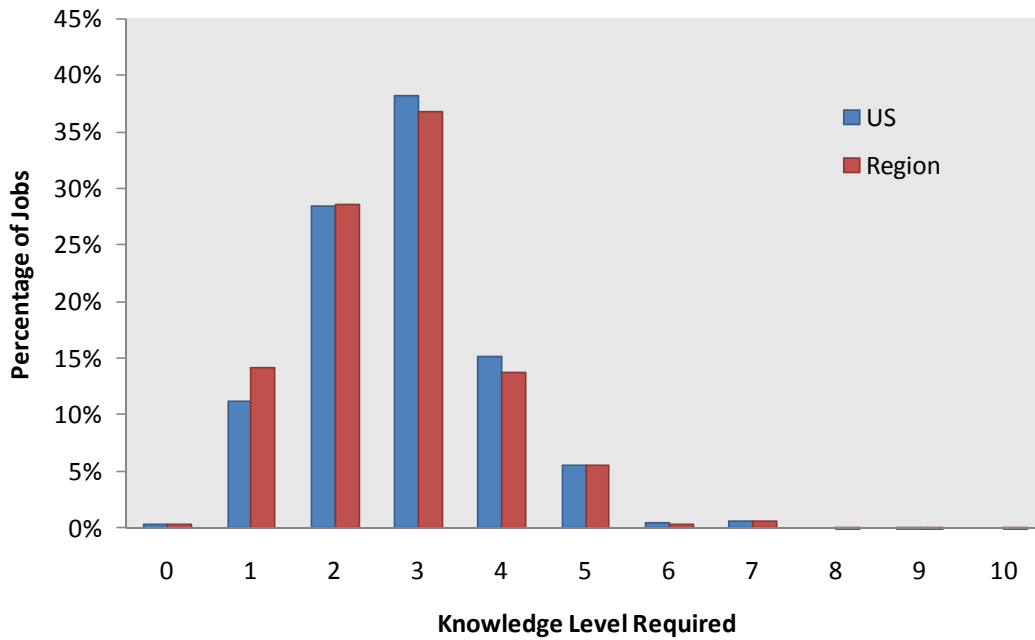
Law and Government



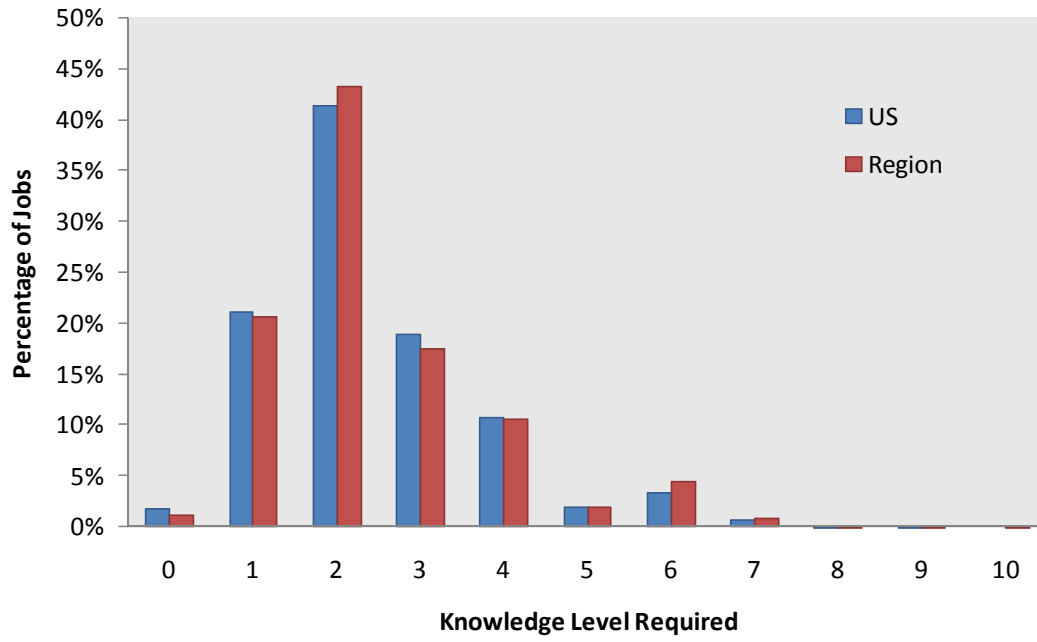
Telecommunications



Communications and Media



Transportation



Appendix C: County Commuting Patterns

Commute Shed Report -- Where Workers are Employed who Live in Cherokee County, Iowa

