

# Measuring Iowa's Economy: Income

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## Introduction

After going through the deepest recession since the 1930s, the United States economy continues to work its way back to prosperity. Although not as badly damaged as the economies of many other states, Iowa's economy has not yet fully recovered from the recession. But what does it mean to say the recovery is not complete? Or at an even more basic level, what is the appropriate basis for comparison?

Studies of an area's economic condition most frequently reference measures of output, income, and employment. This paper is the second of four papers that address the issue of what story different measures of economic activity tell about Iowa. This paper focuses on the measure of income. The first paper addressed measuring Iowa's economy in terms of output. The next paper will address employment. A final paper will analyze relationships among the three measures.

The first paper used real gross domestic product data from the years 2000 through 2011 to analyze overall state economic growth in output and the output growth of 20 business sectors for Iowa. In addition, the paper presented overall and sector output comparisons with eleven other states that comprise the Great Lakes (Illinois, Indiana, Michigan, Ohio, and Wisconsin) and Plains (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota) regions of the United States. Furthermore, after looking at output growth over the entire twelve year period the paper analyzed the cyclic changes in growth associated with the March to November 2001 and the December 2007 to June 2009 recessions.

This paper uses personal income data compiled by the U.S. Department of Commerce's Bureau of Economic Analysis (BEA) to do analysis similar to that previously done using real gross domestic product data. As before, the personal income analysis investigates overall changes and changes by sector for Iowa and the eleven comparison states. Also, the analysis addresses economic changes for the entire twelve years from 2000 to 2011 and for the most recent recession and recovery period from 2007 through 2011. Additional analysis addresses income sources. Finally, the paper addresses differences in changes in personal income among Iowa's counties and among its metropolitan and micropolitan areas.

## State and County Personal Income Data

### Data Sources and Data Classification

The BEA presents both state and county personal income data by major source and by business sector. The data sources are file SA05N for the state data and file CA05N for the county data. Both files are named Personal Income by Major Source and Earnings by NAICS industry. NAICS refers to the North American Industrial Classification System, which was developed jointly by Canada, Mexico, and the United States. The first version of NAICS was released in 1997 and it has been updated three times in 2002, 2007, and 2012, which are years that correspond with the United States Economic Censuses. Prior to 1997 businesses in the United States were classified according to the Standard Industrial Classification (SIC) system.

The state data series used for this analysis begins with the year 1997 and extends through 2011. The county data series begins in 2001 and extends through 2010. Earlier data does exist in which earnings by industry are classified according to the SIC system. For the states these data extend back to 1958 and

for counties back to 1969. Since there is not an exact correspondence between the SIC and NAICS classifications this analysis only covers the years 2000 through 2011 for the states and 2001 through 2010 for counties. The 2011 county data will not be available until May 2013.

For this analysis the earnings by industry data have been compiled for 20 major sectors and two subsector of the manufacturing sector.<sup>1</sup> These sectors and subsectors are presented in Table 1.

**Table 1: Industry Sectors**

PI Line Code	GDP Line Code	NAICS Code	Industry
100	103	11	Agriculture, forestry, fishing, and hunting
200	106	21	Mining
300	110	22	Utilities
400	111	23	Construction
500	112	31 - 33	Manufacturing
510	113		Durable goods manufacturing
530	125		Nondurable goods manufacturing
600	134	42	Wholesale trade
700	135	44 - 45	Retail trade
800	136	48 - 49	Transportation and warehousing
900	145	51	Information
1000	150	52	Finance and insurance
1100	155	53	Real estate and rental and leasing
1200	158	54	Professional, scientific, and technical services
1300	162	55	Management of companies and enterprises
1400	163	56	Administrative and waste management services
1500	166	61	Educational services
1600	167	62	Health care and social assistance
1700	171	71	Arts, entertainment, and recreation
1800	174	72	Accommodation and food services
1900	177	81	Other services, except public administration
2000	178	92	Government and government enterprises

In addition to summarizing earnings by industry sector the BEA personal income data is presented by source of income. Whereas the earnings by sector data is presented by place of work, the source of income data is presented by place of residence. Table 2 shows the different sources of income and the how the conversion is made from earnings by place of work to personal income by place of residence.

The BEA compiles data on five sources of income. They are:

- Wage and salary disbursements,
- Supplements to wages and salaries,
- Proprietors' income,

<sup>1</sup> PI Code refers to the line number in the BEA personal income data, GDP Code refers to the line number in the BEA gross domestic product data, and NAICS Code refers to the first two digits of the North American Industrial Classification System.

- Dividends, interest, and rent, and
- Personal current transfer receipts.

In order to reconcile earnings by place of work with personal income by place of residence a residence adjustment factor is added, which accounts for income earned outside the place of residence.

**Table 2: Sources of Income and Adjustments**

PI Line Code	Income Sources and Adjustments
35	Earnings by place of work
36	less: Contributions for government social insurance
37	Employee and self-employed contributions for government social insurance
38	Employer contributions for government social insurance
42	plus: Adjustment for residence
45	equals: Net earnings by place of residence
46	plus: Dividends, interest, and rent
47	plus: Personal current transfer receipts
	Total personal income by place of residence
	Components of earnings by place of work
50	Wage and salary disbursements
60	Supplements to wages and salaries
61	Employer contributions for employee pension and insurance funds
62	Employer contributions for government social insurance
70	Proprietors' income
71	Farm proprietors' income
72	Nonfarm proprietors' income

Documentation for how the Bureau of Economic Analysis derives the different income source amounts is provided in the publication *State Personal Income and Employment Methodology* (September 2011), which is available on its Internet site.

### Nominal and Real Personal Income

The Bureau of Economic Analysis only provides personal income estimates in current (nominal) dollars. Unlike for the gross domestic product data the BEA does not release an inflation adjusted (real) data series for personal income. However, the analysis of changes in personal income over time requires that the impact of inflation be eliminated. Three alternative methods of inflation adjustment were considered for the personal income data. All three methods reference 2005 as the base year, meaning that the nominal and real values for all personal income categories are equal in that year. The three methods were tested using the place of work earnings values. The methods used place of work rather than place of residence values because two of the methods rely on price deflators derived from gross domestic product data that are compiled based on NAICS industry sectors.

The first method uses chain-weighted price deflators for each of 20 major industry sectors. These price deflators were derived from gross domestic product data by dividing the nominal value by the real value for each sector for each year from 2000 through 2011. Then the nominal earnings data from each of the 20 sectors was divided by the deflators to derive real valued earnings estimates. The nominal source of income values were converted to real values by multiply each by its ratio to the inflation adjusted place of work earnings total for each year.

The second method uses only the chain-weighted price deflators for total gross domestic product. The real values for the 20 sectors were derived by multiplying each sector's share of nominal earnings to the place of work real earnings total. Then, as with the first method, the nominal source of income values were converted to real values by multiply each by its ratio to the inflation adjusted place of work earnings total for each year.

The third method, simply multiplied each industry sector amount and source of income amount by the all urban consumers consumer price index (CPI) normalized to the year 2005.

Table 3 presents nominal total earnings for all industries along with the real value estimates generated by the three conversion methodologies. In addition, the table presents ratios of each real value estimate to the nominal values for total earnings for all industries for each year from 2000 through 2011.

**Table 3: Nominal and Real Personal Income (\$ thousands)**

Year	Nominal All Industry Earnings	Ratios to Nominal Values					
		Method 1	Method 2	Method 3	Method 1	Method 2	Method 3
2000	\$59,449,227	\$68,200,729	\$67,111,011	\$67,415,863	1.1472	1.1289	1.1340
2001	\$60,563,790	\$67,347,929	\$66,426,318	\$66,798,328	1.1120	1.0968	1.1029
2002	\$62,362,240	\$68,059,181	\$67,132,524	\$67,701,621	1.0914	1.0765	1.0856
2003	\$65,364,103	\$69,541,034	\$68,841,881	\$69,366,589	1.0639	1.0532	1.0612
2004	\$71,552,108	\$73,089,830	\$72,949,956	\$73,960,687	1.0215	1.0195	1.0337
2005	\$73,677,061	\$73,677,061	\$73,677,061	\$73,677,061	1.0000	1.0000	1.0000
2006	\$76,189,870	\$74,193,084	\$74,402,073	\$73,811,842	0.9738	0.9765	0.9688
2007	\$80,162,184	\$75,138,836	\$75,829,756	\$75,493,041	0.9373	0.9460	0.9418
2008	\$84,850,703	\$77,330,746	\$78,368,568	\$76,971,695	0.9114	0.9236	0.9071
2009	\$82,161,952	\$73,368,600	\$74,110,779	\$74,772,297	0.8930	0.9020	0.9101
2010	\$84,489,135	\$74,622,987	\$75,633,496	\$75,649,127	0.8832	0.8952	0.8954
2011	\$90,376,507	\$76,575,267	\$78,008,321	\$78,455,520	0.8473	0.8631	0.8681

The differences among the estimates, exclusive of the base year, range from 0.80% in 2006 to 2.43% in 2011. The logic behind considering either of the chain-weighted dollar methodologies rest with the need to develop relationships between personal income and gross domestic product data in the fourth paper of this series.

At the end of 1995 the BEA started using the chain-weighted method for converting nominal to real values in order to better reflect changes in the structure of the nation's economy. Prior to that time a

fixed-base-year method was used. One disadvantage of the chain-weighted method is that price deflators are developed separately for each sector of the economy. As a result, the sum of the sector real values does not add to the real value for all industries. In addition, the chain-weighted method makes it difficult to precisely determine the contribution of each sector to changes in the overall economy.<sup>2</sup>

The second method, which converts the all industries series from nominal to real values using price deflators derived from total gross state product data, provides a middle ground between the complete chain-weighted method (Method 1) and the fixed-base-year method (Method 3), which uses the consumer price index to convert nominal to real values. Therefore, this analysis uses Method 2 to convert the nominal valued personal income data published by the BEA to real values. Unless noted otherwise all of the analysis in this paper is done in terms of real values.

## Iowa Earnings Trends and Cycles

Between 2000 and 2011 both Iowa and the nation experienced two recessions. The first, which lasted from March 2001 to November 2001, caused by the bursting of the dot.com bubble barely qualified as a recession with the nation's gross domestic product contracting by only 0.3 percent. The second, caused by a near collapse of the nation's and much of the world's financial sector, resulted in the output of the United States economy contracting by 5.1 percent, and was the most severe since the 1945 recession following the end of World War II and the Great Depression of the 1930s. Due to its severity this most recent recession has become known as the Great Recession.

The first part of this analysis focuses on personal income by place of work, or earnings. Comparable to the analysis presented in the first paper of this series on measuring Iowa's economy, the place of work analysis investigates earnings by industry sector. This permits comparisons among industry sectors and to other states similar to the industry output analysis done in the prior paper.

The earnings of workers and proprietors constitute one of the major components of economic output as measured by gross domestic product. Figure 1 shows this relationship in two ways for Iowa by year from 2000 through 2011. First, the bars show the nominal values of earnings by place of work and gross domestic product. Second, the line graph shows the ratio of earnings-to-gross domestic product.

Earnings by place of work account for only a portion of total personal income, which the BEA reports by place of residence. The three major components of earnings include wage and salary disbursements, supplements to wages and salaries, and proprietors' income. The supplements to wages and salaries consist of two parts, which are employer contributions for employee pension and insurance funds and employer contributions for government social insurance. Also, the BEA divides proprietors' income between farm and non-farm business owners.

Excluded from earnings by place of work are dividends, interest and rent income and personal current transfer receipts. In addition, the adjustment for non-resident income is not factored into the allocation of earnings by industry sector. Analysis of these additional components of personal income is addressed later in the paper.

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<sup>2</sup> Charles Steindel, "Chain-weighting: The New Approach to Measuring GDP," Current Issues in Economics and Finance, Volume 1 Number 9 (Federal Reserve Bank of New York, December 1995).

Prior to both recessions there was an uptick in the ratio of earnings-to-GDP. These reflect the fact that when an economy begins to contract decreases in output precede workforce reductions. From 2001 to 2007 the ratio of earnings-to-GDP dropped from 64.36% to 59.80%, or by 7.09%. Not enough time has elapsed to allow a meaningful observation on changes in the ratio subsequent to 2007.

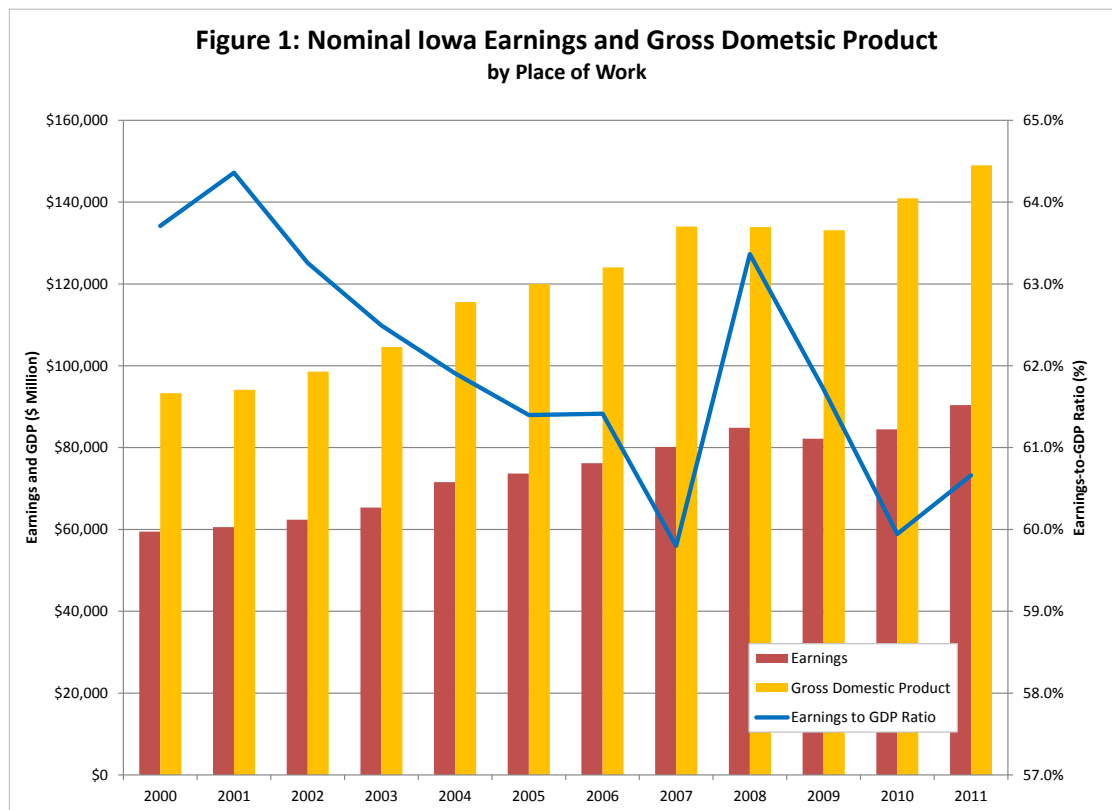
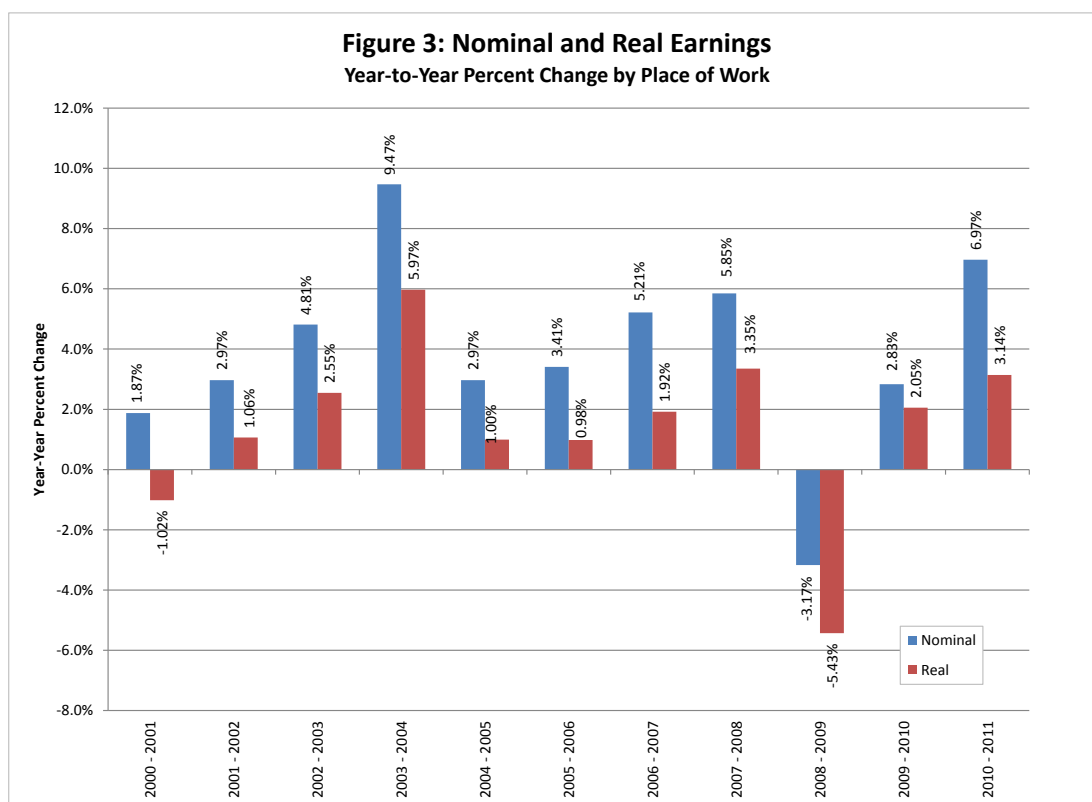
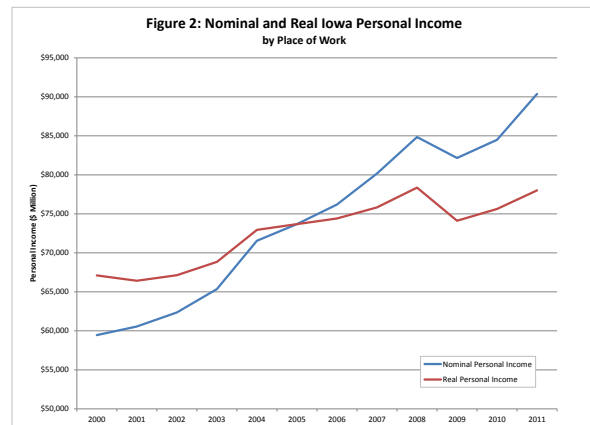


Figure 2 shows nominal and real personal income by place of work. The two graphs cross at 2005, which is the base year for the inflation adjustments. Over the twelve year period Iowa nominal personal income by place of work, or earnings, increased by 52.02%. In real dollars earnings increased by 16.24%. In comparison, Iowa nominal GDP over this period increased by 59.66% and real GDP increased by 22.08%. The average annual nominal and real earnings growth rates over the period equal 3.88% and 1.38%, respectively.

Corresponding to the decline and recovery of economic activity associated with the two recessions, Figure 3 shows year-to-year percent changes in nominal and real earnings for all industries in Iowa. This is comparable to the change pattern for economic output. Earnings in real dollars experienced a modest decrease in 2001 followed by increases each year through 2004. Then growth in earnings stalled from 2005 through 2007 followed by a slight uptick in 2008 before a steep drop in 2009. The past two years real earnings growth for all industries in Iowa has returned to above average levels.

The comparison between the nominal and real year-to-year percent changes in earnings yield some interesting observations. First, the 2001 recession was not adequately severe as to cause nominal earnings to decrease. Second, the decrease in real earnings associated with the Great Recession was over five times as large as for the 2001 recession. Third, for 2010 the small difference between the growth rates for nominal and real earnings indicates a very low rate of inflation coming out of the recession, but the following year inflation seemed to take a substantial jump.



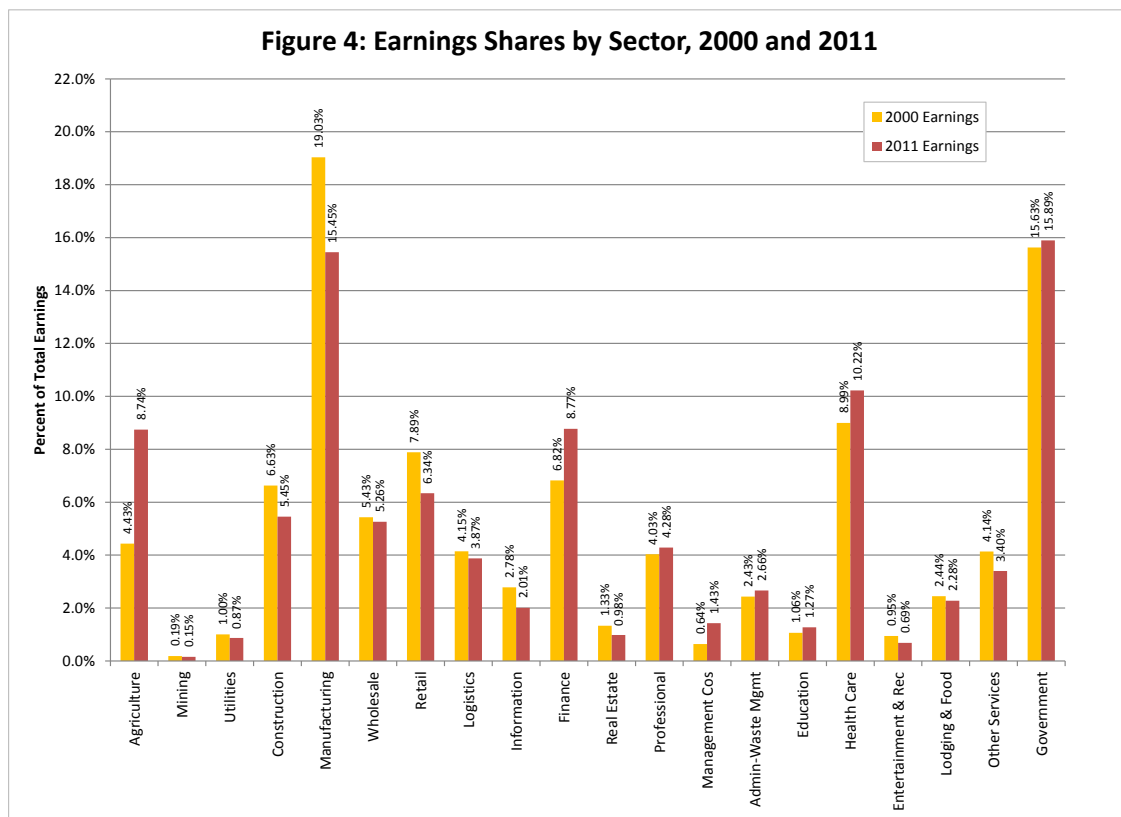
## Iowa Earnings by Industry Sector

### Earnings Shares by Sector

The analysis of earnings by major sector over the twelve years provides a sense of the relative importance of the different sectors and insight into changes in the structure of the Iowa economy. Looking at the most recent data, the five sectors that account for the highest shares of earnings during 2011 are government (15.89%), manufacturing (15.45%), health care and social assistance (10.22%), finance and insurance (8.77%), and agriculture, forestry, fishing and hunting (8.74%). These five sectors



account for 59.07% of total earnings in 2011. This is up from a combined share of 54.90% in 2000. Figure 4 shows the 2000 and 2011 earnings shares for the twenty major sectors of the Iowa economy.



Between 2000 and 2011 eight of the sectors increased their shares of total earnings. Among the five largest sectors four increased their shares of total earnings. The agricultural sector's share almost doubled from 4.43% to 8.74%. The finance and insurance sector's share increased from 6.82% to 8.77%. The health care and social assistance sector's share increased from 8.99% to 10.22%. The government sector's share increased slightly from 15.63% to 15.89%. On the other hand, manufacturing's share of total earnings decreased from 19.03% to 15.45%, which is almost a 20 percent decrease.

Changes in the shares of earnings among the twenty sectors yield some noteworthy observations.

- First, in addition to the manufacturing sector's large decrease in its share of total earnings this sector dropped from the largest to second largest sector according to this measure. Previous analysis of economic output by sector found that not only did the manufacturing sector maintain its top ranking by that measure, but it slightly increased its output share. This implies a large increase in productivity within the manufacturing sector.
- Second, over all twelve years the finance and insurance sector's share of earnings was substantially less than the sector's share of output. This implies that financial sector jobs are relatively low paying.
- Third, the health care sector's share of earnings exceeded the sector's share of output every one of the twelve years, which implies this sector offers relatively high paying jobs.

- Fourth, the government sector's share of earnings exceeded the sector's share of output every year and the difference increased over the twelve years. However, because output from the government sector is measured differently than for private sectors it is not possible to provide a definitive explanation for the difference without more in-depth study of the sector.<sup>3</sup> Nevertheless, one likely explanation is that government outputs are undervalued. For example, over the past decade a whole range of new Internet based services have been rolled out by government entities. These services often require fewer but more highly skilled workers than previous more manual service delivery methods.

Among the sectors that experienced decreases in their share of earnings the most notable include construction, wholesales trade, retail trade, logistics (transportation and warehousing), information services, and lodging and food services. With the exception of the information services sector, the earnings share decreases are most likely due to the recent recession as these sectors depend heavily on consumer spending. However, it appears some other factors also may be affecting the retail trade sector since its share of earnings has been in decline most of the period. The decrease in earnings share for the information services sector similarly appears to be due to more than the recent recession. Most likely the decrease in earnings for this sector reflects disruptions for traditional media businesses caused by the growing prominence of the Internet as an advertising and communications vehicle.

The top part of Table 4 provides inflation adjusted earnings for the twenty major 2-digit NAICS sectors and for the durable goods and non-durable goods manufacturing subsectors for each year from 2000 through 2011. The bottom part of the table provides earnings shares for the same sectors and years.