Total All Jobs

	2006	
	Count	Share
Total All Jobs	5,711	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Cherokee, Iowa	2,423	42.4%
Marcus, Iowa	287	5.0%
Storm Lake, Iowa	261	4.6%
Sioux City, Iowa	256	4.5%
Le Mars, Iowa	184	3.2%
Aurelia, Iowa	170	3.0%
Des Moines, Iowa	141	2.5%
Holstein, Iowa	107	1.9%
Orange City, Iowa	81	1.4%
West Des Moines, Iowa	69	1.2%
All Other Locations	1,732	30.3%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Cherokee Co., Iowa	3,345	58.6%
Buena Vista Co., Iowa	376	6.6%
Woodbury Co., Iowa	313	5.5%
Polk Co., Iowa	311	5.4%
Plymouth Co., Iowa	253	4.4%
Ida Co., Iowa	165	2.9%
Sioux Co., Iowa	160	2.8%
O'Brien Co., Iowa	93	1.6%
Story Co., Iowa	47	0.8%
Webster Co., Iowa	39	0.7%
All Other Locations	609	10.7%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Iowa	5,628	98.5%
Nebraska	49	0.9%
South Dakota	10	0.2%
Minnesota	5	0.1%
Illinois	3	0.1%
All Other Locations	16	0.3%

Commute Shed Report -- Where Workers are Employed who Live in Crawford County, IA

Total All Jobs

	2006	
	Count	Share
Total All Jobs	7,950	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Denison, Iowa	3,654	46.0%
Carroll, Iowa	316	4.0%
Sioux City, Iowa	179	2.3%
Des Moines, Iowa	167	2.1%
Council Bluffs, Iowa	162	2.0%
Ida Grove, Iowa	146	1.8%
Storm Lake, Iowa	142	1.8%
Manilla, Iowa	119	1.5%
Harlan, Iowa	111	1.4%
Ames, Iowa	92	1.2%
All Other Locations	2,862	36.0%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Crawford Co., Iowa	4,635	58.3%
Carroll Co., Iowa	543	6.8%
Polk Co., Iowa	393	4.9%
Shelby Co., Iowa	203	2.6%
Woodbury Co., Iowa	197	2.5%
Pottawattamie Co., Iowa	180	2.3%
Ida Co., Iowa	160	2.0%
Harrison Co., Iowa	154	1.9%
Buena Vista Co., Iowa	147	1.8%
Dallas Co., Iowa	121	1.5%
All Other Locations	1,217	15.3%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Iowa	7,781	97.9%
Nebraska	139	1.7%
Missouri	7	0.1%
South Dakota	4	0.1%
Minnesota	4	0.1%
All Other Locations	15	0.2%

Commute Shed Report -- Where Workers are Employed who Live in Ida County, IA

Total All Jobs

	2006	
	Count	Share
Total All Jobs	3,654	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Ida Grove, Iowa	1,233	33.7%
Holstein, Iowa	570	15.6%
Sioux City, Iowa	148	4.1%
Battle Creek, Iowa	136	3.7%
Cherokee, Iowa	98	2.7%
Storm Lake, Iowa	95	2.6%
Denison, Iowa	76	2.1%
Des Moines, Iowa	67	1.8%
Galva, Iowa	63	1.7%
West Des Moines, Iowa	37	1.0%
All Other Locations	1,131	31.0%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Ida Co., Iowa	2,173	59.5%
Woodbury Co., Iowa	241	6.6%
Polk Co., Iowa	149	4.1%
Cherokee Co., Iowa	137	3.7%
Sac Co., Iowa	127	3.5%
Buena Vista Co., Iowa	123	3.4%
Crawford Co., Iowa	114	3.1%
Monona Co., Iowa	59	1.6%
Story Co., Iowa	49	1.3%
Carroll Co., Iowa	36	1.0%
All Other Locations	446	12.2%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Iowa	3,628	99.3%
Nebraska	12	0.3%
South Dakota	3	0.1%
Missouri	3	0.1%
Minnesota	2	0.1%
All Other Locations	6	0.2%