#### Change in Earnings by Sector

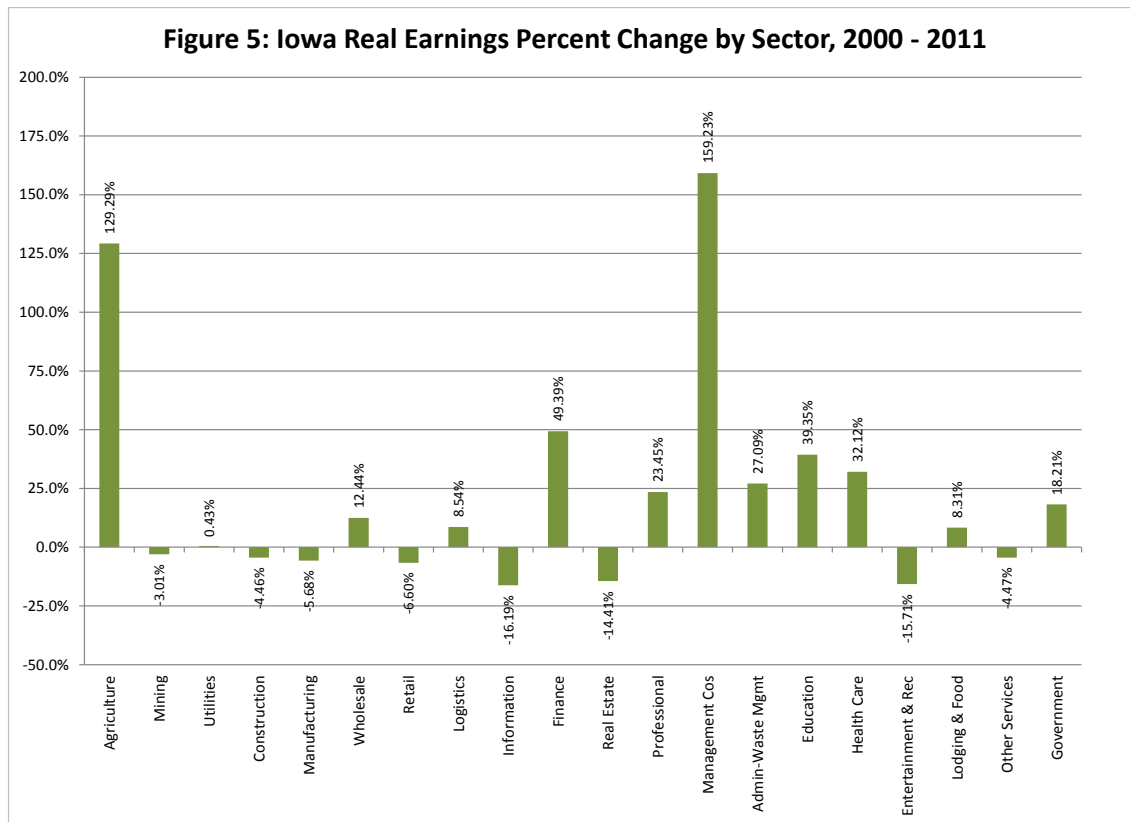
Figure 5 shows the percent changes in real earnings by sector from 2000 to 2011. Table 5 presents year-to-year change (top) and percent change (bottom) for all industries and by major sector. In addition the table presents change and percent change statistics for the entire twelve year period.

Over the twelve years earnings for all sectors increased from \$59.449 billion to \$90.377 billion in nominal dollars, or by \$30.927 billion (52.02%). When adjusted for inflation the increase equaled \$10.897 billion (16.24%). Some of the most notable findings revealed for the different sectors include:

- The management of companies and enterprises sector realized the greatest percentage growth in earnings over the entire period. This sector consists of bank holding companies, other types of holding companies, and companies that provide administrative, strategic planning, and management services to subsidiaries of parent companies. Real earnings for this sector increased by \$685 million (159.23%). The enactment in 1999 of the Gramm-Leach-Bliley Act, which allowed bank holding companies (BHCs) to convert to financial holding companies (FHCs) and expand the scope of financial services and products that could be offered by a single corporate entity, provides at least a partial explanation for this high rate of growth.

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<sup>3</sup> Output for the government sector is measured as the cost of providing services by this sector. For private sectors output is measured as the value of products and services produced minus their input costs, or as the value-added by businesses comprising these sectors.



- The agricultural sector experienced the second highest rate of growth and the highest dollar amount of earnings growth. In real dollars earnings jumped by \$3.846 billion (129.29%) and accounted for 35.29% of total earnings growth for the period. This growth in earnings parallels increases in crop prices and land values. For example, from 2000 to 2011 the average price of cropland increased from \$2,093 to \$5,921 per acre (182.90%) in inflation adjusted dollars.<sup>4</sup>
- The finance and insurance sector experienced the third highest percentage increase in worker and proprietor earnings, which increased by \$2.262 billion (49.39%) in inflation adjusted dollars. This increase equaled 20.76% of the total earnings increase for the State. Factors that likely contributed to this sector's growth include the expansion of Wells Fargo Home Mortgage and Financial operations, the merger of Allied Insurance with Nationwide in 1998, and the purchase of AmerUs Group in 2006 by Aviva, which made the Des Moines area its North American headquarters.
- Inflation adjusted worker and proprietor earnings for the health care and social insurance sector increased by \$1.939 billion (32.12%), which equaled 17.79% of the total earnings increase.
- Compensation paid by federal, state, and local units of government increased by \$1.910 billion (18.21%) in inflation adjusted dollars, which equaled 17.53% of the total earnings increase for the State.
- The manufacturing sector suffered the largest real dollar decrease in earnings equaling \$726 million (-5.68%). This was likely due to both the loss of manufacturing jobs and reduced work

<sup>4</sup> The source of inflation adjusted farm land values for the State is the Iowa State University Extension Service.

Table 4: Earnings by Sector and Sector Shares, 2000 - 2011

Industry Sectors	Real Earnings by Place of Work (\$2005 millions)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
All industry total	67,111	66,426	67,133	68,842	72,950	73,677	74,402	75,830	78,369	74,111	75,633	78,008
Private industries	56,622	55,718	56,262	57,629	61,611	62,029	62,526	63,749	65,849	61,332	62,862	65,609
Agriculture, forestry, fishing, and hunting	2,975	2,685	2,478	2,762	5,195	4,220	3,247	4,086	5,881	4,736	4,656	6,820
Mining	125	116	117	110	124	131	139	133	129	115	114	121
Utilities	672	693	752	691	727	648	670	682	733	689	669	675
Construction	4,449	4,402	4,489	4,604	4,825	5,036	5,217	4,988	4,863	4,366	4,292	4,251
Manufacturing	12,774	12,287	12,012	12,174	12,493	12,809	12,965	12,849	13,041	11,395	11,916	12,048
Durable goods	8,177	7,775	7,473	7,655	7,879	8,168	8,290	8,211	8,037	6,834	7,272	7,521
Nondurable goods	4,597	4,512	4,539	4,519	4,613	4,641	4,675	4,639	5,004	4,561	4,645	4,527
Wholesale trade	3,647	3,544	3,568	3,599	3,742	3,912	3,976	4,092	4,103	3,924	4,006	4,101
Retail trade	5,294	5,162	5,232	5,290	5,224	5,154	5,115	5,033	4,905	4,902	4,964	4,944
Transportation and warehousing (logistics)	2,783	2,665	2,704	2,823	2,969	3,088	3,138	3,229	3,093	2,933	3,006	3,020
Information	1,866	1,776	1,640	1,675	1,711	1,686	1,716	1,674	1,761	1,605	1,589	1,564
Finance and insurance	4,580	4,746	5,116	5,334	5,590	5,895	6,348	6,479	6,517	6,378	6,748	6,842
Real estate and rental and leasing	891	870	907	928	920	913	826	690	662	659	670	763
Professional, scientific, and technical services	2,706	2,716	2,646	2,656	2,776	2,844	3,036	3,255	3,408	3,134	3,264	3,340
Management of companies and enterprises	430	479	522	699	734	865	953	1,062	1,032	981	986	1,115
Administrative and waste management services	1,633	1,798	1,753	1,804	1,830	1,889	1,976	2,037	2,049	1,986	2,146	2,076
Educational services	712	791	839	851	892	888	921	929	977	988	1,003	992
Health care and social assistance	6,035	6,367	6,610	6,800	7,002	7,111	7,268	7,403	7,775	7,732	7,885	7,974
Arts, entertainment, and recreation	635	597	644	608	586	553	601	593	541	519	533	535
Accommodation and food services	1,640	1,595	1,625	1,668	1,711	1,731	1,747	1,809	1,799	1,698	1,759	1,776
Other services, except government	2,775	2,429	2,608	2,554	2,559	2,655	2,668	2,727	2,580	2,593	2,653	2,651
Government	10,489	10,708	10,871	11,213	11,338	11,648	11,876	12,080	12,519	12,778	12,772	12,399

Industry Sectors	Real Earnings by Place of Work Shares (%)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
All industry total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Private industries	84.37%	83.88%	83.81%	83.71%	84.46%	84.19%	84.04%	84.07%	84.03%	82.76%	83.11%	84.11%
Agriculture, forestry, fishing, and hunting	4.43%	4.04%	3.69%	4.01%	7.12%	5.73%	4.36%	5.39%	7.50%	6.39%	6.16%	8.74%
Mining	0.19%	0.17%	0.17%	0.16%	0.17%	0.18%	0.19%	0.17%	0.16%	0.15%	0.15%	0.15%
Utilities	1.00%	1.04%	1.12%	1.00%	1.00%	0.88%	0.90%	0.90%	0.94%	0.93%	0.88%	0.87%
Construction	6.63%	6.63%	6.69%	6.69%	6.61%	6.84%	7.01%	6.58%	6.21%	5.89%	5.68%	5.45%
Manufacturing	19.03%	18.50%	17.89%	17.68%	17.12%	17.38%	17.43%	16.95%	16.64%	15.38%	15.76%	15.45%
Durable goods	12.18%	11.71%	11.13%	11.12%	10.80%	11.09%	11.14%	10.83%	10.25%	9.22%	9.61%	9.64%
Nondurable goods	6.85%	6.79%	6.76%	6.56%	6.32%	6.30%	6.28%	6.12%	6.39%	6.15%	6.14%	5.80%
Wholesale trade	5.43%	5.34%	5.32%	5.23%	5.13%	5.31%	5.34%	5.40%	5.24%	5.29%	5.30%	5.26%
Retail trade	7.89%	7.77%	7.79%	7.68%	7.16%	7.00%	6.87%	6.64%	6.26%	6.61%	6.56%	6.34%
Transportation and warehousing (logistics)	4.15%	4.01%	4.03%	4.10%	4.07%	4.19%	4.22%	4.26%	3.95%	3.96%	3.97%	3.87%
Information	2.78%	2.67%	2.44%	2.43%	2.35%	2.29%	2.31%	2.21%	2.25%	2.17%	2.10%	2.01%
Finance and insurance	6.82%	7.14%	7.62%	7.75%	7.66%	8.00%	8.53%	8.54%	8.32%	8.61%	8.92%	8.77%
Real estate and rental and leasing	1.33%	1.31%	1.35%	1.35%	1.26%	1.24%	1.11%	0.91%	0.84%	0.89%	0.89%	0.98%
Professional, scientific, and technical services	4.03%	4.09%	3.94%	3.86%	3.81%	3.86%	4.08%	4.29%	4.35%	4.23%	4.32%	4.28%
Management of companies and enterprises	0.64%	0.72%	0.78%	1.02%	1.01%	1.17%	1.28%	1.40%	1.32%	1.32%	1.30%	1.43%
Administrative and waste management services	2.43%	2.71%	2.61%	2.62%	2.51%	2.56%	2.66%	2.69%	2.61%	2.68%	2.84%	2.66%
Educational services	1.06%	1.19%	1.25%	1.24%	1.22%	1.21%	1.24%	1.23%	1.25%	1.33%	1.33%	1.27%
Health care and social assistance	8.99%	9.59%	9.85%	9.88%	9.60%	9.65%	9.77%	9.76%	9.92%	10.43%	10.43%	10.22%
Arts, entertainment, and recreation	0.95%	0.90%	0.96%	0.88%	0.80%	0.75%	0.81%	0.78%	0.69%	0.70%	0.71%	0.69%
Lodging and food services	2.44%	2.40%	2.42%	2.42%	2.35%	2.35%	2.39%	2.30%	2.29%	2.33%	2.33%	2.28%
Other services, except government	4.14%	3.66%	3.88%	3.71%	3.51%	3.60%	3.59%	3.60%	3.29%	3.50%	3.51%	3.40%
Government	15.63%	16.12%	16.19%	16.29%	15.54%	15.81%	15.96%	15.93%	15.97%	17.24%	16.89%	15.89%

hours. Some of the decrease in manufacturing employment was caused by the recession. However, the fact that manufacturing output in Iowa increased over the twelve years also means a considerable amount of the earnings decrease was caused by structural changes in the economy that have allowed manufacturers to produce the same amount of goods with less workers.

- Earnings for the retail trade sector decreased by \$350 million (-6.60%). In comparison taxable retail sales in Iowa decreased by 9.04% over the period. In addition to the recession, the increase in Internet sales has likely caused sales by traditional retail stores to decline. Furthermore, a number of studies have recently been released that show during the first decade of the 21<sup>st</sup> century the real incomes of most households have declined, which no doubt has adversely impacted retail sales.
- Over the twelve years earnings for the construction sector decreased by only \$198 million (-4.46%). However, from 2006, which was the peak year for earnings for this sector, the decrease equaled \$966 million (-18.52%).
- Earnings in the real estate and leasing sector started decreasing in 2004 well before the Great Recession. Maybe in hindsight this was a sign of things to come. Over the entire twelve years earnings in this sector decreased by \$128 million (-14.41%) in inflation adjusted dollars. However, over the past two years earnings in this sector have been growing again.

The earnings by place of work data published by the BEA do not provide any details on the distribution of earnings between workers and proprietors by sector. However, statewide data do provide some insight into changes among the different sources of income.

## Iowa Sources of Income

The sources of income data includes all income and is compiled by place of residence rather than place of work. In nominal dollars total Iowa personal income increased from \$79.920 billion in 2000 to \$123.933 billion in 2011, or by \$44.013 billion (55.07%). Adjusting for inflation the increase in terms of 2005 chain-weighted dollars equaled \$16.753 billion (18.57%).

Table 6 summarizes the Iowa personal income data by source for the years 2000 through 2011. The table consists of four sections:

- Real Personal Income by Place of Residence (\$2005 millions),
- Real Personal Income Shares by Place of Residence,
- Change in Real Personal Income by Place of Residence, and
- Percent Change in Real Personal Income by Place of Residence.

The first three lines of data in each section present the three sources of income that constitute earnings by place of work. Then there are four adjustments for sources of income not tied to place of work locations. The first adjustment is an addition for investment income (i.e., dividends, interest, and rent).

Table 5: Change and Percent Change in Earnings by Sector, 2000 - 2011

Industry Sectors	Change in Real Earnings by Place of Work (\$2005 millions)												
	2000 - 2001	2001 - 2002	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2009 - 2010	2010 - 2011	2000 - 2011	
All industry total	-685	706	1,709	4,108	727	725	1,428	2,539	-4,258	1,523	2,375	10,897	
Private industries	-904	544	1,367	3,983	418	496	1,224	2,100	-4,517	1,529	2,748	8,987	
Agriculture, forestry, fishing, and hunting	-289	-207	284	2,433	-975	-973	840	1,794	-1,144	-80	2,165	3,846	
Mining	-9	1	-7	15	7	8	-7	-4	-14	-1	7	-4	
Utilities	21	59	-60	36	-79	22	11	52	-44	-20	6	3	
Construction	-48	87	115	221	211	180	-229	-124	-497	-74	-41	-198	
Manufacturing	-487	-275	162	318	316	156	-115	191	-1,646	521	132	-726	
Durable goods	-401	-302	182	224	288	122	-79	-174	-1,203	438	249	-656	
Nondurable goods	-86	27	-20	94	28	34	-36	365	-443	83	-117	-70	
Wholesale trade	-103	24	31	143	170	64	116	11	-179	83	94	454	
Retail trade	-132	71	57	-66	-70	-39	-82	-128	-3	62	-20	-350	
Transportation and warehousing (logistics)	-117	38	120	146	119	50	91	-136	-160	73	14	238	
Information	-90	-136	34	36	-25	29	-41	86	-156	-16	-25	-302	
Finance and insurance	166	370	218	256	305	453	131	38	-138	370	94	2,262	
Real estate and rental and leasing	-21	37	21	-7	-7	-87	-137	-28	-3	11	93	-128	
Professional, scientific, and technical services	10	-70	10	121	68	191	219	153	-275	131	76	634	
Management of companies and enterprises	49	43	178	34	131	88	108	-30	-51	5	128	685	
Administrative and waste management services	164	-44	51	26	59	88	61	12	-63	160	-70	443	
Educational services	79	48	12	42	-4	32	8	48	11	16	-11	280	
Health care and social assistance	332	243	190	202	109	157	135	373	-44	154	88	1,939	
Arts, entertainment, and recreation	-38	48	-36	-22	-33	48	-7	-52	-22	14	2	-100	
Accommodation and food services	-45	30	43	44	20	15	62	-10	-102	62	17	136	
Other services, except government	-346	178	-54	5	96	13	60	-148	14	60	-2	-124	
Government	219	162	343	125	309	229	204	439	259	-6	-373	1,910	

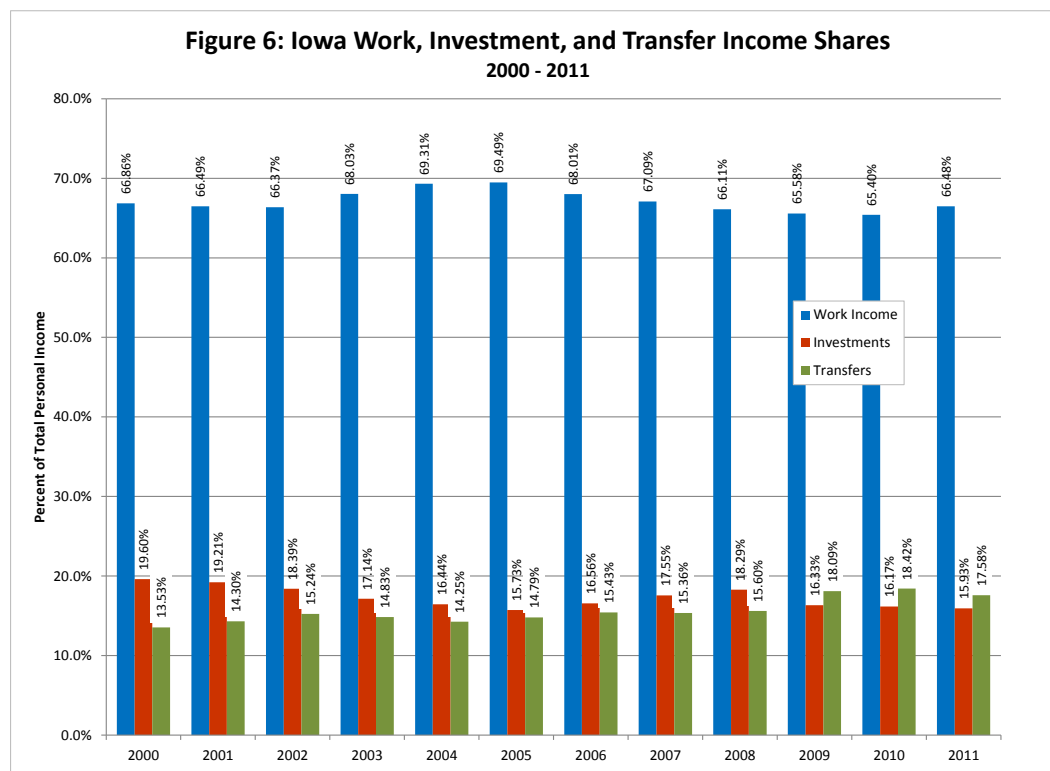
Industry Sectors	Percent Change in Real Earnings by Place of Work												
	2000 - 2001	2001 - 2002	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2009 - 2010	2010 - 2011	2000 - 2011	
All industry total	-1.02%	1.06%	2.55%	5.97%	1.00%	0.98%	1.92%	3.35%	-5.43%	2.05%	3.14%	16.24%	
Private industries	-1.60%	0.98%	2.43%	6.91%	0.68%	0.80%	1.96%	3.29%	-6.86%	2.49%	4.37%	15.87%	
Agriculture, forestry, fishing, and hunting	-9.72%	-7.71%	11.45%	88.08%	-18.77%	-23.06%	25.87%	43.91%	-19.46%	-1.70%	46.50%	129.29%	
Mining	-7.06%	0.78%	-6.18%	13.40%	5.52%	6.19%	-4.79%	-3.01%	-10.87%	-0.65%	6.23%	-3.01%	
Utilities	3.07%	8.48%	-8.02%	5.22%	-10.87%	3.36%	1.70%	7.62%	-6.03%	-2.89%	0.86%	0.43%	
Construction	-1.07%	1.98%	2.56%	4.81%	4.38%	3.58%	-4.40%	-2.49%	-10.22%	-1.69%	-0.96%	-4.46%	
Manufacturing	-3.81%	-2.24%	1.35%	2.62%	2.53%	1.22%	-0.89%	1.49%	-12.62%	4.58%	1.11%	-5.68%	
Durable goods	-4.91%	-3.89%	2.44%	2.93%	3.66%	1.50%	-0.96%	-2.12%	-14.97%	6.41%	3.43%	-8.02%	
Nondurable goods	-1.87%	0.61%	-0.44%	2.09%	0.60%	0.73%	-0.77%	7.88%	-8.85%	1.83%	-2.52%	-1.52%	
Wholesale trade	-2.81%	0.67%	0.86%	3.98%	4.54%	1.64%	2.91%	0.27%	-4.36%	2.11%	2.36%	12.44%	
Retail trade	-2.49%	1.37%	1.09%	-1.25%	-1.34%	-0.76%	-1.60%	-2.54%	-0.07%	1.27%	-0.39%	-6.60%	
Transportation and warehousing (logistics)	-4.22%	1.44%	4.43%	5.16%	4.01%	1.60%	2.91%	-4.23%	-5.16%	2.49%	0.48%	8.54%	
Information	-4.82%	-7.65%	2.10%	2.18%	-1.46%	1.73%	-2.40%	5.16%	-8.87%	-0.98%	-1.55%	-16.19%	
Finance and insurance	3.62%	7.80%	4.26%	4.80%	5.46%	7.69%	2.06%	0.58%	-2.12%	5.80%	1.40%	49.39%	
Real estate and rental and leasing	-2.40%	4.26%	2.28%	-0.80%	-0.77%	-9.51%	-16.54%	-4.00%	-0.51%	1.68%	13.91%	-14.41%	
Professional, scientific, and technical services	0.37%	-2.59%	0.37%	4.55%	2.45%	6.72%	7.23%	4.71%	-8.06%	4.16%	2.33%	23.45%	
Management of companies and enterprises	11.41%	8.95%	34.02%	4.92%	17.89%	10.20%	11.37%	-2.80%	-4.92%	0.53%	12.99%	159.23%	
Administrative and waste management services	10.06%	-2.46%	2.91%	1.43%	3.20%	4.64%	3.07%	0.58%	-3.05%	8.04%	-3.28%	27.09%	
Educational services	11.07%	6.09%	1.42%	4.90%	-0.48%	3.66%	0.92%	5.20%	1.08%	1.57%	-1.14%	39.35%	
Health care and social assistance	5.50%	3.81%	2.88%	2.97%	1.56%	2.21%	1.85%	5.04%	-0.56%	1.99%	1.12%	32.12%	
Arts, entertainment, and recreation	-5.98%	7.97%	-5.66%	-3.65%	-5.62%	8.66%	-1.22%	-8.75%	-4.06%	2.67%	0.34%	-15.71%	
Accommodation and food services	-2.73%	1.89%	2.63%	2.61%	1.16%	0.89%	3.56%	-0.54%	-5.65%	3.63%	0.95%	8.31%	
Other services, except government	-12.46%	7.33%	-2.07%	0.21%	3.75%	0.48%	2.24%	-5.42%	0.53%	2.31%	-0.08%	-4.47%	
Government	2.09%	1.52%	3.15%	1.12%	2.73%	1.96%	1.72%	3.63%	2.07%	-0.05%	-2.92%	18.21%	

Second is another addition for transfer income, which for most recipients means Social Security and Medicare benefits, but other transfers include railroad retirement and disability benefits, workers' compensation, Medicaid benefits, Supplemental Security Income, family assistance (Temporary Assistance to Needy Families), supplemental nutritional assistance, various family directed tax credits, unemployment compensation, veterans benefits, and educational and training assistance, plus benefits from non-profit organizations. Third, a subtraction is made for contributions to government social insurance (i.e., Social Security and Medicare, railroad retirement, unemployment insurance, and veterans' life insurance). Finally, an adjustment is made for income flowing into or out of the area of residence. This adjustment largely relates to worker earnings and benefits and reflects commuting patterns between places of residence and places of work.<sup>5</sup>

### Income Shares by Source

In 2011, the three income sources compiled by place of work accounted for 72.92% of total income by place of residence. To obtain the total share for worker and proprietor income the 1.11% of total income coming from the residence adjustment should be added to obtain the total earnings share equaling 74.03%.

However, this is somewhat of an overstatement because included in the amounts for these sources of income are the contributions made for government social insurance. Subtracting this 7.55% leaves 66.48% of total personal income by place of residence attributable to work-related sources. The remainder of personal income in 2011 came from investments (15.93%) and transfer payments and benefits (17.58%).



<sup>5</sup> Bureau of Economic Analysis, *State Personal Income and Employment Methodology* (September 2011).

Table 6: Sources of Income, 2000 - 2011

Sources of Income	Real Personal Income by Place of Residence (\$2005 millions)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Wage and salary disbursements	47,368	47,137	47,098	47,624	48,852	50,075	51,528	52,720	53,248	50,799	51,521	51,680
Supplements to wages and salaries	9,822	10,168	10,779	11,659	11,787	12,244	12,283	12,225	12,799	12,707	12,971	12,958
Proprietors' income	9,921	9,121	9,255	9,559	12,310	11,358	10,590	10,884	12,321	10,605	11,141	13,370
Subtotal: Place of Work Earnings	67,111	66,426	67,133	68,842	72,950	73,677	74,402	75,830	78,369	74,111	75,633	78,008
plus: Dividends, interest, and rent	17,687	17,243	16,745	15,613	15,637	15,012	16,263	17,851	19,527	16,574	16,798	17,042
plus: Personal current transfer receipts	12,210	12,834	13,873	13,506	13,559	14,119	15,150	15,621	16,652	18,367	19,135	18,811
less: Contributions for government social insurance	-7,774	-7,784	-7,775	-7,962	-8,098	-8,360	-8,617	-8,763	-8,962	-8,672	-8,904	-8,076
plus: Adjustment for residence	985	1,030	1,068	1,092	1,091	1,018	1,014	1,152	1,168	1,130	1,203	1,186
Total Income by by of Residence	90,220	89,748	91,042	91,091	95,139	95,467	98,213	101,690	106,753	101,509	103,866	106,973

Sources of Income	Real Personal Income Shares by Place of Residence (%)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Wage and salary disbursements	52.50%	52.52%	51.73%	52.28%	51.35%	52.45%	52.47%	51.84%	49.88%	50.04%	49.60%	48.31%
Supplements to wages and salaries	10.89%	11.33%	11.84%	12.80%	12.39%	12.83%	12.51%	12.02%	11.99%	12.52%	12.49%	12.11%
Proprietors' income	11.00%	10.16%	10.17%	10.49%	12.94%	11.90%	10.78%	10.70%	11.54%	10.45%	10.73%	12.50%
Subtotal: Place of Work Earnings	74.39%	74.01%	73.74%	75.57%	76.68%	77.18%	75.76%	74.57%	73.41%	73.01%	72.82%	72.92%
plus: Dividends, interest, and rent	19.60%	19.21%	18.39%	17.14%	16.44%	15.73%	16.56%	17.55%	18.29%	16.33%	16.17%	15.93%
plus: Personal current transfer receipts	13.53%	14.30%	15.24%	14.83%	14.25%	14.79%	15.43%	15.36%	15.60%	18.09%	18.42%	17.58%
less: Contributions for government social insurance	-8.62%	-8.67%	-8.54%	-8.74%	-8.51%	-8.76%	-8.77%	-8.62%	-8.39%	-8.54%	-8.57%	-7.55%
plus: Adjustment for residence	1.09%	1.15%	1.17%	1.20%	1.15%	1.07%	1.03%	1.13%	1.09%	1.11%	1.16%	1.11%
Total Income by by of Residence	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Sources of Income	Change in Real Personal Income by Place of Residence (\$2005 millions)											
	2000 - 2001	2001 - 2002	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2009 - 2010	2010 - 2011	2000 - 2011
Wage and salary disbursements	-231	-39	526	1,228	1,222	1,454	1,192	528	-2,449	722	159	4,312
Supplements to wages and salaries	347	611	879	129	457	39	-58	574	-92	265	-13	3,136
Proprietors' income	-800	134	305	2,751	-952	-768	294	1,437	-1,716	536	2,229	3,449
Subtotal: Place of Work Earnings	-685	706	1,709	4,108	727	725	1,428	2,539	-4,258	1,523	2,375	10,897
plus: Dividends, interest, and rent	-444	-498	-1,132	25	-625	1,251	1,587	1,676	-2,953	224	244	-644
plus: Personal current transfer receipts	623	1,039	-366	53	560	1,031	471	1,031	1,715	768	-324	6,601
less: Contributions for government social insurance	-10	9	-186	-136	-262	-257	-146	-199	290	-232	828	-302
plus: Adjustment for residence	44	38	24	-1	-73	-4	138	15	-38	73	-16	201
Total Income by by of Residence	-472	1,294	49	4,048	327	2,746	3,478	5,063	-5,244	2,356	3,107	16,753

Sources of Income	Percent Change in Real Personal Income by Place of Residence											
	2000 - 2001	2001 - 2002	2002 - 2003	2003 - 2004	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2009 - 2010	2010 - 2011	2000 - 2011
Wage and salary disbursements	-0.49%	-0.08%	1.12%	2.58%	2.50%	2.90%	2.31%	1.00%	-4.60%	1.42%	0.31%	9.10%
Supplements to wages and salaries	3.53%	6.01%	8.16%	1.10%	3.88%	0.32%	-0.47%	4.69%	-0.72%	2.08%	-0.10%	31.93%
Proprietors' income	-8.07%	1.47%	3.29%	28.78%	-7.73%	-6.76%	2.78%	13.20%	-13.93%	5.06%	20.01%	34.76%
Subtotal: Place of Work Earnings	-1.02%	1.06%	2.55%	5.97%	1.00%	0.98%	1.92%	3.35%	-5.43%	2.05%	3.14%	16.24%
plus: Dividends, interest, and rent	-2.51%	-2.89%	-6.76%	0.16%	-4.00%	8.33%	9.76%	9.39%	-15.12%	1.35%	1.45%	-3.64%
plus: Personal current transfer receipts	5.10%	8.10%	-2.64%	0.39%	4.13%	7.30%	3.11%	6.60%	10.30%	4.18%	-1.69%	54.06%
less: Contributions for government social insurance	0.13%	-0.11%	2.40%	1.71%	3.24%	3.08%	1.70%	2.27%	-3.23%	2.67%	-9.30%	3.88%
plus: Adjustment for residence	4.47%	3.70%	2.29%	-0.11%	-6.70%	-0.37%	13.63%	1.32%	-3.24%	6.45%	-1.34%	20.39%
Total Income by by of Residence	-0.52%	1.44%	0.05%	4.44%	0.34%	2.88%	3.54%	4.98%	-4.91%	2.32%	2.99%	18.57%



Figure 6 shows how the shares of work related income, investments, and transfer payments have changed over the twelve years. The overall share of Iowa personal income coming from work had ups and downs over the twelve years, but it ended the period about where it began. The 2000 and 2011 shares equaled 66.86% and 66.48%, respectively. Work-related income's share of total personal income peaked at 69.49% in 2005.

The relative importance of investment and transfer income flipped over the period. In 2000 investment income accounted for 19.60% of the total, while transfer payments accounted for 13.53% of the total. By 2011 investment income's share had dropped to 15.93% of the total and transfers increased to 17.58%. Although the BEA personal income data does not breakdown the investment category among dividends, interest, and rental income it is possible based on other data to speculate on why the investment category's share of total personal income decreased. First, using the national average 1-year certificate of deposit interest rate as a surrogate for all interest income, the return on bank savings decreased from 3.27% to 0.25% over the period. Second, using the Standard & Poor's 500 Index as a surrogate for returns earned from investments in equities, this index started the period at 1455 on January 3, 2000 and ended period at 1258 on December 30, 2011, a decrease of 13.54%. The crash of the real estate market no doubt also adversely impacted rental income, particularly for commercial property. On the other hand, much of the increase in transfer income's share can be attributed to the growth in payments from social safety net programs, such as unemployment compensation, Medicaid, and nutrition assistance. In 2008 transfers accounted for only 15.60% of total personal income in Iowa, but then increased to 18.09% in 2009 and to 18.42% in 2010 before dropping back to 17.58% in 2011.

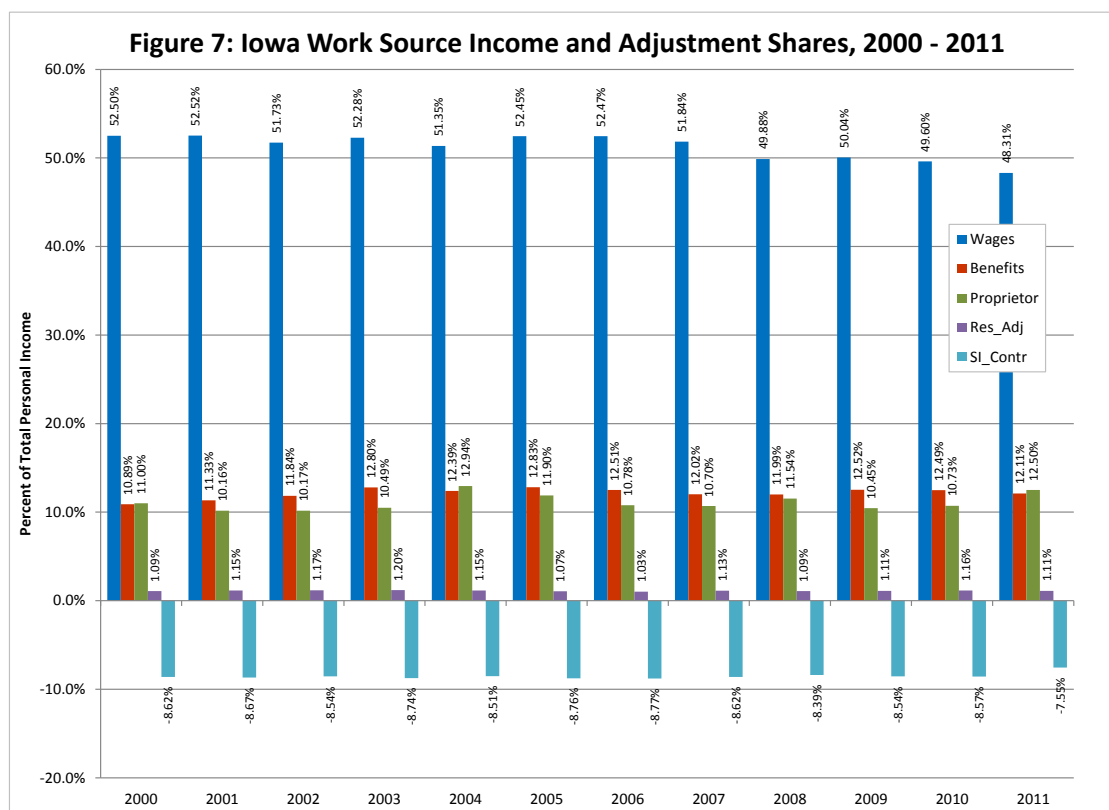


Figure 7 breaks out the shares for the components of work-related income. Wage and salary income dominates in all years, but this income source's share experienced a noticeable decline at the end of the period. After peaking at 52.52% of total Iowa personal income in 2001 it dropped slightly for the next several years. It recovered to 52.47% in 2006, but then by 2011 declined to 48.31%. The Great Recession no doubt contributed greatly to the decline in the share of total income accounted for by wages and salaries, but given that the source's share of income began to decline prior to the recession implies other forces were at work as well.

The share of compensation going toward benefits equaled 10.89% in 2000, but then jumped to 12.80% by 2003. Recently, the benefits share has decreased slightly and in 2011 equaled 12.11% of total personal income.

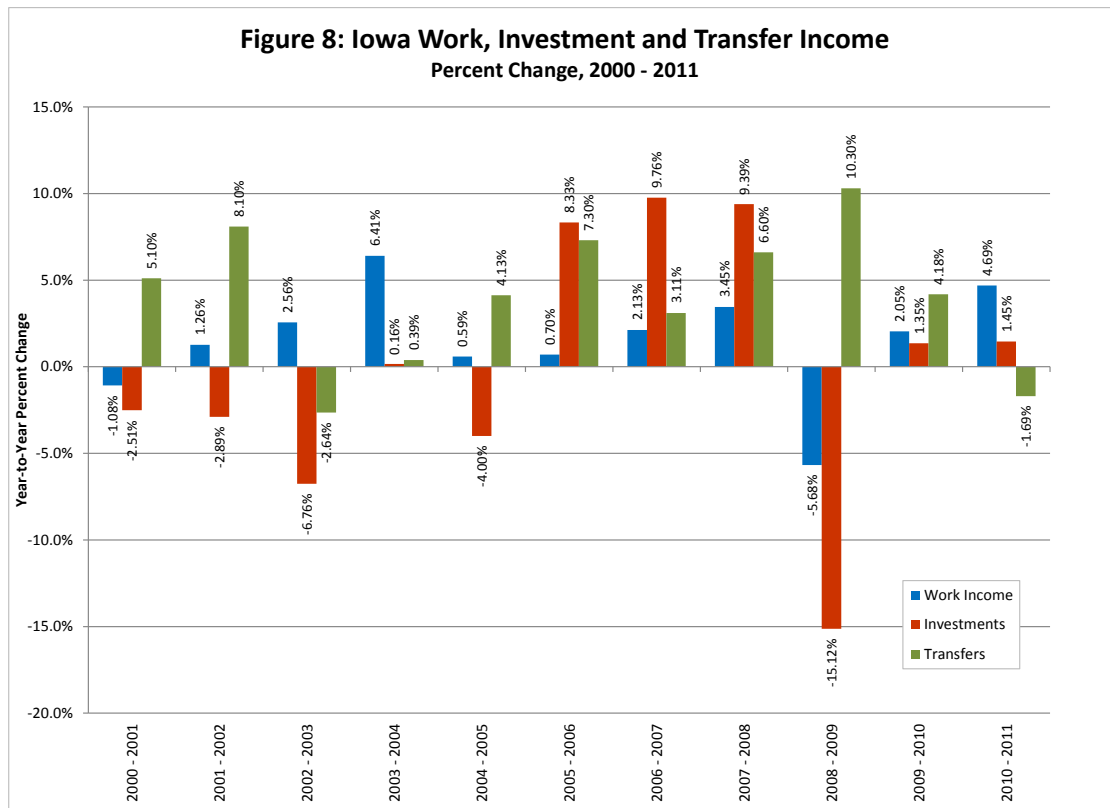
Proprietors' income has also increased its share of the total beginning the period at 11.00% in 2000 and ending the period at 12.50% in 2011. The BEA data does divide this source between non-farm and farm proprietors' income. Given what has been going on in the agricultural sector over the past several years it is not surprising that the share of total personal income accounted for by farm proprietors' income has experienced a large jump. From 2000 to 2011 this source's share increased from 2.61% to 5.53%. Over the same period the share of total income going to non-farm proprietors decreased from 8.38% to 6.97%.

The adjustment for out-of-state income (Res\_Adj) has remained between 1.03% and 1.20% over the full twelve years. This adjustment factor can be either positive or negative. Its being positive for Iowa implies that Iowa residents earn more work-related income outside the State than non-residents earn from jobs or businesses located in Iowa. This is likely due to Iowans residing in the Quad-Cities, Council Bluffs, and Sioux City metropolitan areas and in the far northwest corner of the State working in Illinois, Nebraska or South Dakota and bringing that income back to the State.

One final thing worth noting is the decrease in the adjustment for contributions to government social insurance (SI\_Adj). This adjustment is shown as a negative value because it is a subtraction from income. From 2000 through 2010 this adjustment's share of total personal income has ranged between -8.51% and -8.77%, which is a fairly narrow range. However, in 2011 this adjustment's share of total personal income dropped to -7.55%. This change can be attributed to the reduction in worker contributions for Social Security enacted by Congress for 2011 and 2012 as an economic stimulus measure. When this reduction in Social Security tax expires the share value should return to the prior range.

#### Change in Income by Source

Figure 8 shows the year-to-year percent change for the work-related, investment, and transfer income sources. With the exception of 2004 and 2011 growth in work-related income has been weak for most of the period. Over the entire period real work-related income increased by only 17.90%. Corresponding with the 2001 recession, work-related income decreased by 1.08% that year. The decrease associated with the Great Recession year of 2009 was over five times as bad with the decrease equaling 5.68%.

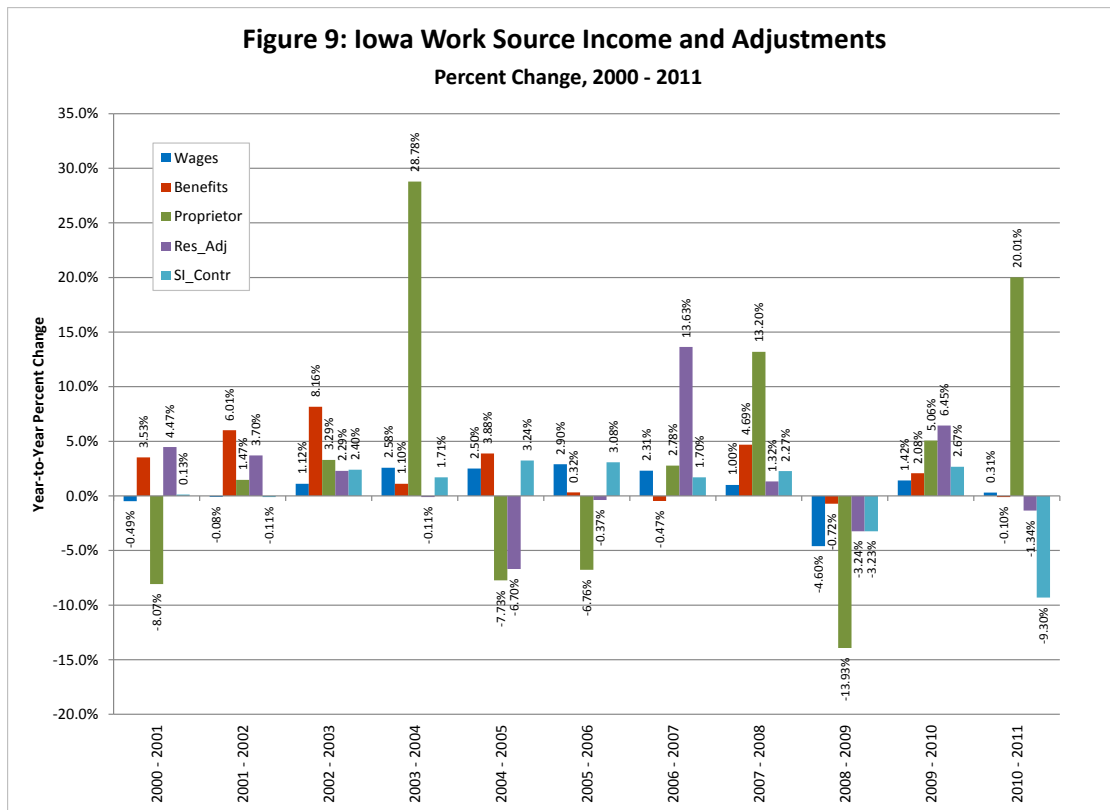


Investments fared even worse than work income. Investment income during 2011 was 3.64% below the level of 2000 after adjusting for inflation. There were a few good years from 2006 through 2008, but then during 2009 the level of investment income dropped by 15.12% compared to the prior year's level.

Real transfer income in 2011 equaled \$18.811 billion compared to \$12.210 billion in 2000, which is an increase of \$6.601 billion (54.06%). As might be expected transfer income jumped during both recessions and then fell back slightly the second year following each recession. What is most surprising is that transfer income experienced fairly substantial increases during the middle years of the period when the economy was supposedly experiencing somewhat of a boom period driven by a real estate bubble.

Figure 9 breaks out the five components of work-related income. The real value of wages and salaries over the twelve years realize very modest growth. The total value of wages and salaries increased only from \$47.368 billion in 2000 to \$51.680 billion in 2011, or by \$4.312 billion (9.10%), for the entire period. During three of the years wage and salary income decreased and even in the best year (2006) real wages and salaries increased by only 2.90%. In the worst year (2009) total real wages and salaries decreased by 4.60%.

The very modest growth in wages and salaries is often attributed to the rising cost of benefits, particularly health insurance costs. Over the entire period the real value of benefits increased from \$9.822 billion to \$12.958 billion, or by \$3.136 billion (31.93%). However, most of the increase occurred by 2006. Since that year benefits costs have increased by only \$675 million (5.50%).



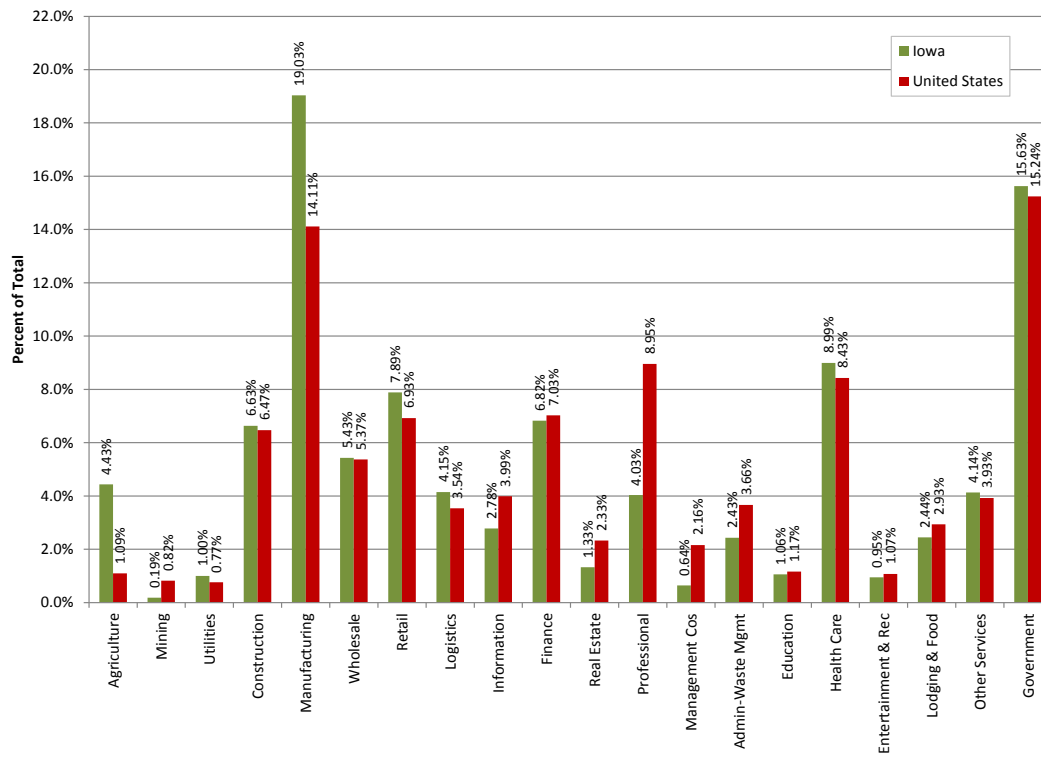
Proprietors' income exhibited the greatest variability over the period. As might be expected farm proprietors' income is much more variable than is non-farm proprietors' income. For example, between 2003 and 2004 real total proprietors' income increased by 28.78%, but non-farm proprietors' income increased by only 4.99%, while farm proprietors' income jumped 118.03%. Over the entire period farm proprietors' income increased from \$2.358 billion to \$5.916 billion, or by \$3.559 billion (150.95%). On the other hand, non-farm proprietors' income decreased from \$7.564 billion to \$7.454 billion, or by \$110 million (-1.45%).

Changes in the residence adjustment factor are not particularly noteworthy. The only noteworthy year for the social insurance adjustment is 2011. The 9.30% decrease between 2010 and 2011 for this adjustment no doubt reflects the reduction in the Social Security tax rate from 6.2% to 4.2% of covered wages enacted as part of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010.

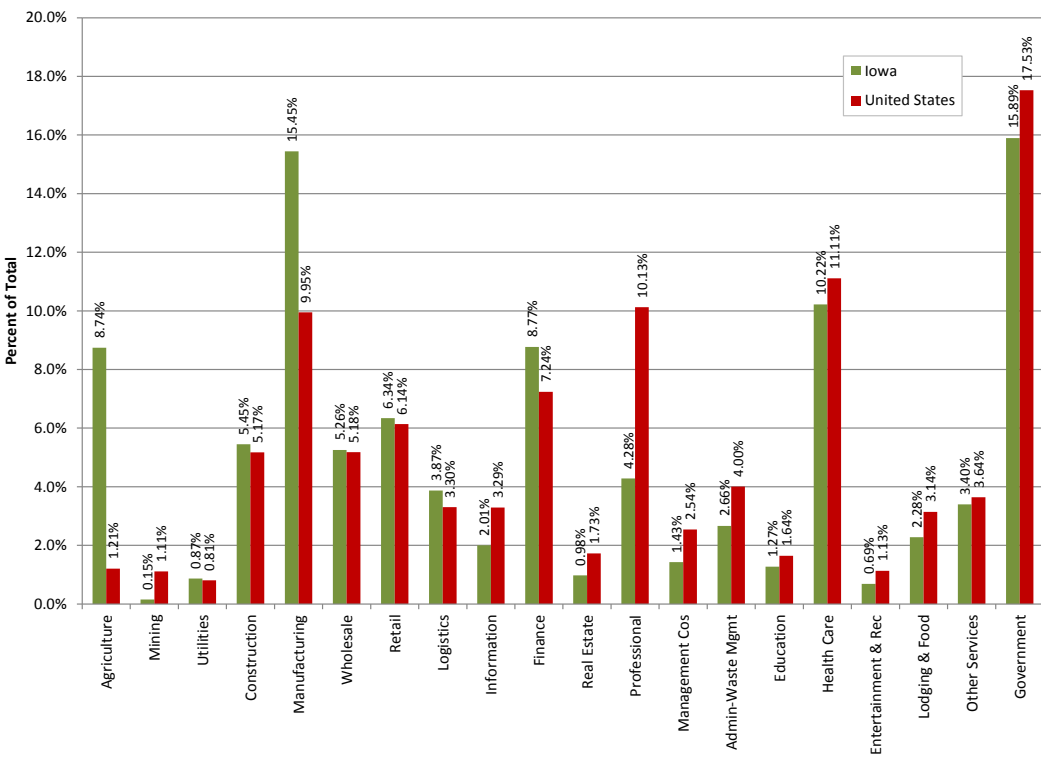
## National, Regional, and Other States Earnings Comparisons

Comparisons to the nation, the Great Lakes and Plains regions, and the eleven other states that comprise these regions provide perspective for industry sector earnings in Iowa. The Great Lakes region includes Illinois, Indiana, Michigan, Ohio, and Wisconsin. The Plains region includes Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

**Figure 10: Iowa and U.S. Earnings Sector Shares, 2000**



**Figure 11: Iowa and U.S. Earnings Sector Shares, 2011**



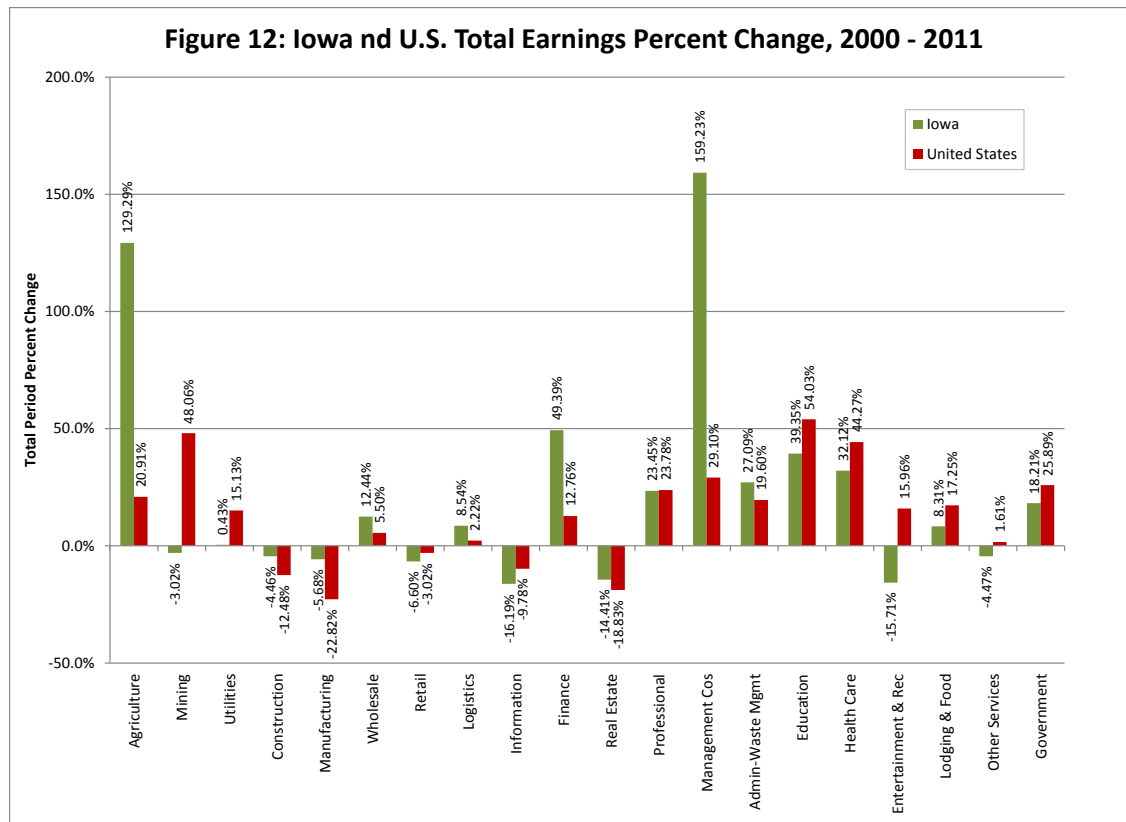
## Iowa and United States Earnings Comparisons by Sector

Figure 10 and Figure 11 show the shares of total earnings for each of the 20 major 2-digit NAICS sectors for 2000 and 2011 for Iowa and the United States. Comparisons between the Iowa and United States sector shares within the two years and across years yield the following observations.