Commute Shed Report -- Where Workers are Employed who Live in Monona County, IA

Total All Jobs

	2006	
	Count	Share
Total All Jobs	4,184	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Onawa, Iowa	1,109	26.5%
Sioux City, Iowa	470	11.2%
Mapleton, Iowa	324	7.7%
Whiting, Iowa	205	4.9%
Des Moines, Iowa	112	2.7%
Denison, Iowa	108	2.6%
Omaha, Nebraska	82	2.0%
Sergeant Bluff, Iowa	80	1.9%
Council Bluffs, Iowa	73	1.7%
Ida Grove, Iowa	64	1.5%
All Other Locations	1,557	37.2%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Monona Co., Iowa	1,915	45.8%
Woodbury Co., Iowa	736	17.6%
Polk Co., Iowa	241	5.8%
Crawford Co., Iowa	166	4.0%
Harrison Co., Iowa	137	3.3%
Pottawattamie Co., Iowa	89	2.1%
Douglas Co., Nebraska	87	2.1%
Ida Co., Iowa	74	1.8%
Dakota Co., Nebraska	60	1.4%
Carroll Co., Iowa	43	1.0%
All Other Locations	636	15.2%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Iowa	3,884	92.8%
Nebraska	250	6.0%
South Dakota	33	0.8%
Minnesota	5	0.1%
Kansas	3	0.1%
All Other Locations	9	0.2%

**Commute Shed Report -- Where Workers are Employed who Live in
Plymouth County, IA**

Total All Jobs

	2006	
	Count	Share
Total All Jobs	12,900	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Le Mars, Iowa	5,115	39.7%
Sioux City, Iowa	2,302	17.8%
Remsen, Iowa	466	3.6%
Akron, Iowa	461	3.6%
Orange City, Iowa	338	2.6%
Des Moines, Iowa	279	2.2%
Kingsley, Iowa	223	1.7%
Sioux Center, Iowa	208	1.6%
West Des Moines, Iowa	136	1.1%
South Sioux City, Nebraska	131	1.0%
All Other Locations	3,241	25.1%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Plymouth Co., Iowa	7,030	54.5%
Woodbury Co., Iowa	2,508	19.4%
Sioux Co., Iowa	769	6.0%
Polk Co., Iowa	577	4.5%
Union Co., South Dakota	245	1.9%
Dakota Co., Nebraska	211	1.6%
Cherokee Co., Iowa	132	1.0%
Story Co., Iowa	123	1.0%
O'Brien Co., Iowa	94	0.7%
Cerro Gordo Co., Iowa	88	0.7%
All Other Locations	1,123	8.7%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Iowa	12,323	95.5%
Nebraska	284	2.2%
South Dakota	247	1.9%
Minnesota	17	0.1%
Missouri	9	0.1%
All Other Locations	20	0.2%

Commute Shed Report -- Where Workers are Employed who Live in Woodbury County, IA

Total All Jobs

	2006	
	Count	Share
Total All Jobs	50,806	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Sioux City, Iowa	30,533	60.1%
South Sioux City, Nebraska	2,378	4.7%
Sergeant Bluff, Iowa	1,835	3.6%
North Sioux City, South Dakota	1,412	2.8%
Le Mars, Iowa	1,211	2.4%
Des Moines, Iowa	570	1.1%
Council Bluffs, Iowa	534	1.1%
Moville, Iowa	317	0.6%
Omaha, Nebraska	313	0.6%
Sioux Falls, South Dakota	296	0.6%
All Other Locations	11,407	22.5%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Woodbury Co., Iowa	34,415	67.7%
Dakota Co., Nebraska	4,883	9.6%
Union Co., South Dakota	3,133	6.2%
Plymouth Co., Iowa	1,676	3.3%
Polk Co., Iowa	1,064	2.1%
Pottawattamie Co., Iowa	590	1.2%
Sioux Co., Iowa	342	0.7%
Douglas Co., Nebraska	323	0.6%
Monona Co., Iowa	287	0.6%
Minnehaha Co., South Dakota	276	0.5%
All Other Locations	3,817	7.5%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Iowa	41,017	80.7%
Nebraska	5,999	11.8%
South Dakota	3,630	7.1%
Minnesota	49	0.1%
Missouri	25	0.0%
All Other Locations	86	0.2%