- In 2000 Iowa's share of total earnings accounted for by the agricultural, forestry, fishing and hunting sector was over four times the share for the entire United States (4.43% versus 1.09%). This sector's share of earnings increased slightly nationwide over the twelve years from 1.09% to 1.21%, but this sector's share of earnings in Iowa almost doubled from 4.43% to 8.74%.
- In both years the manufacturing sector contributed a much larger share of total earning in Iowa than for the nation as a whole. In 2000 manufacturing accounted for 19.03% of earning in Iowa making this the dominant sector, while nationally manufacturing accounted for 14.11% of total earnings making this the second largest sector. By 2011 manufacturing's share of earnings for Iowa fell to 14.11% and for the entire United States the share fell to 9.95%. By 2011 the manufacturing sector fell to second place in Iowa and to fourth place nationally.
- In 2000 Iowa's finance and insurance sector accounted for 6.82% of earnings, while nationally the sector's share of earnings was slightly greater at 7.03%. However, by 2011 Iowa's finance and insurance sector grew in importance claiming 8.77% of earnings, while nationally earnings for this sector increased in share only slightly to 7.24%.
- The share of earnings for the health care and social assistance sector in both Iowa and the entire United States increased over the twelve years. For Iowa the share increased from 8.99% to 10.22% and for the nation the share increased from 8.43% to 11.11%. So, in 2000 Iowa's share of earnings for this sector was greater than for the nation, but in 2011 it was smaller than for the nation.
- One sector in which Iowa trails the nation by a significant amount is the professional and technical services sector. In 2000 this sector's share of earnings equaled only 4.03% in Iowa versus 8.95% for the nation. In 2011 this sector's share of earnings increased only slightly in Iowa to 4.28%, while nationally the share of earnings increased to 10.13%.
- In Iowa the government sector's share of earnings remained relatively stable over the period increasing from 15.63% in 2000 to 15.89% in 2011. Nationally, the increase was from 15.24% in 2000 to 17.53% in 2011. One likely explanation for the federal share's increase for this sector is the over 75 percent increase in real earnings for the military part of the federal government. Real earnings for the civilian part of the federal government increased by about 25 percent. For Iowa real earnings for state and local governments increased by slightly over 17 percent.

Figure 12 presents the percent change in real earnings between 2000 and 2011 by sector for Iowa and the United States. Overall real earnings for Iowa increased by 16.24% compared to an increase of 9.47% for the nation as a whole. Major differences in the earnings growth rates for Iowa and the nation include the following:

- Strong demand growth in recent years has driven up the prices for corn and soybeans, which is reflected in the 129.29% increase over the twelve years for agricultural sector earnings in Iowa. Nationally earnings growth for this sector was a much more modest 20.91%. Also, unlike in states with large corporate farms, most of the agricultural sector gain in earnings in Iowa went to farm proprietors rather than farm labor. From 2000 to 2011 Iowa's agricultural sector

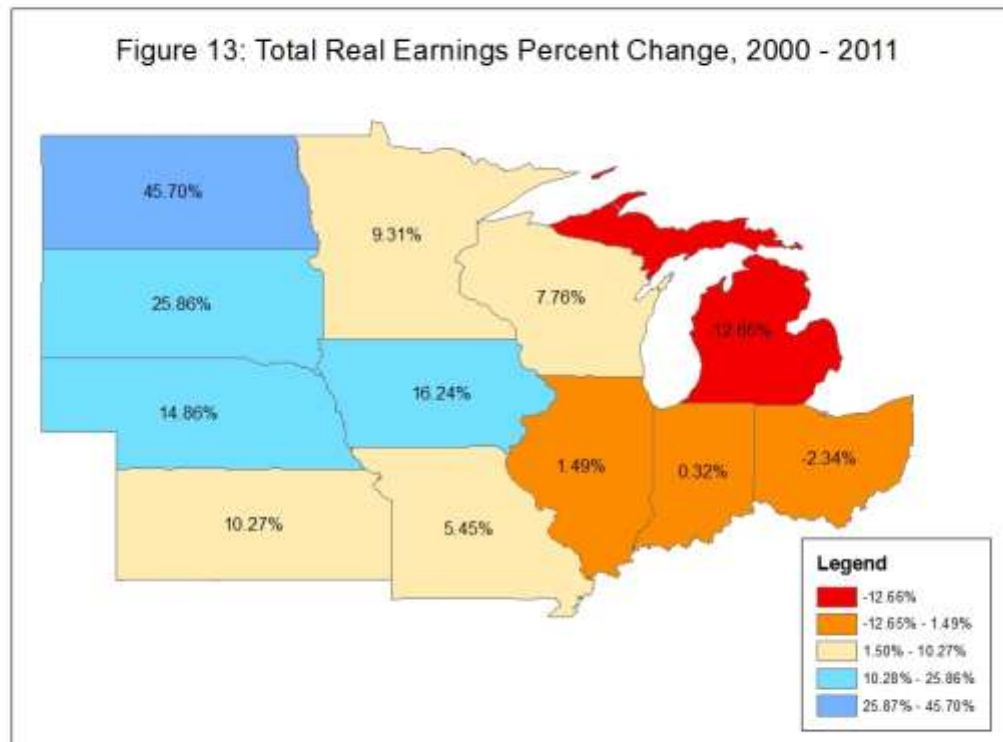


earnings increased by \$3.846 billion with \$3.559 billion (92.54%) of the gain going to farm proprietors.

- For both Iowa and the United States manufacturing sector earnings decreases between 2000 and 2011. But Iowa's manufacturing earnings decreased by only 5.68% compared to a 22.82% decrease for the entire United States.
- It is no surprise that both Iowa and the nation experienced earnings decreases in the construction sector, but Iowa's decrease equaled only 4.46% compared to a national decrease of 12.48%.
- For both Iowa and the United States earnings in the finance and insurance sector increased. Again for this sector Iowa did much better than the nation as a whole. For Iowa real earnings increased by 49.39% compared to a 12.76% increase for the nation.
- Although not a large sector in Iowa, earnings growth in the State for the management of companies sector, which consists primarily of financial and other types of holding companies, equaled 159.23% compared to nationwide growth of 29.10%.
- The health care and social assistance is one sector in which earnings growth in Iowa trailed the nation. In Iowa real earnings for this sector increased by 32.12% compared to 44.27% growth for the nation.
- Iowa's earnings growth for the government sector, which equaled 18.21%, also trailed the growth for the nation as a whole, which equaled 25.89%.

### Iowa to Other States Total Earnings Comparisons

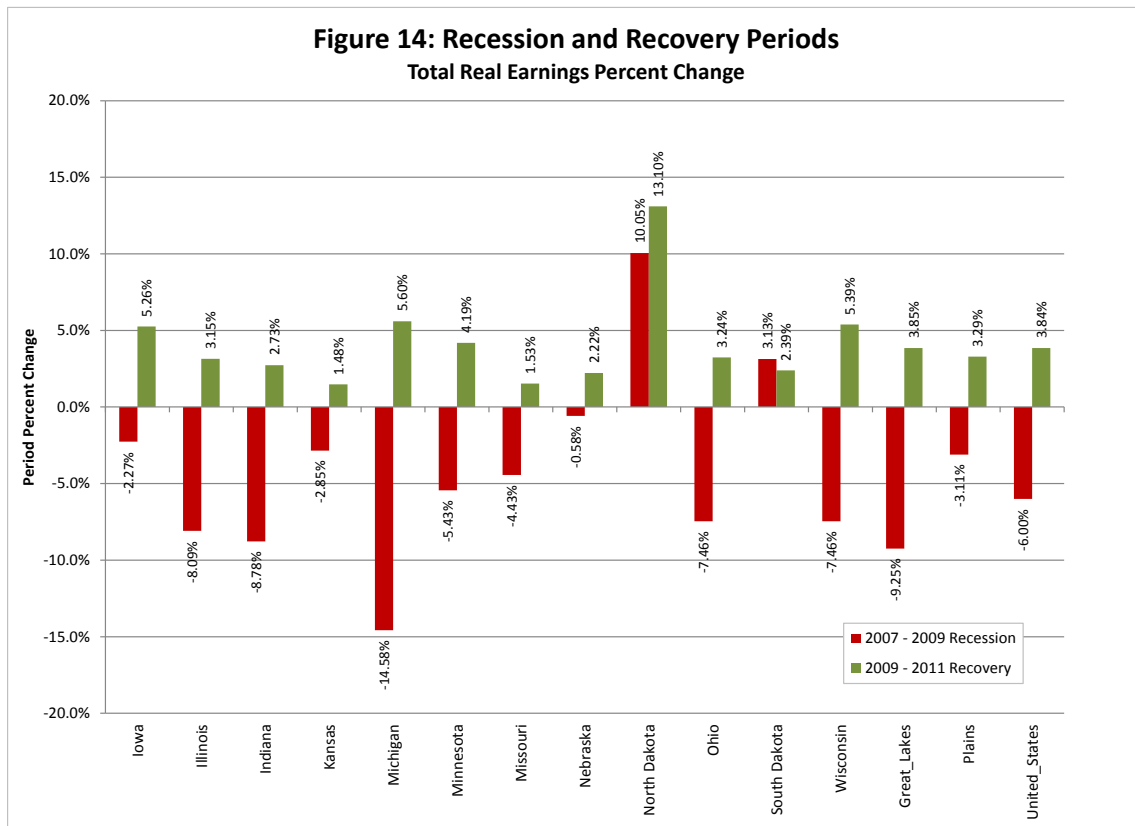
As shown in Figure 13, for the twelve states that comprise the Great Lakes and Plains regions the percent changes in total real earnings over the period from 2000 through 2011 range from -12.66% in Michigan to 45.70% in North Dakota. In these two states local factors explain their very different earnings growth rates. The decline of the motor vehicle industry during the first ten years of the period explains much of the earnings decline in Michigan. Beginning about 2005 the large scale development of the Bakken Shale Oil deposit caused rapid employment and earnings growth in North Dakota.



Iowa's overall earnings growth ranked third among the states comprising these two regions. The Great Recession adversely impacted most of the states within the two regions. Also, some states are recovering faster than others. Figure 14 shows the percent changes in total real earnings for the 2007 to 2009 recession period and for the 2009 to 2011 recovery period.

It is not particularly surprising that the industrial states of the Great Lakes region experienced a greater decline in earnings than did the more agricultural Plains region states during the recession. From 2007 to 2009 the Great Lakes states experienced a 9.25% decrease in total real earnings, whereas for the Plains states the recession period decrease in earnings equaled a much smaller 3.11%. On the other hand, during the first two years of recovery the Great Lakes states have experienced 3.85% growth in earnings versus only 3.39% for the Plains states. The recovery of the motor vehicle industry at least partially explains the higher growth in earnings for the Great Lakes region. Durable goods manufacturing sector earnings increased by 6.33% in the Great Lakes region, but by only 1.75% in the Plains region and by 4.05% nationally.





Iowa's total real earnings decrease of 2.27% between 2007 and 2009 ranked fourth best following only North Dakota (10.05%), South Dakota (3.13%), and Nebraska (-0.58%). Since 2009 Iowa's 5.26% increase in real earnings again ranks fourth best following North Dakota (13.10%), Michigan (5.60%), and Wisconsin (5.39%).

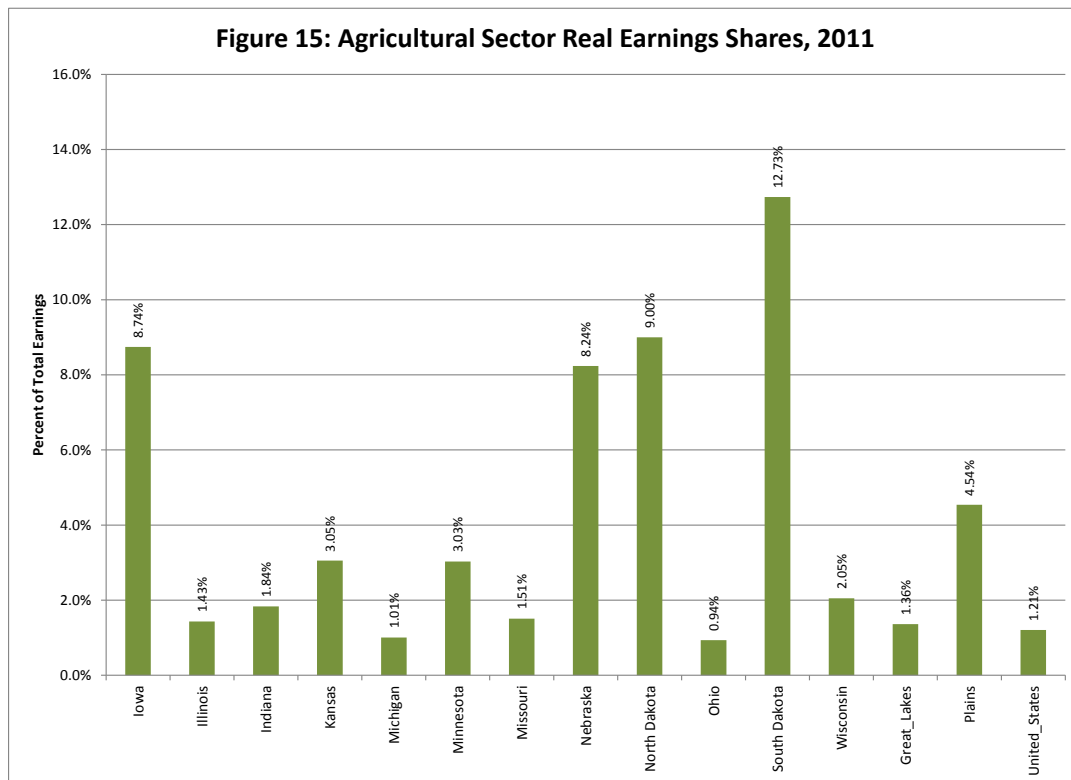
#### Iowa and Other States Earnings Comparisons by Sector

A better understanding of how Iowa fared compared to other Midwestern states can be obtained from investigating changes in real earnings for selected industry sectors.<sup>6</sup> The sectors subjected to more detailed analysis in this report include three in which Iowa is a national leader (i.e., agriculture, manufacturing, and finance) and five others that constitute much of the local economy (i.e., construction, health care, retail trade, lodging and food services, and government). The analysis of each of the eight sectors makes comparisons among the twelve states that comprise the Great lakes and Plains regions. The issues addressed for each sector are (1) the sector's share of total real earnings in 2011, (2) the change in real earnings from 2000 to 2011, and (3) the change in real earnings during the Great Recession period 2007 to 2009 and the recovery period of 2009 to 2011.

<sup>6</sup> Comparisons are made in terms of 2005 inflation adjusted dollars using the chain-weighted approach with modifications as explained earlier in this report unless stated otherwise.

## A. Agriculture, Forestry, Fishing, and Hunting Sector

Iowa's agriculture sector in 2011 accounted for 8.74% of total State real earnings. As shown in Figure 15, this places Iowa third behind South Dakota and North Dakota where their agricultural sectors accounted for 12.73% and 9.00% of total earnings, respectively. Nebraska ranked a close fourth to Iowa with an 8.24% share. However, Iowa has a much larger agricultural sector than these other three states. In 2011, agricultural sector earnings in Iowa totaled \$6.820 billion versus \$2.650 billion in South Dakota, \$1.940 billion in North Dakota, and \$4.084 billion in Nebraska. The agricultural sector accounted for a much smaller share of total state earnings in the other eight states. In 2011 Iowa's agricultural sector accounted for 6.88% of total agricultural sector earnings nationwide.

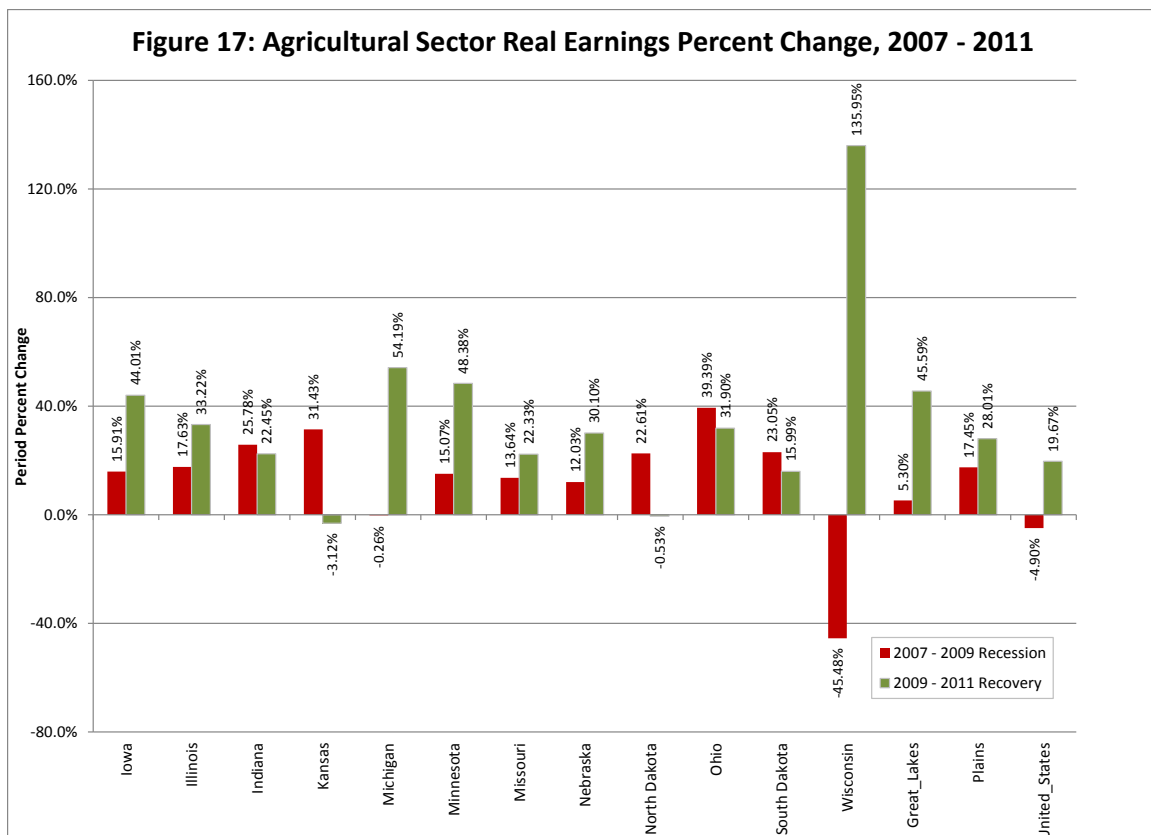


From 2001 to 2011 agricultural sector real earnings increased by 129.29% in Iowa compared to 20.91% nationally. This increase no doubt reflects the large increase in the prices received for corn and soybeans. This is supported by the growth rates for agricultural sector earnings in the other primary corn and soybean producing states of Illinois (128.50%), Indiana (123.18%), Michigan (128.82%), Minnesota (147.02%), Nebraska (125.79%), and Wisconsin (115.39%). As shown in Figure 16, the agricultural sector earnings growth rates in the more western Plains states that produce less corn and soybeans were considerably less.

Focusing on the Great Recession and the recovery years from 2007 to 2011, Figure 17 shows that earnings for the agricultural sector in most Midwestern states grew at a fairly healthy rate during the recession years. Only in Michigan and Wisconsin did agricultural earnings decrease from 2007 to 2009. The decrease in Wisconsin was sizable at -45.48%, but the decrease was only marginal in Michigan at

-0.26%. For the entire Great Lakes and Plains regions earnings increased by 5.30% and by 17.45%, respectively. In Iowa earnings increased by 15.91%, which ranks seventh among the states.

Since 2009, earnings have grown by 19.67% in the agricultural sector nationally. For the Great Lakes and Plains regions the growth rates equal 45.59% and 28.01%, respectively. In Iowa agricultural earnings increased by 44.01% between 2009 and 2011, ranking it fourth among the states.



## B. Manufacturing Sector

In 2011, the manufacturing sector accounted for 15.45% of total earnings in Iowa. As shown in Figure 18, Iowa ranked fifth among the Great Lakes and Plains states in terms of the share of earnings coming from the manufacturing sector. Indiana's 19.99% share ranked highest among the states. North Dakota with only 6.03% of earnings coming from the manufacturing sector ranked the lowest. Nationally, 9.95% of earnings were generated by the manufacturing sector.



From 2000 to 2011 earnings generated by the manufacturing sector in Iowa decreased by 5.68% compared to a decrease of 22.82% nationally. For the Great Lakes and the Plains regions the decreases equaled 28.78% and 11.49%, respectively. As shown in Figure 19, North Dakota and South Dakota were the only two states to experience manufacturing sector real earnings growth over the entire twelve years. Iowa ranked third among the states of the two regions.

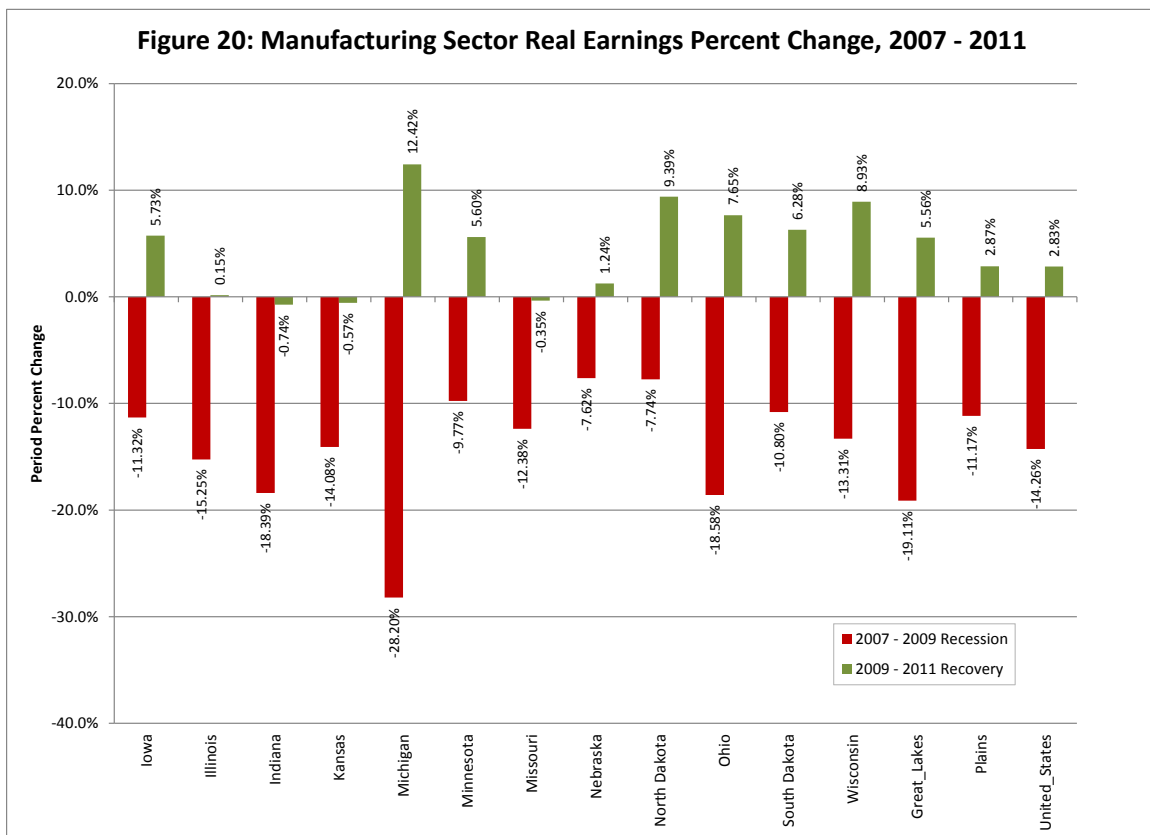
At least some of the relative strength of manufacturing in Iowa can be attributed to a strong agricultural sector. Manufacturing subsector data that exists through 2010 shows positive growth in earnings was experienced by machinery manufacturing (22.49%), chemical manufacturing (50.35%), and food manufacturing (10.42%). Farm and construction equipment fall under the machinery manufacturing subsector. Pesticides, fertilizer, and ethanol all fall under the chemical manufacturing subsector.

Figure 20 shows how the different states of the two regions have fared since 2007. The Great Recession hit manufacturing particularly hard. However, at least some of the decline in manufacturing was likely

due to structural changes in the economy. From 2007 to 2009 manufacturing sector earnings shrank by 14.26% nationally. Iowa's decrease of 11.32% was fifth best among the states.

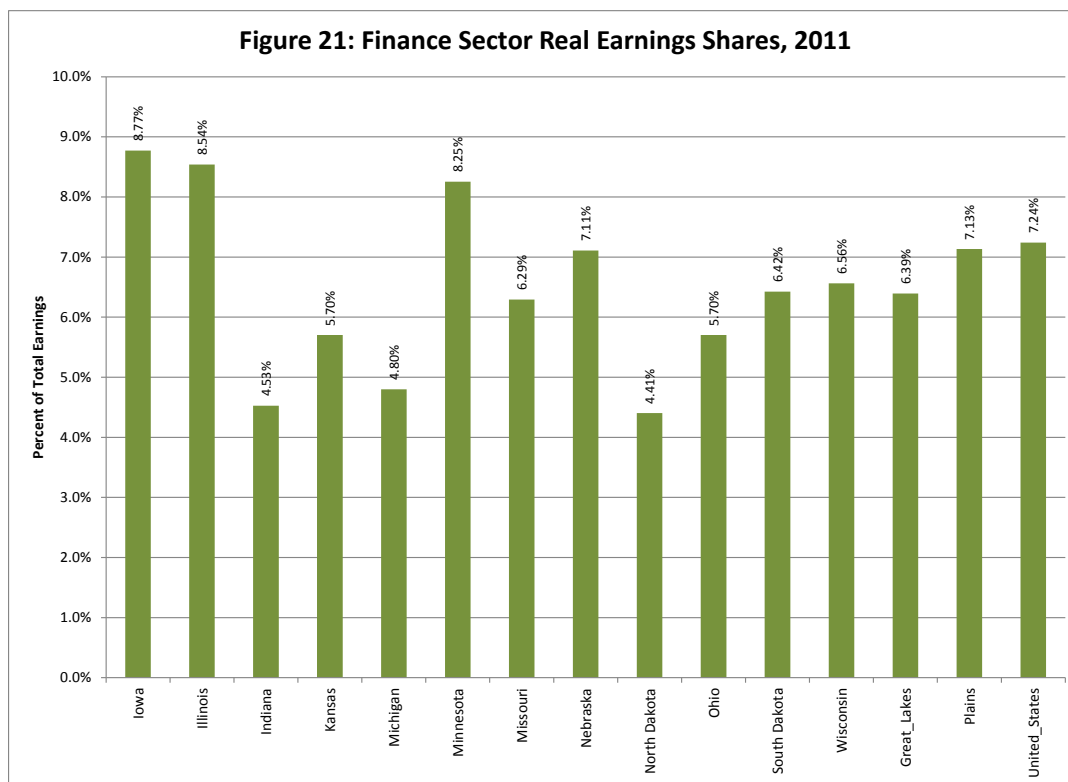
Since 2009 the economy has been in recovery from the Great Recession. Nationally, manufacturing earnings have increased by 2.83%. With the revitalization of the motor vehicle industry, Michigan has led the two regions with earnings growth of 12.42%.

In Iowa manufacturing earnings increased by 5.73%, which is sixth among the states.



### C. Finance and Insurance Sector

In 2011 the finance and insurance sector accounted for 8.77% of total real earnings in Iowa. As shown in Figure 21, Iowa ranks first among the Great Lakes and Plains states in terms of the share of total earnings attributable to this sector. However, in absolute terms the \$6.842 billion in earnings from this sector in Iowa is dwarfed by finance and insurance sector earnings in Illinois (\$30.785 billion), Ohio (\$15.495 billion), and Minnesota (\$12.888 billion). Also, Iowa accounted for only 1.15% of total finance and insurance sector earnings nationally in 2011.



Over the full period from 2000 to 2011 Iowa's finance and insurance sector earnings increased by 49.39% compared to a 12.76% increase nationally. In the Great Lakes and Plains regions the increases equaled 6.05% and 26.66%, respectively. As shown in Figure 22, Iowa's earnings gain for this sector was the highest of the twelve states followed by North Dakota (39.38%), Wisconsin (29.28%), and Kansas (28.13%). The most likely explanation for Iowa's earnings growth for this sector is the expansion of companies like Wells Fargo, Aviva, Allied, and Principal Financial in the Des Moines Metropolitan Area. Recent news articles have lauded the Des Moines area for its low cost of living and educated workforce.

Iowa's financial and insurance sector did not escape the Great Recession. Iowa's earnings for this sector decreased by 1.56% between 2007 and 2009. A number of Iowa financial companies scaled back on contributions to retirement plans and bonuses during this period. Nationally, earnings in this sector decreased by 12.08% during the recession. As shown in Figure 23, compared to the other twelve Great Lakes and Plains states Iowa ranked sixth best.

Since 2009 earnings for Iowa's financial sector have increased by 7.28% compared to 5.27% nationally. In the Great Lakes and Plains regions financial sector earnings have increased by 1.80% and 6.27%, respectively. Among the twelve states in the two regions earnings for this sector in Iowa ranks third best just behind Minnesota (7.89%) and Missouri (7.53%)

Figure 22: Finance Sector Earnings Percent Change, 2000 - 2011

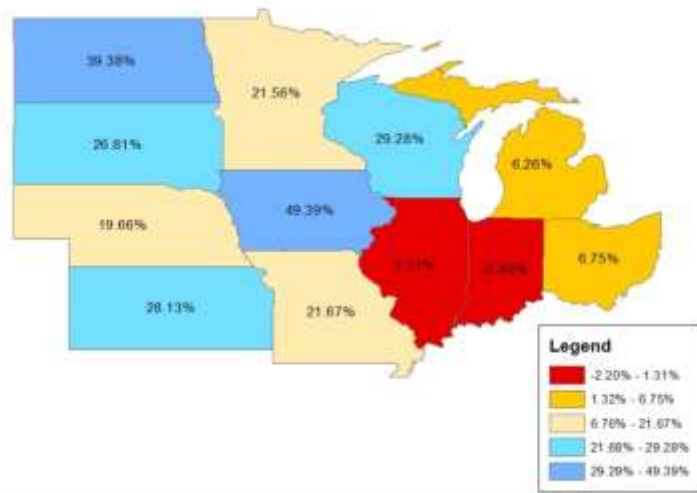
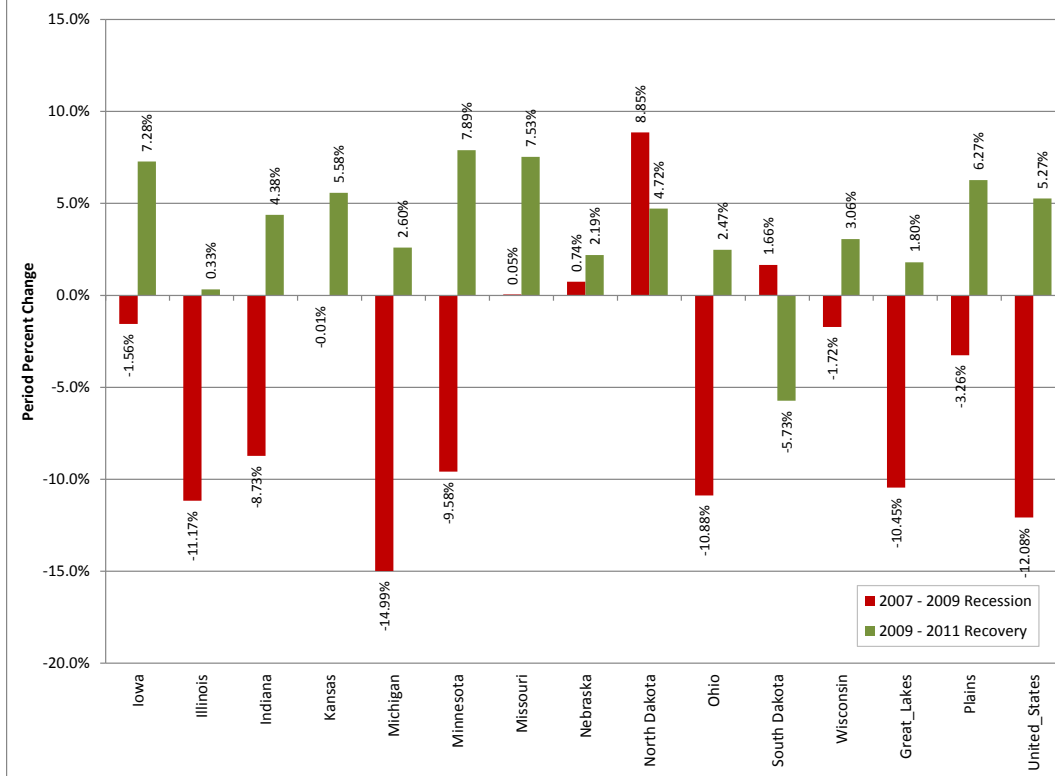
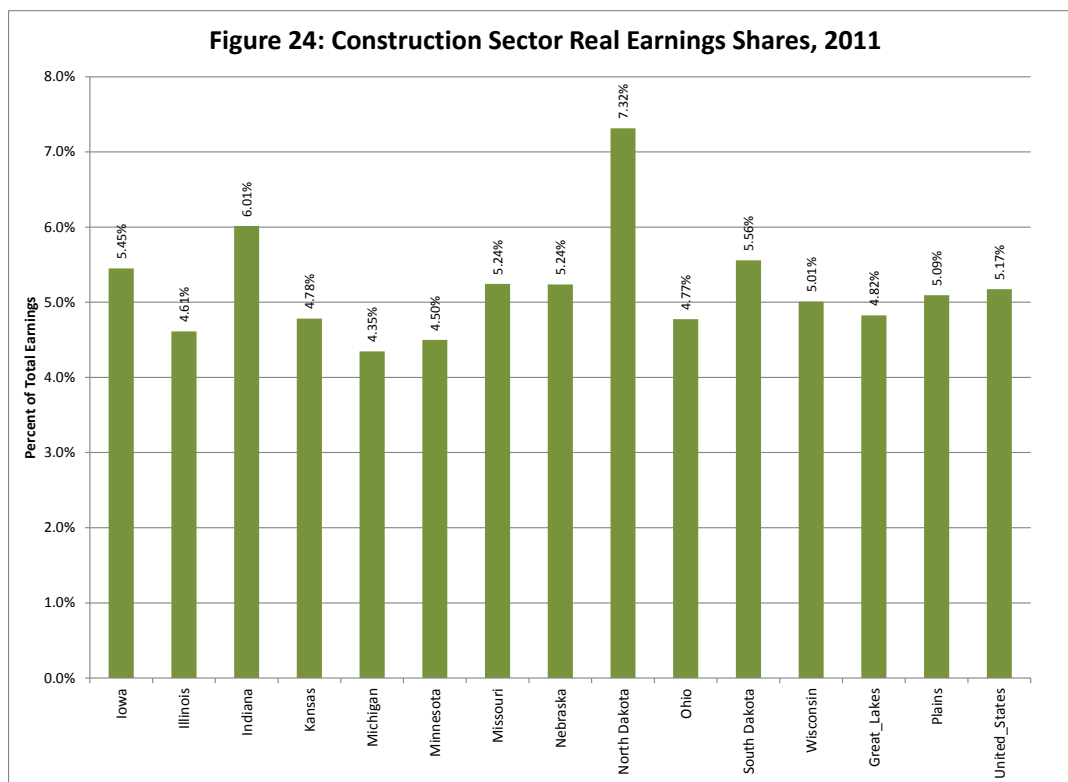


Figure 23: Finance Sector Real Earnings Percent Change, 2007 - 2011



#### D. Construction Sector

In 2011 the construction sector accounted for 5.45% of total earnings in Iowa. Nationally in the same year this sector accounted for 5.17% of total earnings and in the Great Lakes and Plains regions for 4.82% and 5.09% of total earnings, respectively. As shown in Figure 24, construction sector earnings in Iowa ranked fourth as the share of total state earnings behind only North Dakota (7.32%), Indiana (6.01%), and South Dakota (5.56%). In 2011 construction sector earnings in Iowa accounted for 1.00% of the national total for this sector.

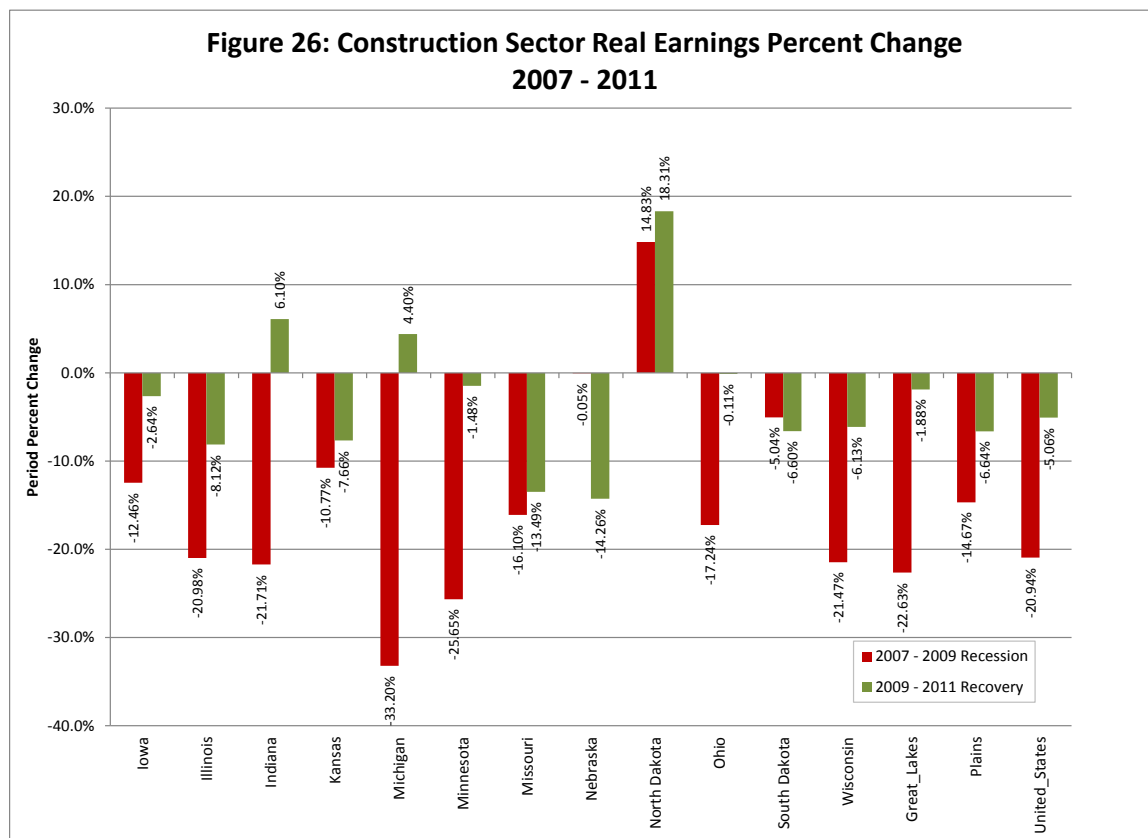
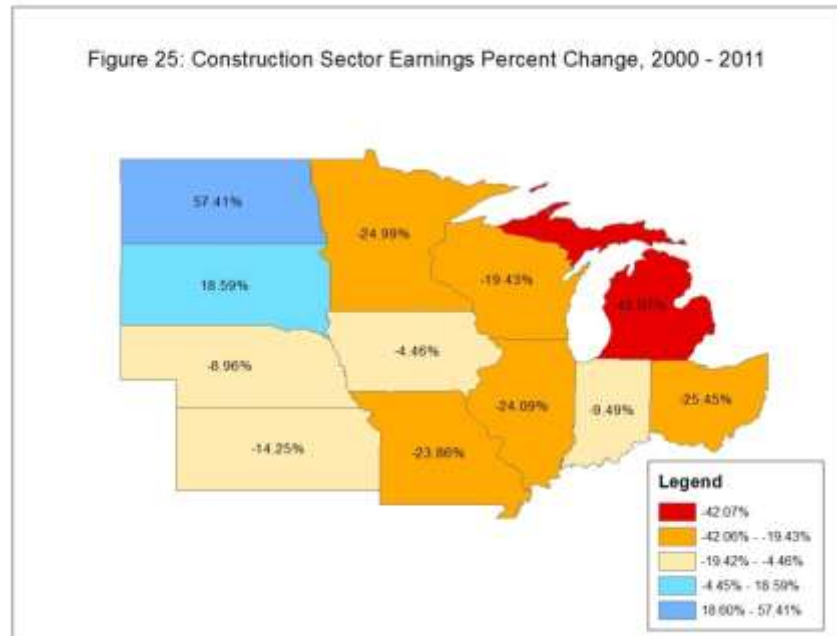


From 2000 to 2011 construction sector real earnings decreased by 4.46%, but nationally the decrease equaled 12.48%. For the Great Lakes and Plains regions construction sector earnings decreased by 25.99% and 15.25%, respectively. As shown in Figure 25, among the twelve states of the two regions Iowa's percent change in construction sector earnings ranked third best behind only North Dakota (57.41%) and South Dakota (18.59%). The reason Iowa was able to weather the construction downturn relatively well can be attributed to some major construction projects, such as new headquarters for Wellmark and Aviva, rebuilding activity from the 2008 floods in eastern Iowa, school construction projects funded from a dedicated 1 percent sales tax, the very aggressive development of biofuels and wind energy facilities in the State, and a strong historic preservation effort supported by state tax credits.



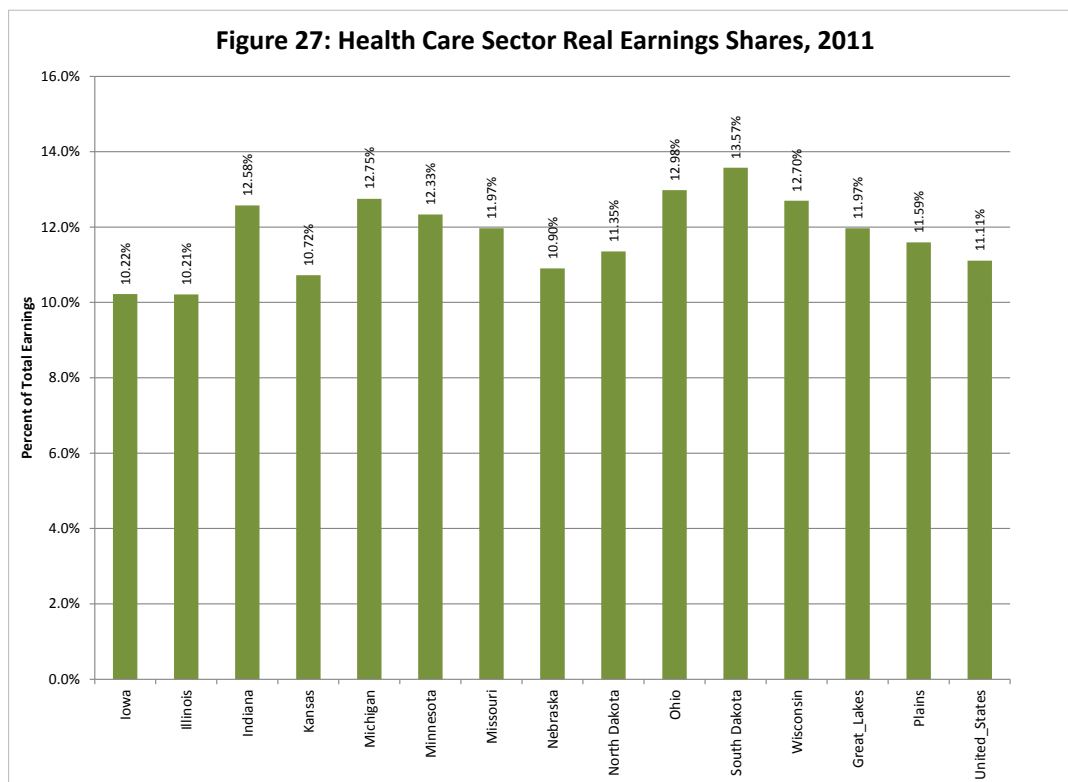
Looking in more detail at the 2007 to 2009 recession and the 2009 to 2011 recovery periods further shows that construction sector earnings in Iowa did not fare as badly during the Great Recession as did most of the other Great Lakes and Plains states. For Iowa this sector's real earnings did decrease during both the recession (-12.46%) and the recovery (-2.64%) periods. However, as shown in Figure 26, Iowa ranked fifth best during the recession period and sixth best during the recovery period.

However, of the states that did better during the recovery period North Dakota (18.31%) benefited from oil field development work, while Indiana (6.10%), Michigan (4.40%), and Ohio (-0.11%) benefited from the federal government backed revival of the motor vehicle industry.



## E. Health Care and Social Assistance Sector

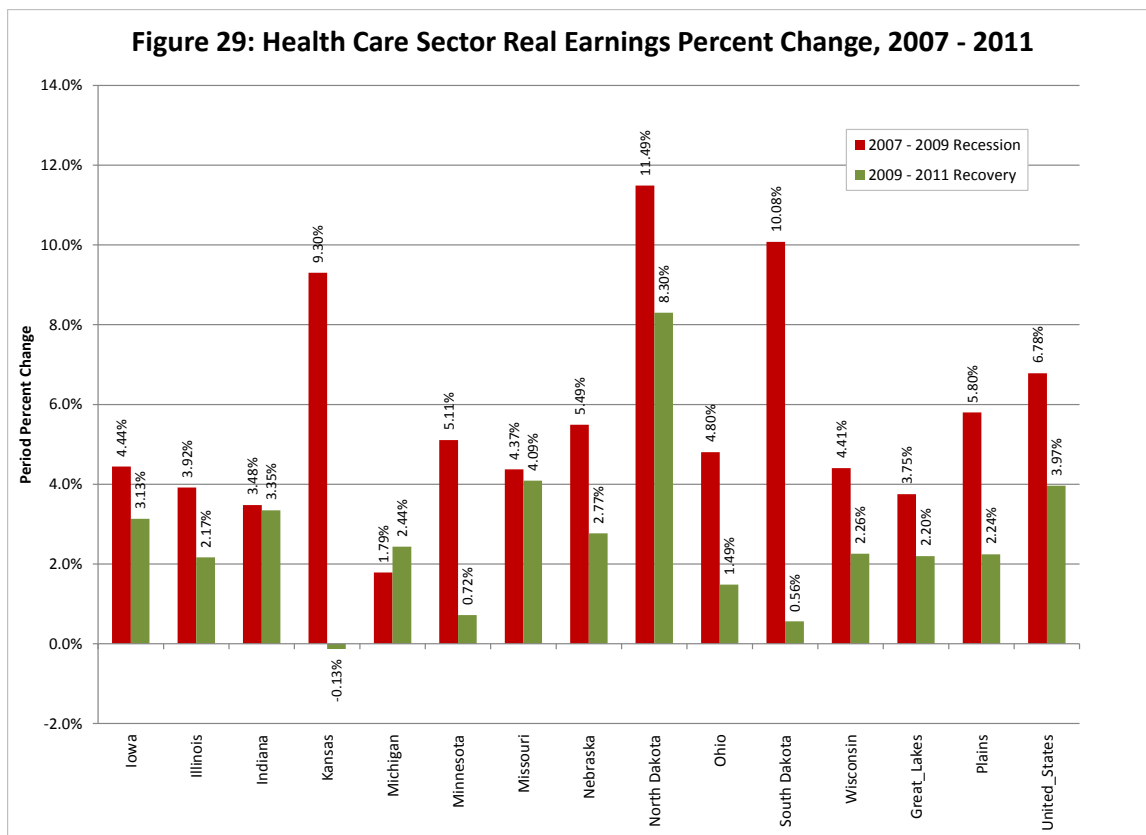
Iowa's health care and social assistance sector accounted for 10.22% of total State real earnings during 2011. Nationally, this sector accounted for 11.11% of total earnings. This sector's share of total earnings for the Great Lakes and the Plains regions equaled 11.97% and 11.50%, respectively. As shown in Figure 27, compared to the other eleven states that comprise these two regions Iowa ranked second lowest in terms of total earnings accounted for by this sector of its economy. In Illinois health care sector earnings equaled a marginally smaller 10.21% of total state earnings. One of the likely reasons this sector in Iowa accounts for a smaller share of earnings than other states is that Iowa has one of the lowest number of doctors per capita of any state equaling only 70 percent of the national average in 2007.



From 2000 to 2011 real earning for the health care sector in Iowa increased by 32.12% compared to 44.27% nationally. For the Great Lakes and the Plains regions the increases equaled 34.52% and 39.92%, respectively. As shown in Figure 28, among the twelve states Iowa's percentage increase ranked third lowest.

Figure 29 shows that earnings in the health care sector grew throughout the Great Recession and recovery years from 2007 through 2011. From 2007 to 2009 earnings for this sector in Iowa increased by 4.44% compared to 6.78% nationally. During the recession health care sector earnings increased by 3.75% in the Great Lakes region and by 5.80% in the Plains region. Among the twelve states Iowa's growth in earnings ranked seventh from the top.

Since 2009 earnings for this sector in Iowa increased by 3.13%. Nationally, the increase equaled 3.97% and for the Great Lakes and Plains regions the increases equaled 2.20% and 2.24%, respectively. Among the twelve states Iowa's rate of earnings growth ranked fourth following North Dakota (8.30%), Missouri (4.09%), and Indiana (3.35%).



## F. Retail Trade Sector

In 2011, Iowa's retail sector accounted for 6.34% of total State real earnings. Nationally, the retail sector accounted for 6.14% of total earnings. In the Great Lakes and Plains regions retail sector earnings equaled 5.93% and 6.04% of total earnings. As shown in Figure 30, Iowa's share of earnings from the retail sector ranked third highest behind South Dakota (7.00%) and Missouri (6.52%) among the twelve states in the Great Lakes and Plains regions. Also, during 2011 Iowa retail sector earnings accounted for 0.98 percent of total United States retail sector earnings.

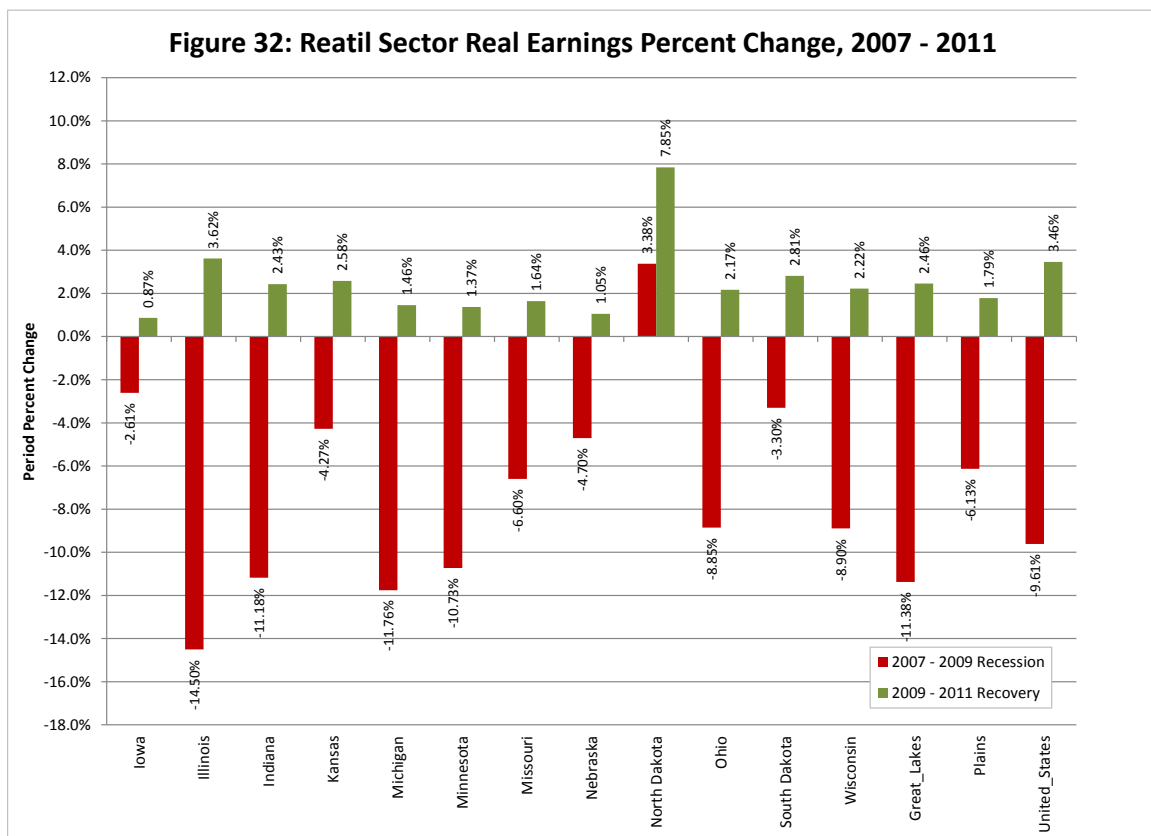


From 2000 to 2011 real earnings for the retail sector decreased by 6.60% in Iowa and by 3.02% nationally. For the Great Lakes and the Plains regions the decreases in retail trade earnings equaled 13.42% and 6.65%, respectively. As shown in Figure 31, among the twelve states Iowa's earnings decrease ranked sixth best. Retail earnings in North Dakota and South Dakota actually increased by 16.95% and by 9.10%. BEA earnings data only exists through 2010 for retail trade subsectors, but what is available does provide some further insight into what happened in this sector for the first decade of the 21<sup>st</sup> century. For example, earnings for furniture and home furnishings stores in Iowa decreased by 22.94% and by 23.63% nationally. As the housing sector collapsed sales of home furnishing also took a big hit, which no doubt led to layoffs, work-time reductions, and lower commission payments.

Focusing in on the years 2007 to 2011 provides additional information on the impact of the Great Recession and recovery on retail earnings. From 2007 to 2009 retail earnings decreased by 9.61% nationally compared to only a 2.61% decrease in Iowa. For the Great Lakes and the Plains regions the recession years' decreases equaled 11.38% and 6.13%, respectively. As shown in Figure 32, Iowa's decrease ranked second best behind only North Dakota where retail earnings increased by 3.38%.

Since the beginning of the recovery in 2009, retail earnings in Iowa have increased by only 0.87% compared to 3.46% nationally. The increases for the Great Lakes and the Plains regions have equaled 2.46% and 1.79%. Among the twelve states in these two regions Iowa's retail real earnings growth during the first two recovery years ranks last. Part of the explanation for the low rate of retail earnings growth in Iowa the past two years is that since retail earnings decreased so little during the recession

there has been less opportunity for recovery induced growth. Additional explanations may be found in employment changes since 2009, which will be addressed in the next paper.



## G. Lodging (Accommodations) and Food Service Sector

In 2011 Iowa's lodging and food service sector accounted for 2.28% of total real State earnings. Nationally, this sector accounted for 3.14% of total earnings. In the Great Lakes and the Plains regions the lodging and food service sector's shares of total earnings equaled 2.75% and 2.58%, respectively. As shown in Figure 33, Iowa ranked eleventh in terms of the share of total earnings accounted for by this sector. During 2011 Iowa's share of national lodging sector earnings equaled only 0.69%. Possible reasons for the low share of earnings for this sector in Iowa include its lack of major tourist destinations and the lack of major metropolitan areas with the types of businesses that generate significant travel. One additional observation of note is that none of the twelve states in the two regions had lodging and food service sector earnings shares greater than the national average in 2011.