Commute Shed Report -- Where Workers are Employed who Live in Dakota County, NE

Total All Jobs

	2006	
	Count	Share
Total All Jobs	10,479	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Sioux City, Iowa	3,366	32.1%
South Sioux City, Nebraska	2,271	21.7%
Omaha, Nebraska	299	2.9%
Lincoln, Nebraska	253	2.4%
North Sioux City, South Dakota	243	2.3%
Sergeant Bluff, Iowa	200	1.9%
Dakota City, Nebraska	142	1.4%
Le Mars, Iowa	125	1.2%
Winnebago, Nebraska	98	0.9%
Norfolk, Nebraska	86	0.8%
All Other Locations	3,396	32.4%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Dakota Co., Nebraska	4,400	42.0%
Woodbury Co., Iowa	3,680	35.1%
Union Co., South Dakota	524	5.0%
Douglas Co., Nebraska	323	3.1%
Lancaster Co., Nebraska	256	2.4%
Thurston Co., Nebraska	205	2.0%
Madison Co., Nebraska	170	1.6%
Plymouth Co., Iowa	166	1.6%
Dixon Co., Nebraska	110	1.0%
Wayne Co., Nebraska	77	0.7%
All Other Locations	568	5.4%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Nebraska	5,947	56.8%
Iowa	3,923	37.4%
South Dakota	584	5.6%
Kansas	5	0.0%
Missouri	4	0.0%
All Other Locations	16	0.2%

Commute Shed Report -- Where Workers are Employed who Live in Dixon County, NE

Total All Jobs

	2006	
	Count	Share
Total All Jobs	2,579	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Wakefield, Nebraska	512	19.9%
Sioux City, Iowa	323	12.5%
Ponca, Nebraska	220	8.5%
Wayne, Nebraska	206	8.0%
South Sioux City, Nebraska	107	4.1%
Omaha, Nebraska	102	4.0%
Vermillion, South Dakota	70	2.7%
Emerson, Nebraska	70	2.7%
Lincoln, Nebraska	65	2.5%
Norfolk, Nebraska	49	1.9%
All Other Locations	855	33.2%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Dixon Co., Nebraska	884	34.3%
Woodbury Co., Iowa	358	13.9%
Wayne Co., Nebraska	324	12.6%
Dakota Co., Nebraska	222	8.6%
Douglas Co., Nebraska	112	4.3%
Thurston Co., Nebraska	91	3.5%
Cedar Co., Nebraska	82	3.2%
Clay Co., South Dakota	72	2.8%
Madison Co., Nebraska	67	2.6%
Lancaster Co., Nebraska	65	2.5%
All Other Locations	302	11.7%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Nebraska	2,057	79.8%
Iowa	389	15.1%
South Dakota	118	4.6%
Arkansas	3	0.1%
Texas	2	0.1%
All Other Locations	10	0.4%

**Commute Shed Report -- Where Workers are Employed who Live in
Thurston County, NE**

Total All Jobs

	2006	
	Count	Share
Total All Jobs	2,058	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Pender, Nebraska	272	13.2%
Winnebago, Nebraska	201	9.8%
Macy, Nebraska	161	7.8%
Walthill, Nebraska	157	7.6%
Lincoln, Nebraska	89	4.3%
Kearney, Nebraska	85	4.1%
Omaha, Nebraska	74	3.6%
Sioux City, Iowa	54	2.6%
Emerson, Nebraska	54	2.6%
Wayne, Nebraska	44	2.1%
All Other Locations	867	42.1%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Thurston Co., Nebraska	878	42.7%
Cuming Co., Nebraska	224	10.9%
Buffalo Co., Nebraska	112	5.4%
Douglas Co., Nebraska	100	4.9%
Dakota Co., Nebraska	93	4.5%
Lancaster Co., Nebraska	91	4.4%
Wayne Co., Nebraska	74	3.6%
Woodbury Co., Iowa	69	3.4%
Dixon Co., Nebraska	41	2.0%
Monona Co., Iowa	38	1.8%
All Other Locations	338	16.4%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
Nebraska	1,892	91.9%
Iowa	128	6.2%
South Dakota	24	1.2%
Kansas	3	0.1%
Illinois	3	0.1%
All Other Locations	8	0.4%