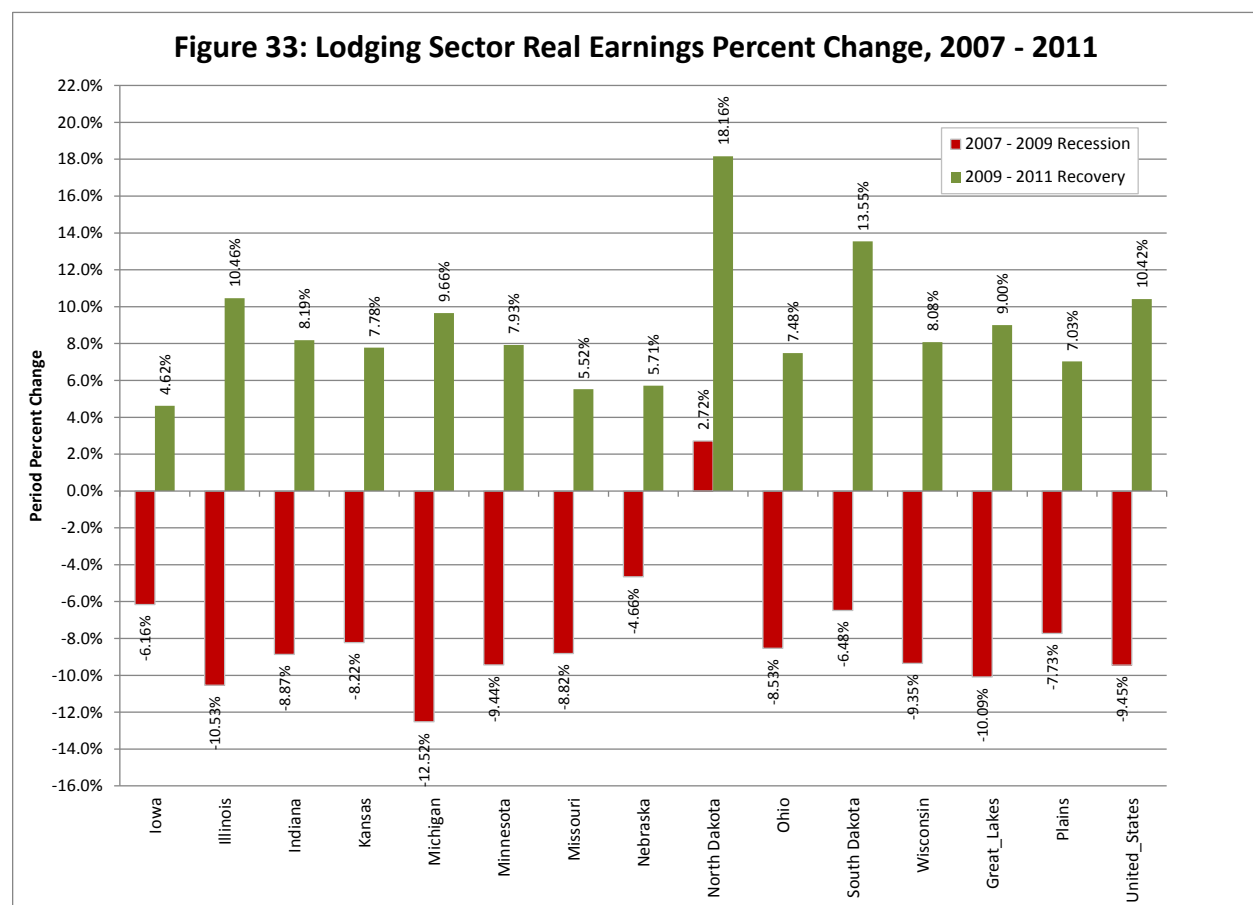


Over the entire period from 2000 to 2011 real earnings for the lodge and food service sector increased by 8.31% in Iowa and by 17.25% nationally. For the Great Lakes and Plains regions the increases equaled 9.74% and 11.34%, respectively. As shown in Figure 34, Iowa's increase in this sector's earnings over the period ranked eighth among the twelve states. The state with the highest growth rate was North Dakota (30.57%), which was no doubt due to the development of the Bakken shale oil fields. Somewhat surprisingly the state with the smallest amount of growth in earnings for this sector was Nebraska (4.17%).

Focusing on the years from 2007 to 2011 provides insight into how Iowa and other Midwestern states have weathered the Great Recession. During the recession years from 2007 through 2009 lodging

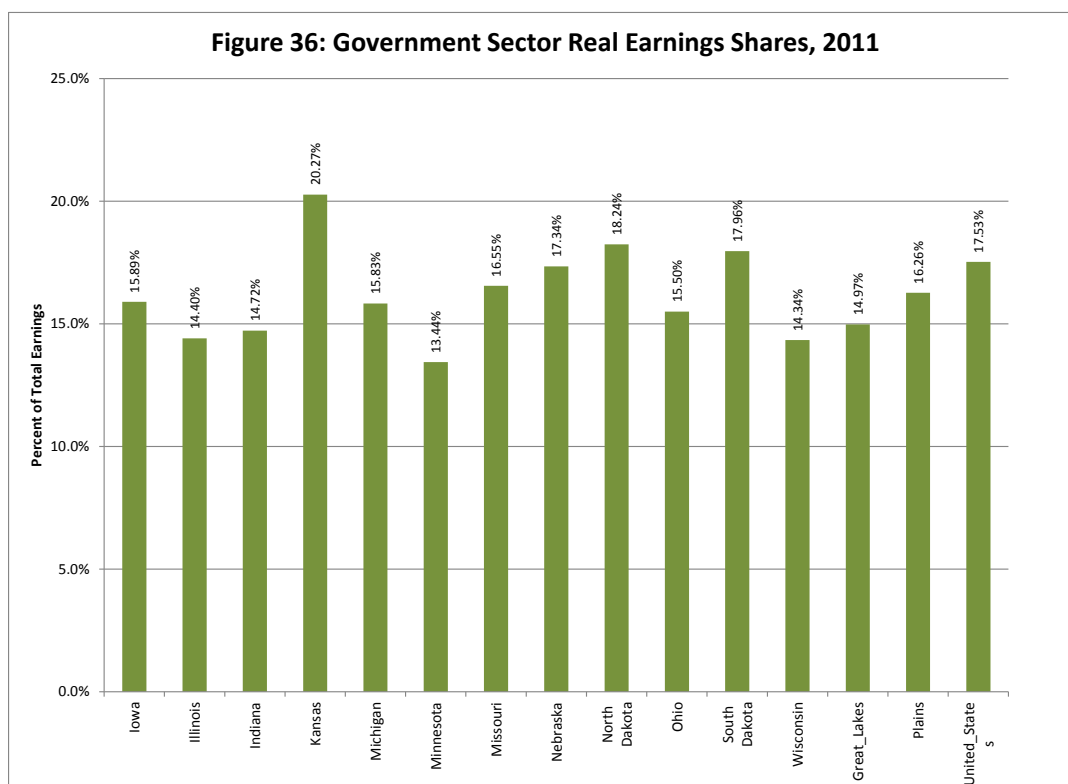
sector real earnings in Iowa decreased by 6.16%, while nationally the decrease equaled 9.45%. For the Great Lakes and Plains regions the decreases equaled 10.09% and 7.73%.

Since 2009 real lodging sector earnings for Iowa have increased by 4.62% and nationally the increase equaled 10.42%. The rates of increase for the Great Lakes and Plains regions equaled 9.00% and 7.03%. Among the twelve states in the two regions Iowa's real earnings growth ranks last for this sector.



## H. Government Sector

Iowa's government sector in 2011 accounted for 15.89% of total real state earnings. Nationally the government sector accounted for 17.53% of total earnings in 2011, which is a large increase from the 15.24% share that existed in 2000. Most all of the federal share increase can be attributed to the military. In the Great Lakes and the Plains regions government accounted for 14.97% and 16.26% of 2011 total real state earnings. Figure 36 shows that in 2011 Iowa ranked sixth for the share of total earnings coming from the government sector. Also, in 2011 Iowa's government sector earnings accounted for 0.86% of total national government sector real earnings.

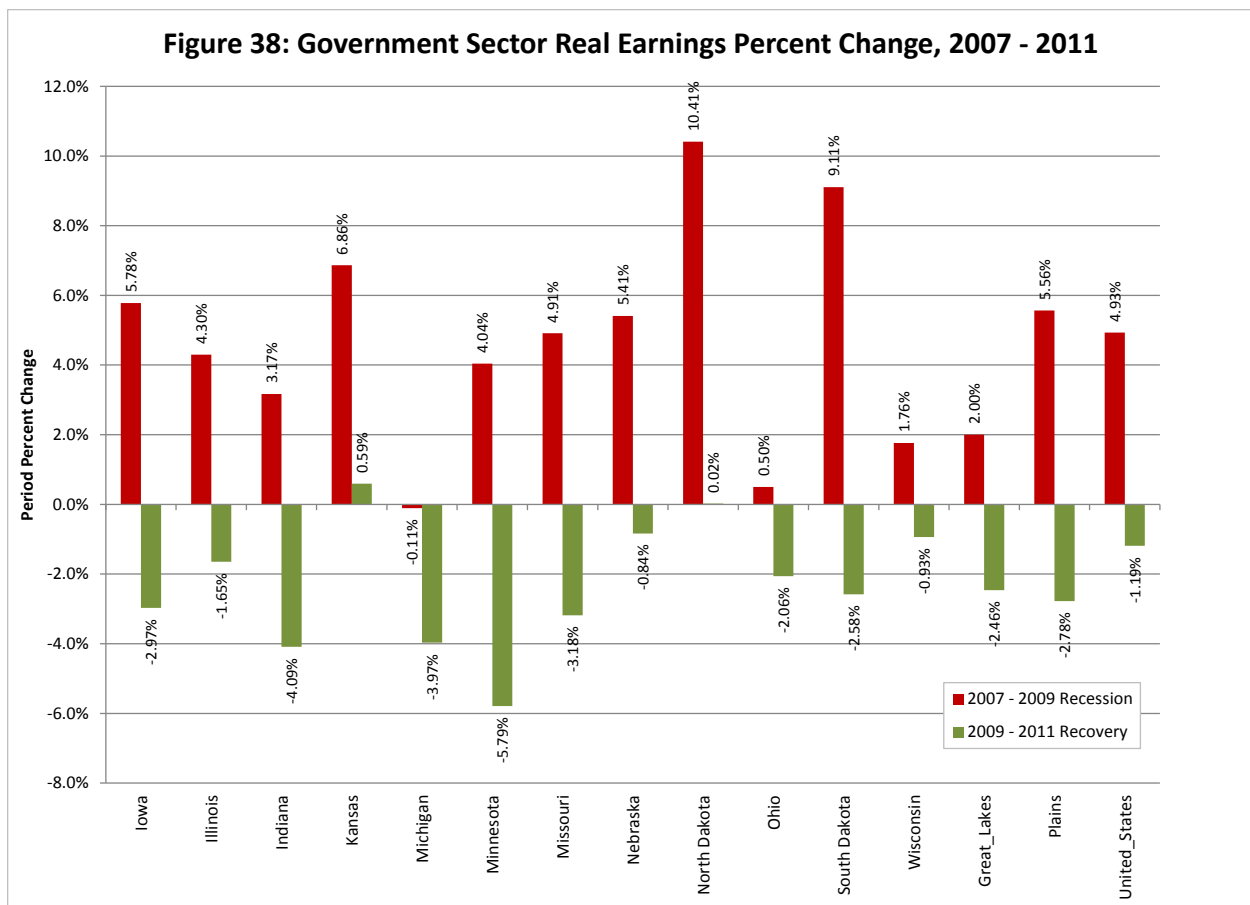


From 2000 to 2011 government sector real earnings in Iowa increased by 18.21%, while nationally the increase equaled 25.89%. For the Great Lakes and the Plains regions government sector real earnings increased by 10.32% and 20.18%, respectively. As shown in Figure 37, Iowa's increase in government sector earnings over the twelve years ranks sixth among the twelve states. Looking at the more detailed BEA subsector data for Iowa reveals that from 2000 to 2010 local government accounted for 60.69% of the increase and state government accounted for 21.20% of the increase. The remainder of the Iowa increase was due to federal government earnings growth, which was primarily military.

As shown in Figure 38, government sector earnings during the Great Recession and recovery years were overwhelmingly countercyclical. From 2007 to 2009 in Iowa earnings increased by 5.78%, while nationally the increase equaled 4.93%. For the Great Lakes and Plains regions the increases equaled 2.00% and 5.56%, respectively. Michigan was the only state in which government sector earnings decreased these two years.



From 2009 to 2011 government sector earnings decreased in ten of the twelve states. In Iowa the decrease equaled 2.97%. Nationally, the decrease equaled 1.19%. The decreases in the Great Lakes and Plains states equaled 2.46% and 2.78%, respectively. Among the states Iowa ranked eighth. In the next paper government employment will be investigated in order to obtain a better understanding of the source of government sector changes during and after the Great Recession.



## National, Regional, and Other States Income Sources Comparisons

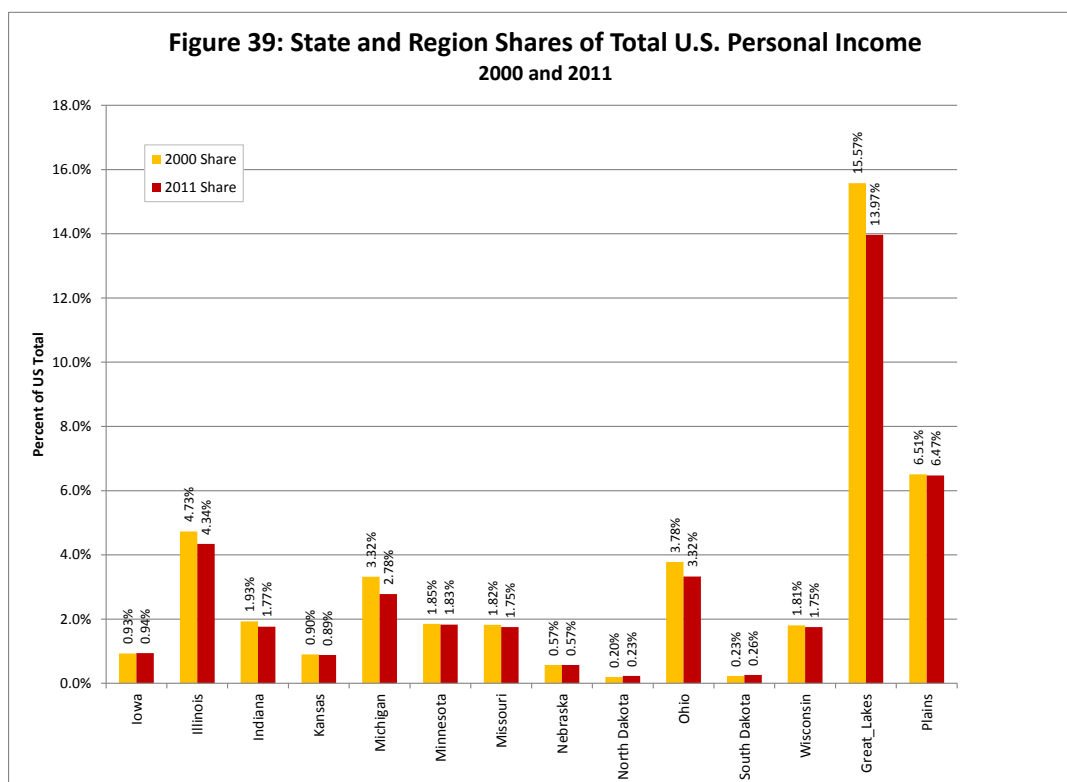
The three major sources of personal income for which the BEA publishes data are work, investment, and transfer income. The income source data is reported by place of residence as opposed to the previously analyzed earnings data, which the BEA reports by place of work. As explained previously work-related income consists of wages and salaries, employer provided benefits, proprietors' income, and a residence adjustment. Investment income consists of dividend, interest, and rental income. Transfers include primarily income from Social Security, Medicare, and other social safety net programs. The residence adjustment reflects cross-border flows of work-related income, which takes a positive value when a state's residents earn more income out-of-state than non-residents earn inside the state and a negative value when the opposite condition exists.

The first part of this analysis focuses on the entire period from 2000 through 2011. This analysis opens with comparisons of the three major sources of personal income. Then, comparisons are made for the components of work-related income.

The second part of the analysis makes comparisons of how the three income sources responded to the two recessions with particular emphasis on the Great Recession.

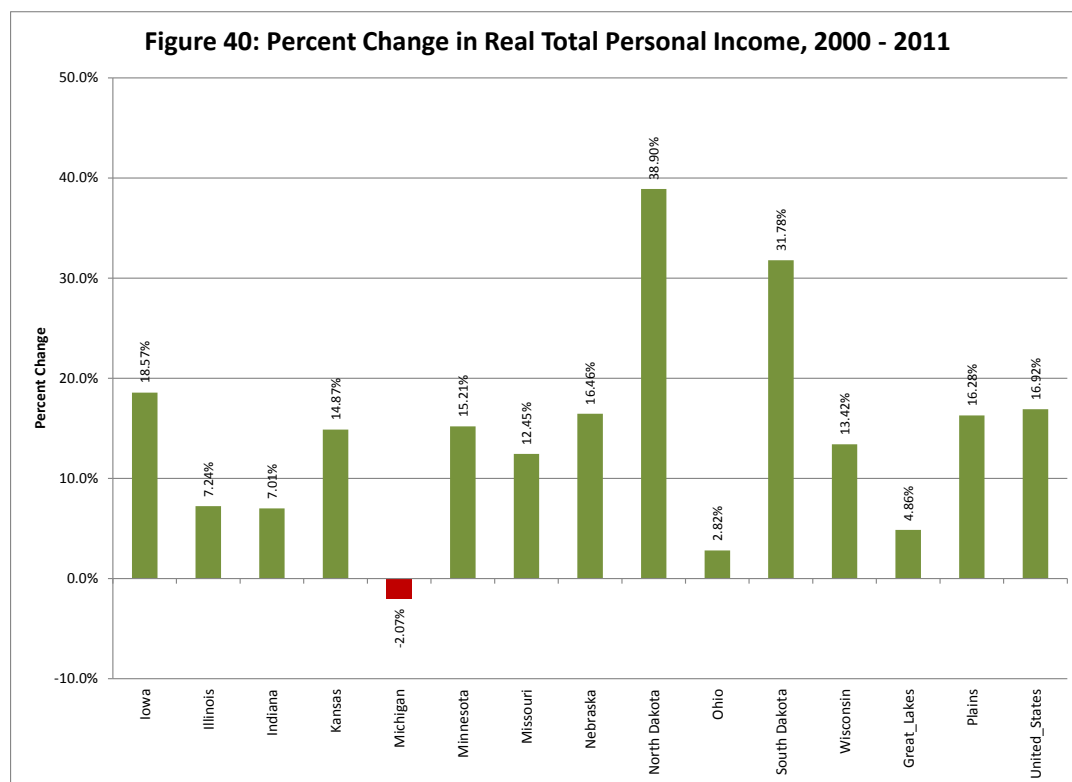
### Personal Income Sources State and Regional Comparisons, 2000 – 2011

Figure 39 shows the shares of total United States personal income accounted for by Iowa, the Great Lakes and Plains regions, and the other eleven states located in these two regions for the years 2000 and 2011.



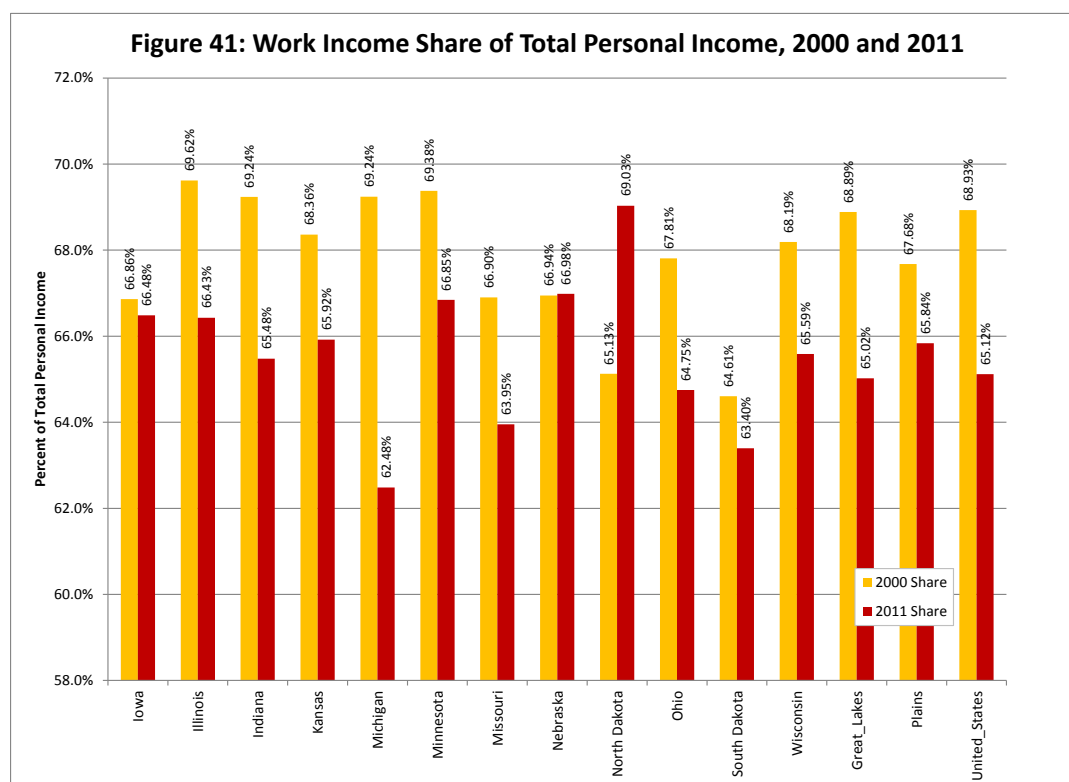
In both years Iowa accounted for the fifth lowest share of U.S. total personal income at 0.93% in 2000 and 0.94% in 2011. The states with the lowest shares both years were North Dakota and South Dakota. So, even though these two states' economies experienced strong growth over the twelve years their influence on the national economy has remained small. Illinois accounted for the largest share of personal income both years and was the only one of the twelve states to account for over 4 percent of U.S. total personal income in both 2000 and 2011. Among the states only Iowa, North Dakota, and South Dakota gained share over the entire period, while Nebraska's share remained unchanged. The Plains region experienced a small share decrease over the period declining from 6.51% to 6.47% of total U.S. personal income. The Great Lakes region experienced a much more sizable drop going from 15.57% to 13.97% in 2000 to 13.97% in 2011.

Figure 40 shows the percent by which real total personal income changed for each state, the Great Lakes and Plains regions, and the United States from 2000 to 2011. For the entire nation real total personal income increased by 16.92% over the twelve years. Iowa's real total personal income increased by 18.57%. The largest percent increases were realized by North Dakota (38.90%) and South Dakota (31.78%). Michigan was the only state to experience a decrease of real total personal income at -2.07%.



A fuller understand of how the different states fared economically over the period is obtained by looking at the three primary sources of personal income individually. Beginning with work related income Figure 41 shows the shares of total personal income derived from this source in 2000 and 2011. As is apparent from this figure most states experienced a sizable drop in the share of personal income

derived from work over the twelve years. The work share of personal income increased in only North Dakota and Nebraska. Compared to the other states the work share of personal income decrease for Iowa was relatively modest going from 66.86% to 66.48%. Nationally, the work share of personal income decreased from 68.93% to 65.12%.



As shown in Figure 42, the share of personal income coming from investments decreased in every one of the twelve states between 2000 and 2011. In Iowa investment income's share of total personal income decreased from 19.60% to 15.93%. Nationally, the share of personal income derived from investments decreased from 18.41% to 16.89%. In 2000 Iowa ranked fifth in terms of the share of income derived from investments. In 2011 Iowa ranked ninth in terms of the share of income derived from investments.

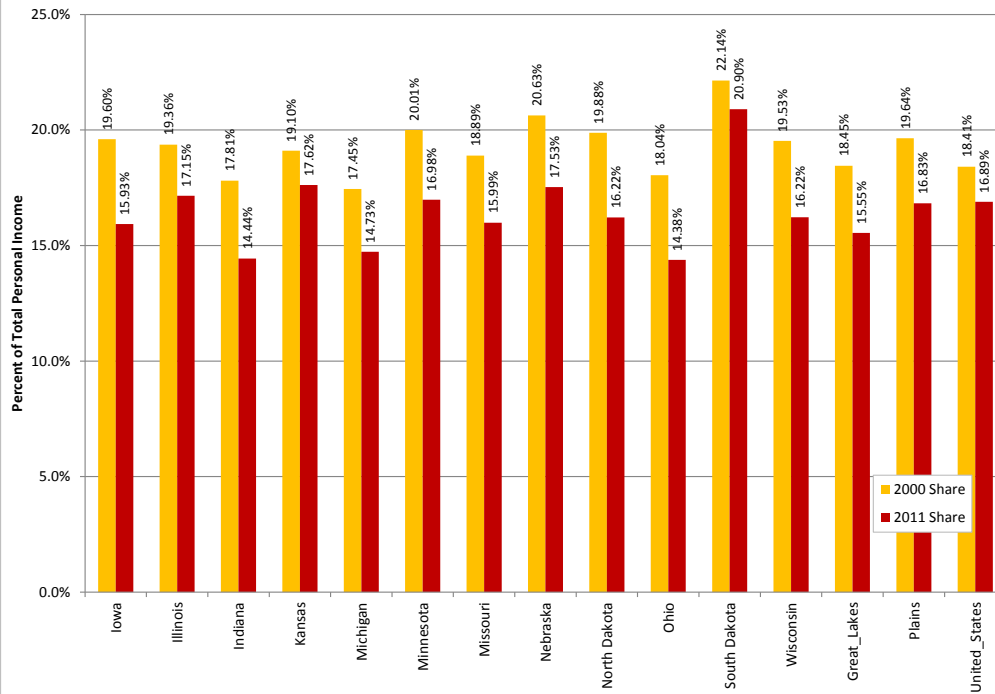
Over this period the returns from different types of investments have been mixed. Using the national average 1-year certificate of deposit as a surrogate for interest bearing investments returns have decreased from 3.27% in 2001 to 0.25% in 2011.<sup>7</sup> From 2000 to 2011 dividend yields have been fairly flat averaging 1.16% in 2000 and 1.79% in 2011.<sup>8</sup> Data on real estate rental rates is difficult to obtain because rates are location specific. However, at least for Iowa a considerable share of rental income is derived for farmland. Statistics compiled by Iowa State University indicate that from 2000 to 2011 average rental rates per acre of cropland increased from \$115 to \$196, or by over 70 percent.<sup>9</sup>

<sup>7</sup> Source: Bankrate Monitor's Weekly Survey. Annual average data does not exist prior to 2001.