Commute Shed Report -- Where Workers are Employed who Live in Clay County, SD

Total All Jobs

	2006	
	Count	Share
Total All Jobs	5,291	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Vermillion, South Dakota	3,086	58.3%
Sioux Falls, South Dakota	599	11.3%
Yankton, South Dakota	294	5.6%
Sioux City, Iowa	145	2.7%
North Sioux City, South Dakota	81	1.5%
Elk Point, South Dakota	75	1.4%
Beresford, South Dakota	61	1.2%
Viborg, South Dakota	55	1.0%
Alcester, South Dakota	46	0.9%
Irene, South Dakota	41	0.8%
All Other Locations	808	15.3%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Clay Co., South Dakota	3,310	62.6%
Minnehaha Co., South Dakota	609	11.5%
Yankton Co., South Dakota	407	7.7%
Union Co., South Dakota	363	6.9%
Woodbury Co., Iowa	146	2.8%
Turner Co., South Dakota	97	1.8%
Lincoln Co., South Dakota	95	1.8%
Sioux Co., Iowa	33	0.6%
Plymouth Co., Iowa	29	0.5%
Hutchinson Co., South Dakota	27	0.5%
All Other Locations	175	3.3%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
South Dakota	4,971	94.0%
Iowa	230	4.3%
Nebraska	51	1.0%
Minnesota	35	0.7%
Kansas	2	0.0%
All Other Locations	2	0.0%

Commute Shed Report -- Where Workers are Employed who Live in Union County, SD

Total All Jobs

	2006	
	Count	Share
Total All Jobs	5,597	100.0%

Job counts in Cities/Towns Where Workers are Employed

	2006	
	Count	Share
Sioux City, Iowa	960	17.2%
North Sioux City, South Dakota	666	11.9%
Sioux Falls, South Dakota	587	10.5%
Beresford, South Dakota	517	9.2%
Elk Point, South Dakota	403	7.2%
Alcester, South Dakota	283	5.1%
Vermillion, South Dakota	228	4.1%
South Sioux City, Nebraska	125	2.2%
Brookings, South Dakota	62	1.1%
Le Mars, Iowa	57	1.0%
All Other Locations	1,709	30.5%

Job counts in Counties Where Workers are Employed

	2006	
	Count	Share
Union Co., South Dakota	2,685	48.0%
Woodbury Co., Iowa	1,024	18.3%
Minnehaha Co., South Dakota	581	10.4%
Lincoln Co., South Dakota	290	5.2%
Clay Co., South Dakota	245	4.4%
Dakota Co., Nebraska	212	3.8%
Plymouth Co., Iowa	114	2.0%
Sioux Co., Iowa	108	1.9%
Yankton Co., South Dakota	67	1.2%
Brookings Co., South Dakota	66	1.2%
All Other Locations	205	3.7%

Job counts in States Where Workers are Employed

	2006	
	Count	Share
South Dakota	4,043	72.2%
Iowa	1,290	23.0%
Nebraska	232	4.1%
Minnesota	21	0.4%
Illinois	2	0.0%
All Other Locations	9	0.2%

Labor Shed Report -- Where Workers Live who are Employed in Woodbury County, IA, Dakota County, Ne, and Union County, SD

Total All Jobs

	2006	
	Count	Share
Total All Jobs	70,562	100.0%

Job counts in Cities/Towns Where Workers Live

	2006	
	Count	Share
Sioux City, Iowa	35,496	50.3%
South Sioux City, Nebraska	5,584	7.9%
Sergeant Bluff, Iowa	1,508	2.1%
Norfolk, Nebraska	903	1.3%
North Sioux City, South Dakota	899	1.3%
Le Mars, Iowa	734	1.0%
Dakota City, Nebraska	719	1.0%
Moville, Iowa	613	0.9%
Elk Point, South Dakota	485	0.7%
Des Moines, Iowa	461	0.7%
All Other Locations	23,160	32.8%

Job counts in Counties Where Workers Live

	2006	
	Count	Share
Woodbury Co., Iowa	42,431	60.1%
Dakota Co., Nebraska	8,604	12.2%
Union Co., South Dakota	3,921	5.6%
Plymouth Co., Iowa	2,964	4.2%
Madison Co., Nebraska	1,181	1.7%
Polk Co., Iowa	851	1.2%
Monona Co., Iowa	829	1.2%
Dixon Co., Nebraska	617	0.9%
Clay Co., South Dakota	531	0.8%
Douglas Co., Nebraska	466	0.7%
All Other Locations	8,167	11.6%

Job counts in States Where Workers Live

	2006	
	Count	Share
Iowa	51,746	73.3%
Nebraska	12,649	17.9%
South Dakota	5,876	8.3%
Minnesota	85	0.1%
Kansas	34	0.0%
All Other Locations	172	0.2%