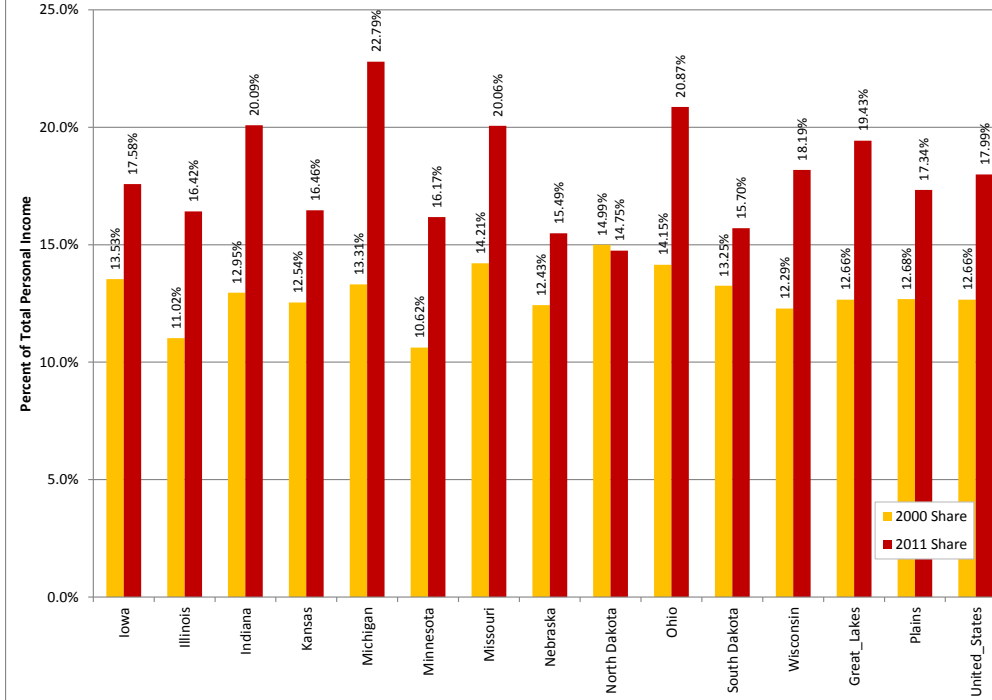
<sup>8</sup> Source: S&P 500 Dividend Yield

<sup>9</sup> Source: William Edwards, "Iowa Farmland Rental Rates, 1994 – 2011, File C2-09, Iowa State University Extension and Outreach (August 2011)

**Figure 42: Investment Income Share of Total Personal Income**  
2000 and 2011

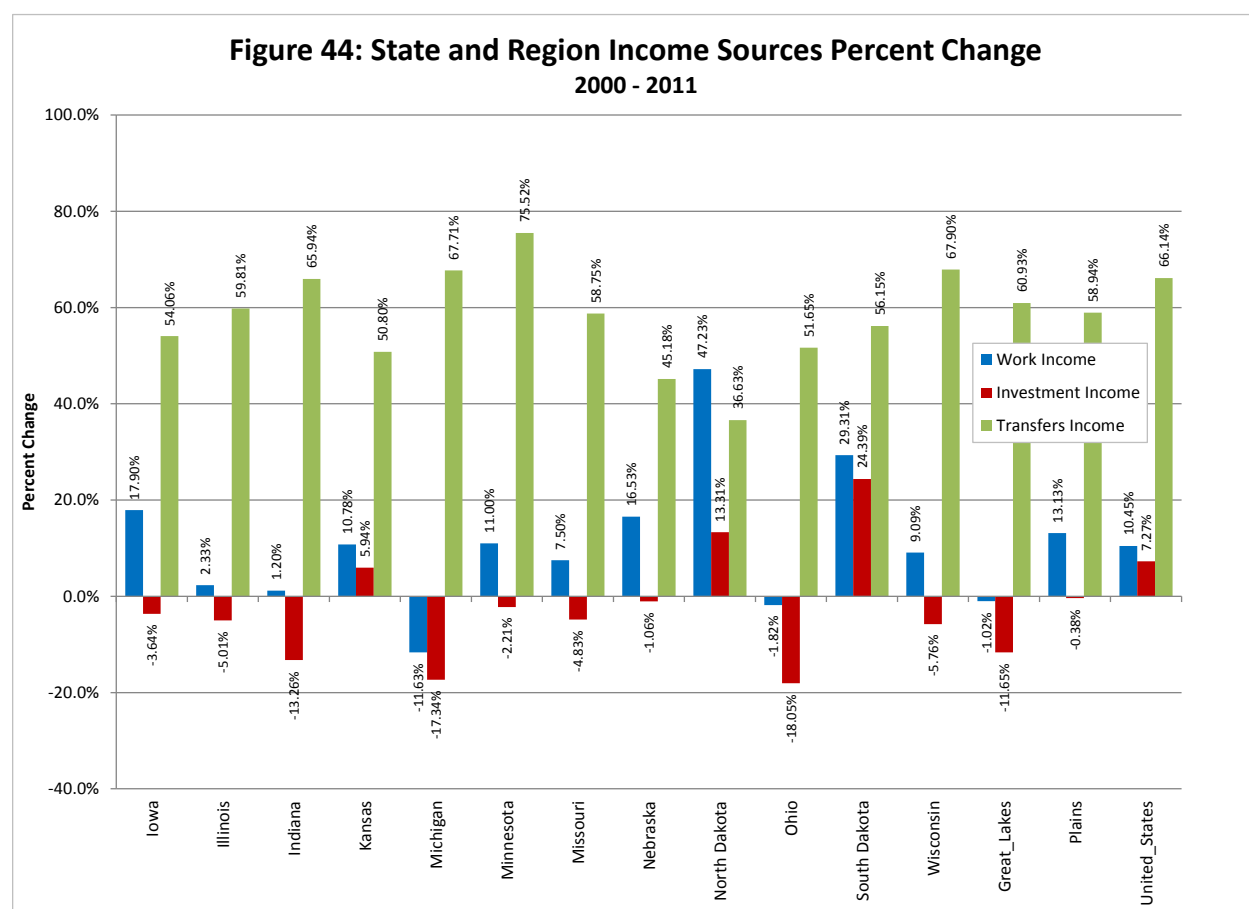


**Figure 43: Transfers Income Share of Total Personal Income**  
2000 and 2011



Since work and investment income shares decreased for most states over the period, as Figure 43 shows the share of personal income derived from transfer payments increased in every state except North Dakota. Nationally, the share of personal income accounted for by transfer payments increased from 12.66% in 2000 to 17.99% in 2011. In Iowa transfer payments' share increased from 13.53% to 17.58% of personal income. In 2000 Iowa ranked fourth and in 2011 sixth in terms in the share of personal income derived from transfer payments.

Another way of comparing personal income among the states and regions is in terms of the percent changes of the three primary income sources over the period. Figure 44 makes this comparison.



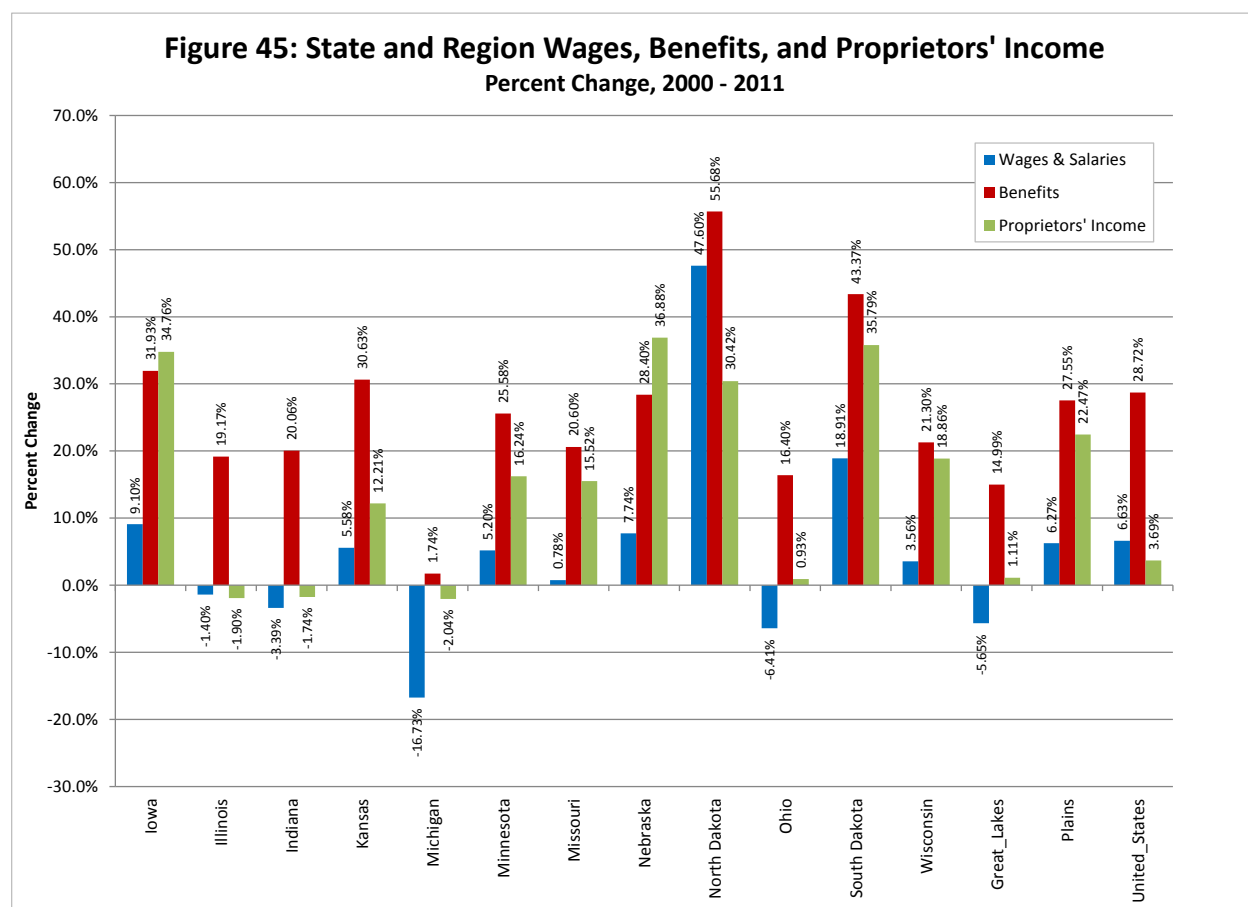
Over the twelve years work related income increased by 10.45% nationally and by 13.13% in the Plains region, but in the Great Lakes region income from work decreased by 1.02%. In Iowa work income increased by 17.90%, which ranked the State third after North Dakota (47.23%) and South Dakota (29.31%). Nebraska, Minnesota, and Kansas experienced the next three highest growth rates. What all of these states have in common is a strong and relatively large agricultural sector. In addition, North Dakota obviously realized an additional boost from newly developed oil and gas fields.

Although investment income increased by 7.27% nationally, this source of income decreased in nine of the Great Lakes and Plains states. South Dakota at 24.39% realized the largest increase and Ohio

experienced the largest decrease at -18.05%. Investment income in Iowa decreased by 3.64%, which ranks the state sixth.

Income from transfer payments increased by 66.14% over the twelve years nationally, by 60.93% in the Great Lakes region and by 58.94% in the Plains region. In Iowa transfer payments increased by 54.06%. Only four states – North Dakota (36.63%), Nebraska (45.18%), Kansas (50.80%) and Ohio (51.65%) – had lower rates of increase than Iowa.

Analysis of the components of work-related income adds further insight into how Iowa's economy compares to the nation and to the other Midwestern states. Figure 45 shows percent changes in wages and salaries, employee benefits, and proprietors' income between 2000 and 2011.

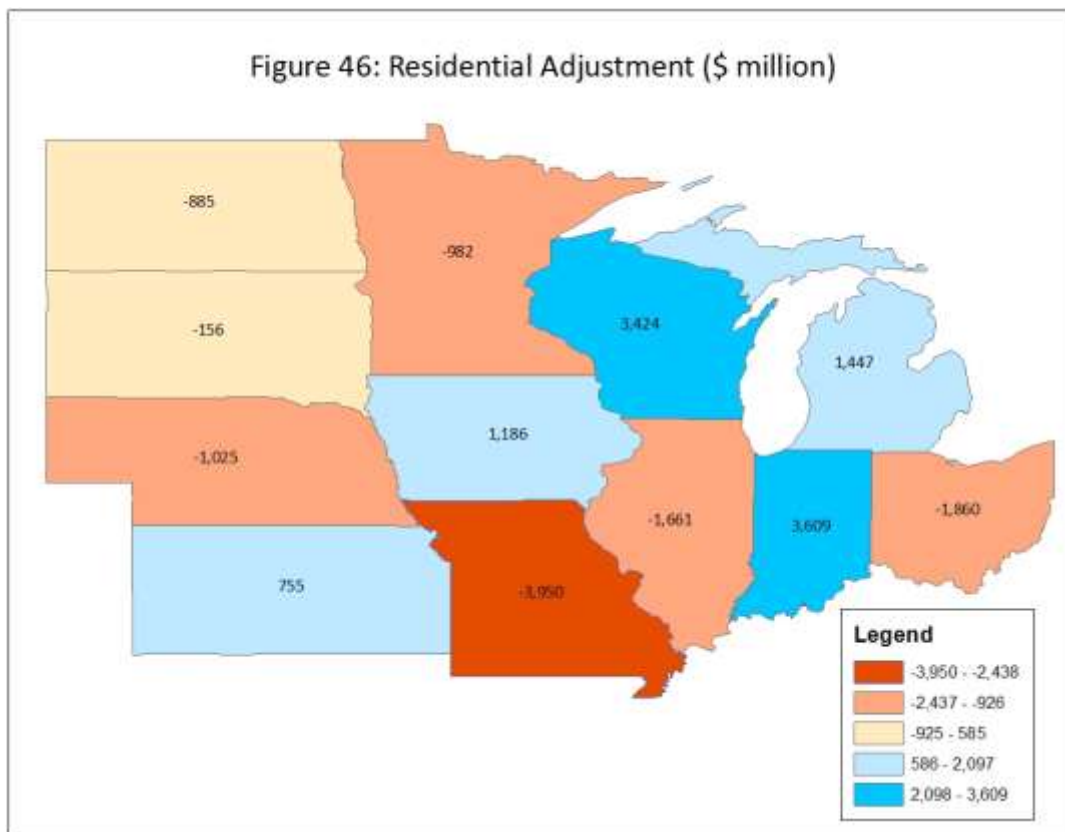


Over this period wage and salary income increased by 6.63% nationally and by 6.27% in the Plains region, but it decreased by 5.65% in the Great Lakes region. Four of the five Great Lakes states experienced wage and salary decreases over the period – Michigan (-16.73%), Ohio (-6.41%), Indiana (-3.39%), and Illinois (-1.40%). The seven Plain states all experienced wage and salary income growth with North Dakota realizing the strongest growth at 47.60%. However, even with this strong wage and salary growth North Dakota only raised its share of total U.S. wage and salary income from 0.18% to 0.25%. Wage and salary income for Iowa increased by 9.10% over the twelve years, which was the third largest percentage increase among the twelve states.

Benefits increased by 28.72% nationally, by 14.99% in the Great Lakes region and by 27.55% in the Plains region. Every state in the two regions experienced an increase in benefits. Benefits growth ranged from a low of 1.74% in Michigan to a high of 55.68% in North Dakota. Benefits grew by 31.93% in Iowa, which ranked third.

Proprietors' income increased by 3.69% nationally, by 1.11% in the Great Lakes region and by 22.47% in the Plains region. The strength of proprietors' income in the Plains states can be attributed to agriculture. Farm proprietor's income in the Plains states grew by 145.38% from 2000 to 2011, while non-farm proprietors' income grew by only 3.22% in these states. In Iowa total proprietors' income increased by 34.76% over the twelve years, while non-farm proprietors' income decreased by 1.45% and farm proprietors' income increased by 150.95%. Compared to the other eleven states Iowa's percent change in total proprietors' income ranked third behind Nebraska (36.88%) and South Dakota (35.79%). Iowa's percent change in non-farm proprietors' income ranked seventh and Iowa's percent change in farm proprietors' income ranked seventh. However, in real dollars Iowa's \$3.559 billion increase in farm proprietors' income was the largest increase of the twelve states. The state with the second largest increase was Illinois at \$2.843 billion.

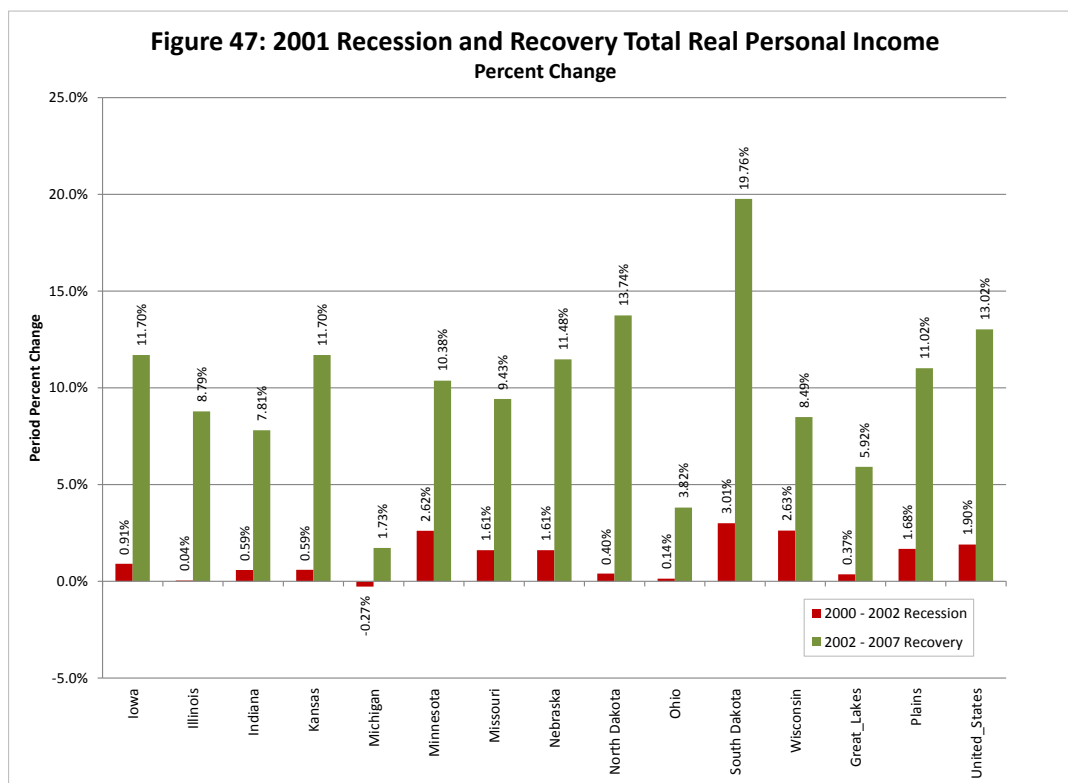
One final comparison worth making involves the residential adjustments. Figure 46 shows these adjustments for 2011. Among the twelve states the residents of five earned more income outside their state of residence than non-residents earned within the state. Overall Iowa ranked fourth in terms of the net amount of earnings residents brought into the state.



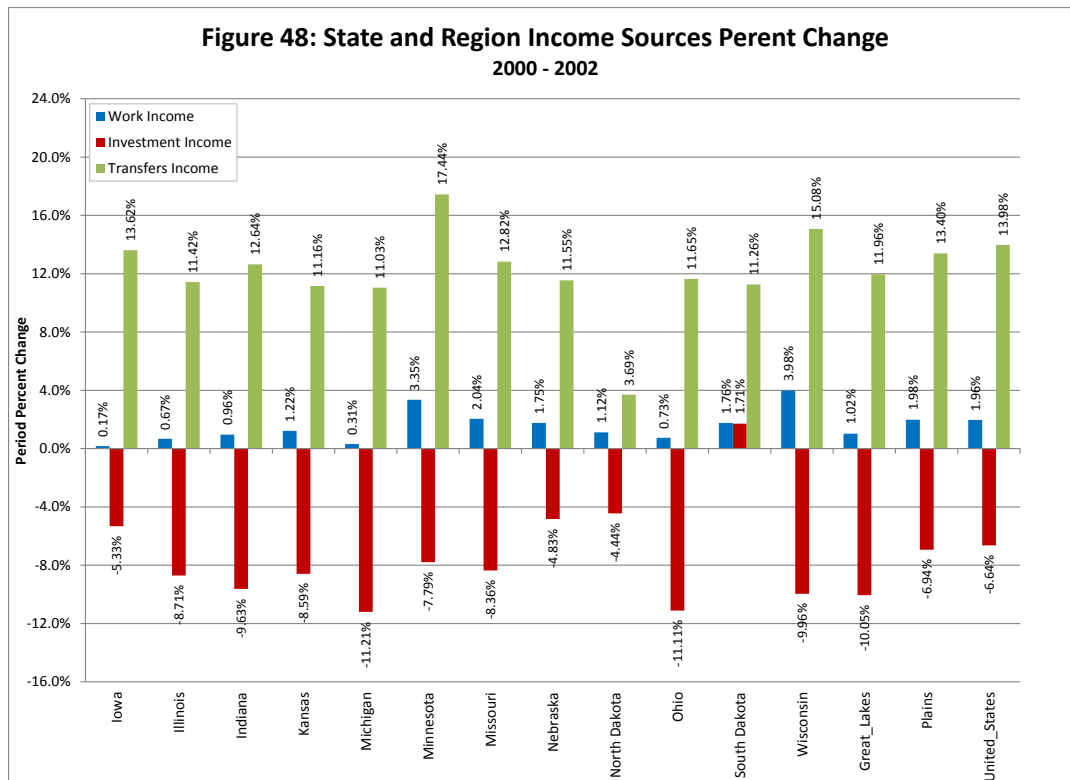


## Personal Income Sources State and Regional Comparisons, 2000 – 2007

The nation experienced two recessions between 2000 and 2011. The first was a relatively mild one that lasted from March to November 2001. Looking at the period from 2000 to 2002, only one state – Michigan – experienced a decrease in real personal income. As shown in Figure 47, nationally real personal income increased by 1.90% over the two years, while the Great Lakes and Plains regions experienced 0.37% and 1.68% increases, respectively. The Iowa increase equaled 0.91%, which ranked sixth among the twelve states. During the five years following the recession real personal income grew by 13.02% nationally, by 5.92% in the Great Lakes region and by 11.02% in the Plains region. Total real personal income increased by 11.70% in Iowa, which ranked third tied with Kansas behind South Dakota and North Dakota.



As shown in Figure 48, all twelve states experienced modest increases in real work-related income and fairly strong increases in transfer payments during the recession years, while with the exception of one – South Dakota – all states experienced relatively sizable decreases in investment income. From 2000 to 2002 work-related income increased by 1.95% nationally, by 1.02% in the Great Lakes region and by 1.98% in the Plains region. In Iowa work-related income increased by a very modest 0.17%, which ranked last among the states. This corresponds with the findings of the prior study that looked at gross state product as a measure of economic activity. That study found that from 2000 to 2002 the economies of only Michigan, Ohio, and Illinois performed worse than Iowa's economy. The fourth paper of this series will take a more in depth look at why Iowa's economy performed worse than other Midwestern states during these two years.



Investment income during this period decreased by 6.64% nationally, by 10.05% in the Great Lakes states, and by 6.94% in the Plains states. In Iowa investment income decreased by 5.33%, which was the fourth best of the twelve states.

Transfer payments increased by 13.98% nationally, by 11.96% in the Great Lakes region and by 13.40% in the Plains region. In Iowa transfer payments increased by 13.62%, which was the third highest among the states.

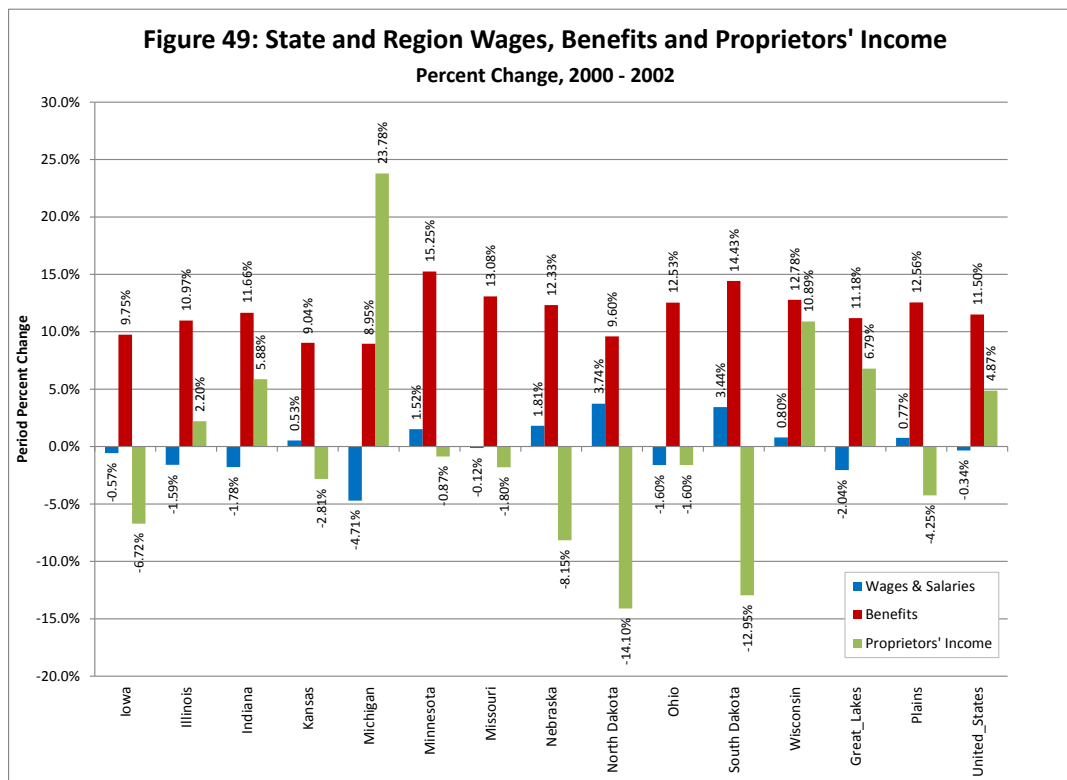
Figure 49 presents a more detailed analysis of the major components of work-related income during the recession years from 2000 through 2002. Wage and salary income during this period decreased a modest 0.34% nationally and by 2.04% in the Great Lakes region, but in the Plains region wage and salary income increased by 0.77%. In the Plains region only Iowa and Missouri experienced wage and salary income decreases. In Iowa the decrease equaled 0.57%.

Benefits experienced fairly strong growth over these two years. Benefits in every one of the Great Lakes and Plains states increased. Nationally, benefits increased by 11.50%. In the Great Lakes and Plains regions the increases equaled 11.18% and 12.56%, respectively. In Iowa benefits increased by 9.75%, which was the ninth highest increase among the states. During this period average family and individual health insurance premium costs increased by over 24 percent nationally.<sup>10</sup>

Proprietors' income increased by 4.87% nationally and by 6.79% in the Great Lakes region, but decreased by 4.25% in the Plains region. In Iowa proprietors' income decreased by 6.72%, which ranked as the fourth largest percentage decrease. Over these two years proprietors' income increased in four

<sup>10</sup> Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999 - 2009

states – Michigan (23.78%), Wisconsin (10.89%), Indiana (5.88%), and Illinois (2.20%), and decreased in the remaining eight states. Iowa was the only state to experience a decrease in both non-farm and farm proprietors' income these two years. Michigan and Wisconsin experienced increases in both sources of proprietors' income, while in Illinois and Indiana non-farm proprietors' income increased but farm proprietors' income decreased.



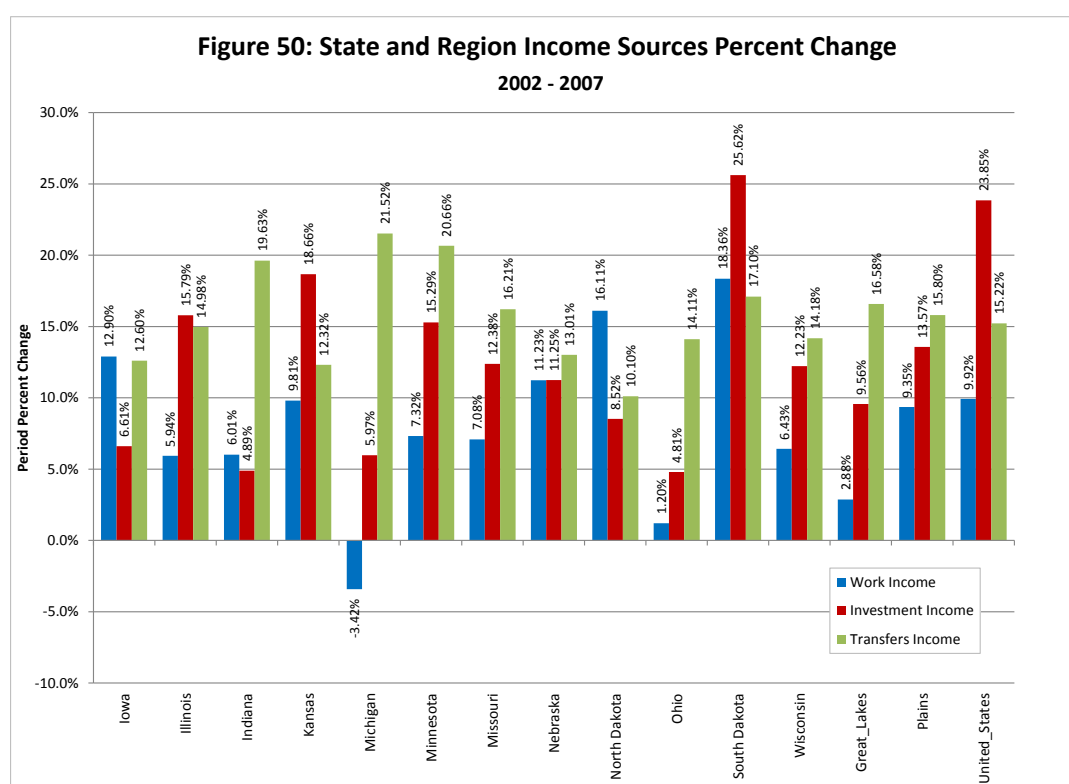
Following the 2001 recession the nation experienced a very modest 0.25% increase in real personal income during 2002. As is normal in the case of any economic downturn employment often does not hit bottom for a number of months after the recession is officially declared over by the time keepers at the National Bureau of Economic Research (NBER). Consequently, the recovery of personal income growth often lags the recovery of output growth following a recession.

In the case of the 2001 recession employment losses continued even longer than normal until August 2003. For this reason in this analysis 2001 and 2002 have been both treated as recession years and 2003 through 2007 represent the subsequent period of recovery and expansion. Figure 50 shows percent changes in work, investment, and transfers income for the years 2002 through 2007.

Work related income increased by 9.92% nationally over these five years. In the Great Lakes and Plains regions work related income increased by 2.88% and 9.35%, respectively. Iowa experienced the third strongest rate of growth for this income source at 12.90% behind only North Dakota (16.11%) and South Dakota (18.36%).

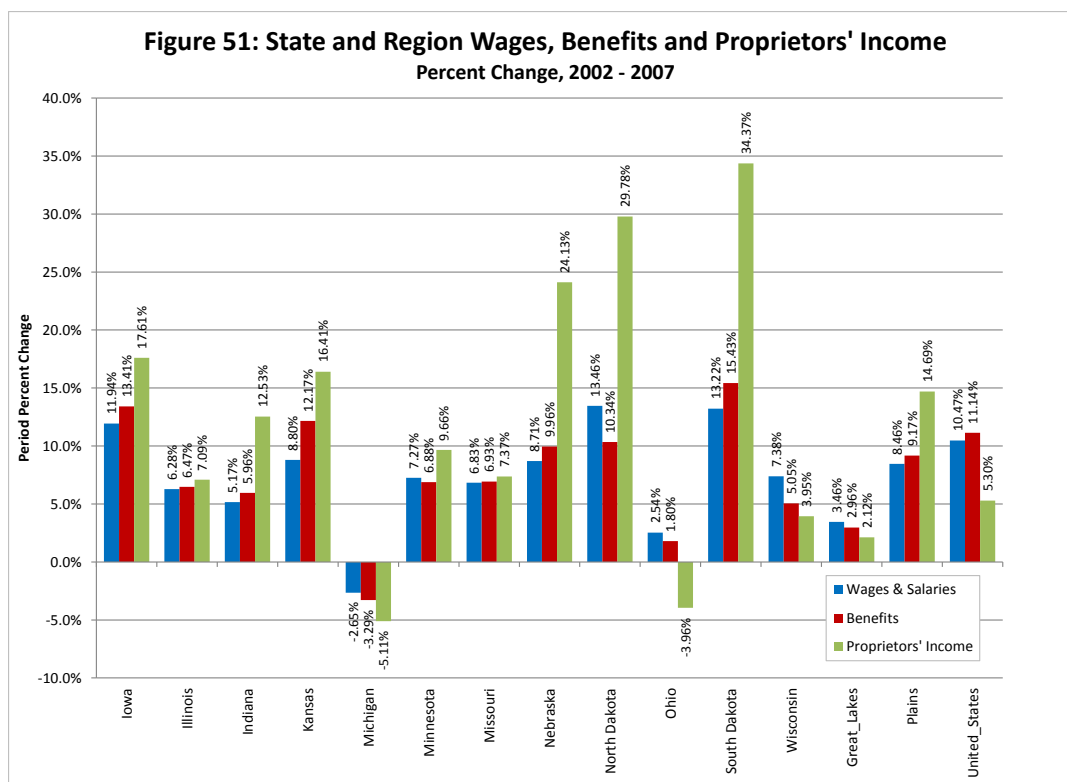
Where Iowa lagged the other Midwestern states was in the growth of investment income, which equaled only 6.61%. Nationally, investment income grew by 23.85%, while in the Great Lakes and Plains regions the growth rates equaled 9.56% and 13.57%. The only states with less growth than Iowa in investment income were Indiana (4.89%), Michigan (5.97%), and Ohio (4.81%).

Nationally, transfer payments increased by 15.22% during these five years in comparison to the 13.98% growth during the two prior recession years. Income from this source increased by 16.58% in the Great Lakes region and by 15.80% in the Plains region. Iowa's transfer payments increased by 12.60%, which ranked tenth ahead of only Kansas and North Dakota. Social safety net programs, such as unemployment compensation and retraining assistance, no doubt explain much of the growth in transfer payments during the recession years. Long-term Social Security, Medicare, and other retirement programs will increase the growth in transfer payments. From 2002 to 2007 the number of Social Security recipients increased by 4.37%.<sup>11</sup>



As shown in Figure 51, a more in depth analysis of the components of work related income reveals considerable differences among the states during the years from 2002 to 2007. There was a very distinct difference between the states of Great Lakes and Plains regions. Wage and salary income increased by 3.46% in the Great Lakes states and by 8.46% in the Plains states. Only three states in the two regions experienced wage and salary income growth greater than the national average of 10.47%. These three states are North Dakota (13.46%), South Dakota (13.22%), and Iowa (11.94%).

<sup>11</sup> OASDI Current-Pay Benefits: Summary, Table 5.A4 – Number and total monthly benefits, by trust fund and type of benefit, December 1940 – 2010, selected years, Annual Statistical Supplement, 2011



As may be expected the growth of benefits closely parallels the growth of wage and salary income. Again benefits growth nationally at 11.14% exceeded the growth rate for the Great Lakes region (2.96%) and the Plains region (9.17%). In Iowa benefits grew by 13.41%, which ranked second to South Dakota's 15.43%. One interesting anomaly among the states is that in North Dakota wage and salary income grew by 13.46%, but benefits increased by only 10.34%. This implies that many of the jobs created by the oil boom in that state may be temporary or relatively low quality.

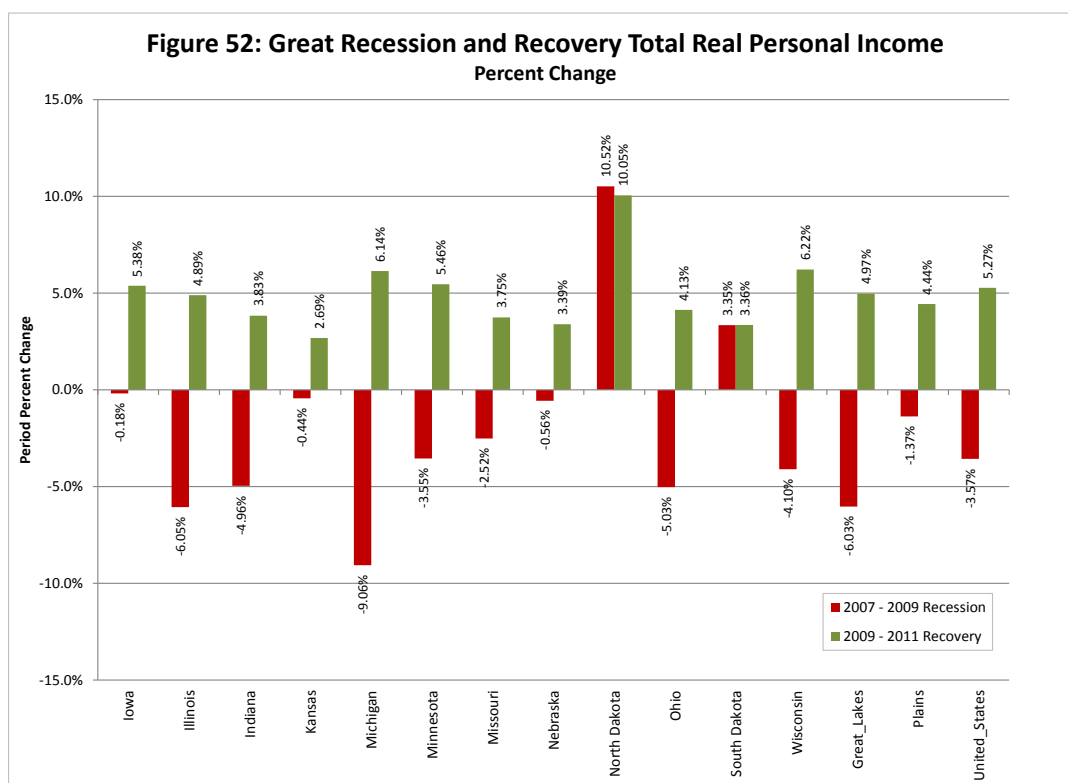
Again there is an obvious difference between the growth rate of proprietors' income in the Plains region (14.69%) and the Great Lakes region (2.12%) during this recovery period. Both regions underperformed the nation in terms of non-farm proprietors' income. Nationally, non-farm proprietors' income increased by 3.82%, while in the Great Lakes and Plains regions the changes equaled -1.25% and 1.65%, respectively. In Iowa non-farm proprietors' income increased by 4.79%, which was third among the states after Indiana (6.28%) and Kansas (6.03%). In terms of farm proprietors' income every state did better than the nation as a whole except for Michigan. Farm proprietors' income nationally increased by 63.95%, while the increases in the Great Lakes and Plains regions equaled 293.83% and 189.39%. The increase in Iowa equaled the second lowest among the states at 68.70%.

#### Personal Income Sources State and Regional Comparisons, 2007 – 2011

The Great Recession began in December 2007 and the NBER Business Cycle Dating Committee declared it ended in June 2009. This analysis divides the period since the beginning of this recession into two parts. The first which encompasses the official recession period extends from 2007 to 2009. The second period covers the two years since the end of the recession – 2009 to 2011. Given the severity of the

Great Recession and the slow rate of employment growth it is likely the nation's economy will not be fully recovered until 2014 or later.

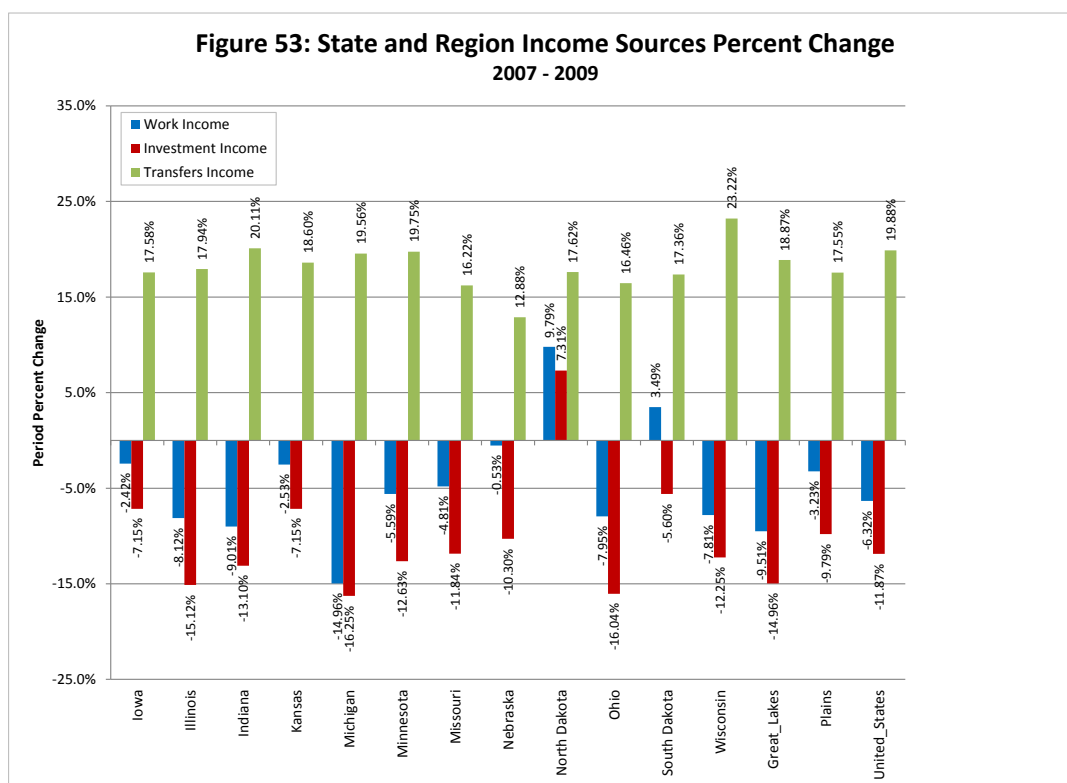
Figure 52 presents percentage changes in total real personal income for the two periods for the nation, the Great Lakes and Plains regions, and the twelve states that comprise these regions. During the two recession years real personal income decreased by 3.57% nationally, by 6.03% in the Great Lakes states and by 1.37% in the Plains states. Somewhat surprisingly total real personal income in Iowa decreased by only 0.18% between 2007 and 2009. Two of the most likely explanations for this small decrease are that Iowa was not impacted nearly as much by the housing bubble and by subprime mortgage problems as the rest of the nation and at the same time the recession took hold farm commodity prices began to experience strong growth.



Since 2009 total real personal income has increased by 5.27% nationally, by 4.97% in the Great Lakes region and by 4.44% in the Plains region. In comparison from 2002 to 2004 immediately following the 2001 recession total real personal income increased by 3.91% nationally, by 2.22% in the Great Lakes region and by 4.07% in the Plains region. So, in spite of the much greater severity nationally of the 2007 to 2009 recession the initial recovery was stronger than the initial recovery following the 2001 recession.

In Iowa total real personal income increased by 5.38% between 2009 and 2011 compared to an increase of 4.50% between 2002 and 2004. During these first two years of recovery from the Great Recession Iowa's growth ranked fifth among the twelve states.

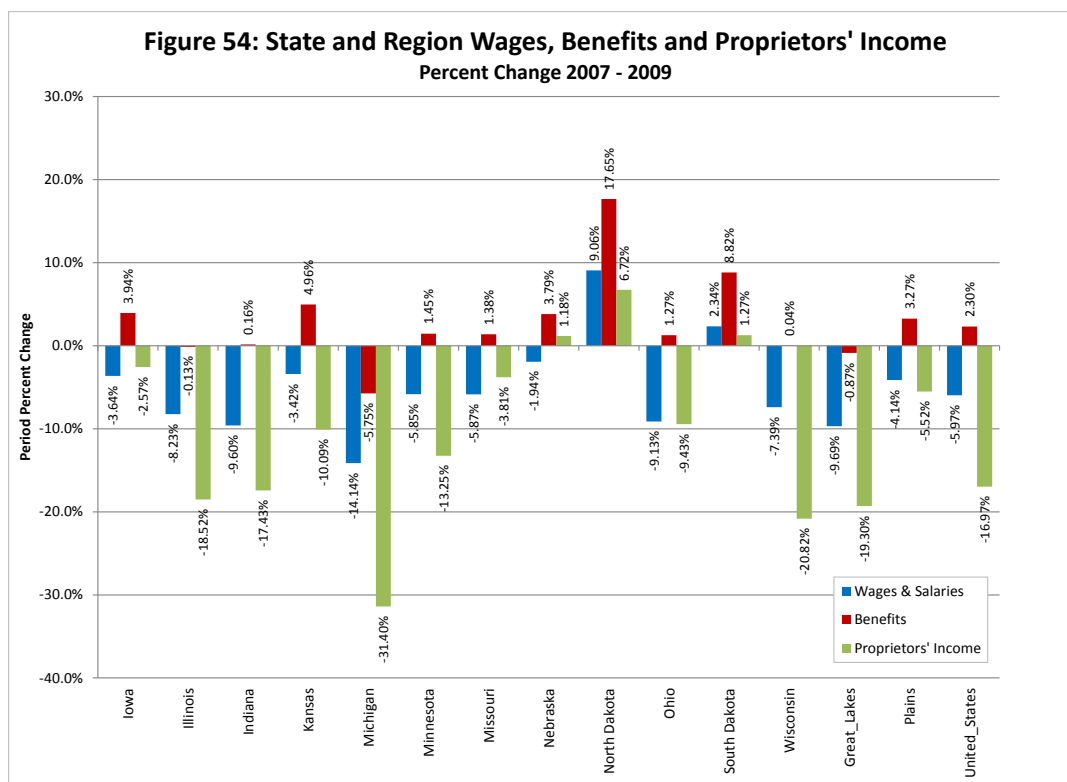
Figure 53 presents the percentage changes in the three major sources of real personal income from 2007 to 2009. The changes in work-related income exhibit considerable variation among the twelve states. Nationally work related income decreased by 6.32%. The decreases in the Great Lakes and Plains regions equaled 9.51% and 3.23%, respectively. Two states – North Dakota and South Dakota – experienced increases in work-related income. In Iowa income from work decreased by only 2.42%, which given the severity of the recession is very modest and ranked fourth best among the twelve states.



Not surprisingly given that the Great Recession was finance driven investment income suffered much more during this period than did work income. Nationally, investment income decreased by 11.87%, while in the Great Lakes region the decrease equaled 14.96% and in the Plains region the decrease equaled 9.79%. Investment income in Iowa decreased by 7.15%, which was tied with Kansas for third best.

Transfer payments during the recession increased by 19.88% nationally, by 18.87% in the Great Lakes region and by 17.55% in the Plains region. In Iowa transfer payments increased by 17.58%, which equaled the fifth lowest among the twelve states.

Figure 54 shows how the three primary components of work-related income fared during the Great Recession. North Dakota and South Dakota experienced wage and salary growth during the two recession years. All other states in the two regions experienced decreases. Nationally wage and salary income decreased by 5.97%. The decreases in the Great Lakes and Plains regions equaled 9.69% and 4.14%, respectively. In Iowa wage and salary income decreased 3.64%, ranking fourth best among the twelve states.



Benefits increased in all the states except for Illinois and Michigan. Nationally benefits increased by 2.30%. In the Great Lakes region benefits decreased by 0.87%, but increased by 3.27% in the Plains region. In Iowa benefits increased by 3.94%.

Except for Nebraska, North Dakota, and South Dakota, proprietors' income decreased between 2007 and 2009. Nationally proprietors' income decreased by 16.97%. In the Great Lakes and Plains regions the decreases equaled 19.30% and 5.52%. Proprietors' income in Iowa decreased by a modest 2.57%, which was the smallest decrease among the nine states with decreases. Non-farm proprietors' income decreased in all the states, while farm proprietors' income increased in eleven of the twelve states with Wisconsin being the exception.

Since 2009 all of the Midwestern states have experienced a fairly decent recovery within the three major categories of personal income. As shown in Figure 55 every one of the twelve states has experienced real growth in work, investment, and transfers incomes. Nationally work, investment, and transfers incomes increased by 5.20%, 5.27%, and 5.53%, respectively, between 2009 and 2011. In comparison during the first two years following the 2001 recession – 2002 to 2004 – work and transfers incomes increased by 4.81% and 4.63%, while investment income decreased by 0.37%. So, the recovery of personal income following the Great Recession started out stronger than the recovery following the prior recession.

For the Great Lakes region work-related, investment and transfers incomes increased by 5.25%, 5.41% and 3.72%, respectively, between 2009 and 2011. For the Plains region the three sources of real personal income increased by 4.83%, 4.49% and 2.97%.



For Iowa work-related income increased by 6.84%, which was the fourth strongest increase among the twelve states following only North Dakota (14.21%), Michigan (7.26%), and Wisconsin (6.93%). Investment income increased by 2.83%, which was the second lowest rate among the states. Transfers increased by 2.42%, which ranked seventh among the states.

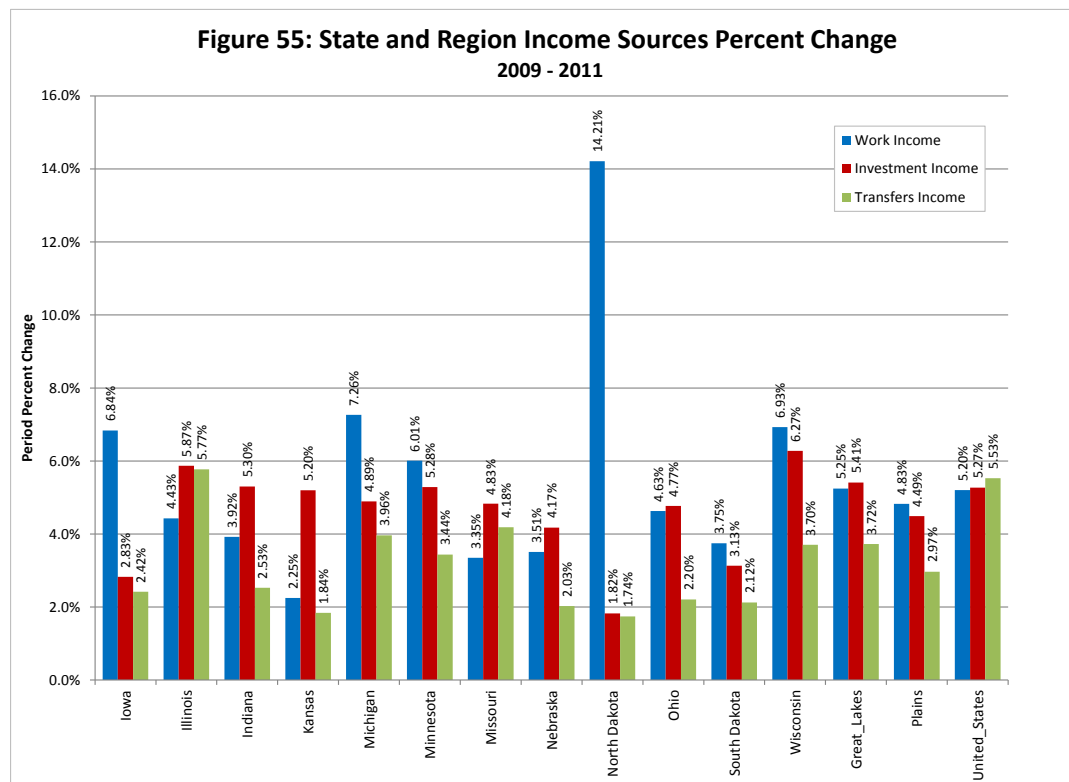
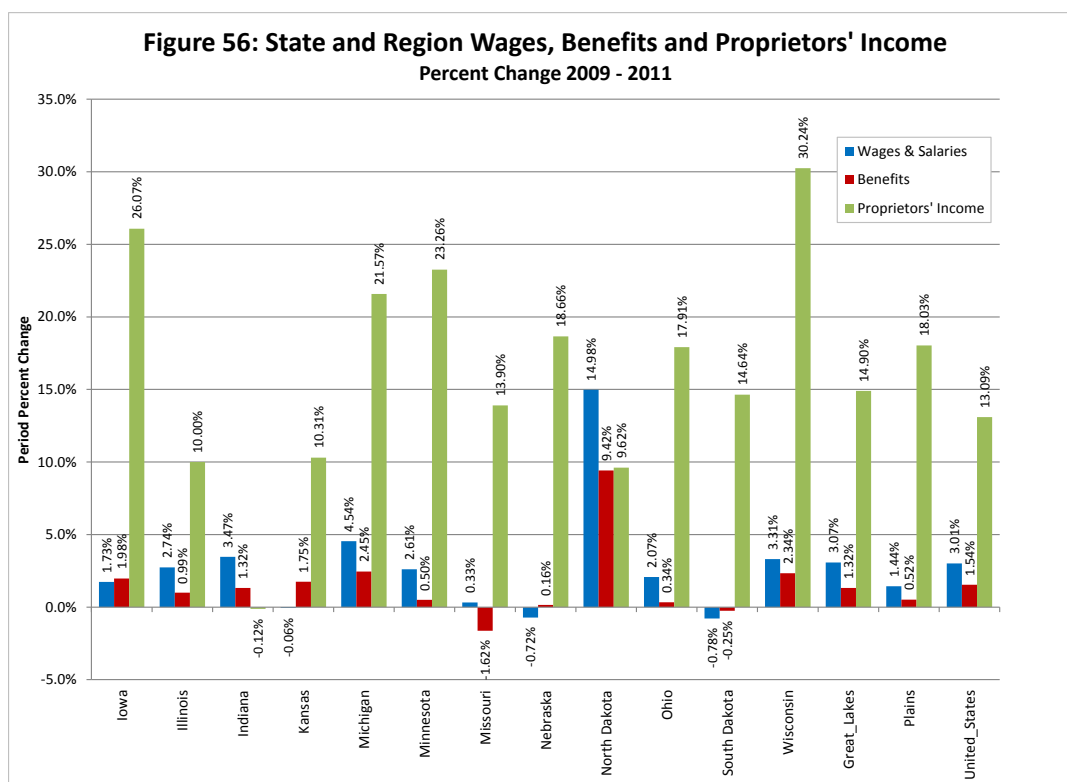


Figure 56 presents the final state comparisons involving the three main components of work-related income since 2009. This figure illustrates the major problem with the recovery from the Great Recession. This is the weak growth in wage and salary income. Nationally, this component of work-related income has only increased by 3.01% during the first two years of recovery. In the Great Lakes and Plains regions wages and salaries increased by 3.07% and 1.44%, respectively. In Iowa wage and salary income has only increased by 1.73%, which ranks eighth among the states. Particularly surprising is that wage and salary income decreased in Kansas (-0.06%), Nebraska (-0.72%) and South Dakota (-0.78%).

The change in benefits in most of the twelve states is even less than the change in wages and salaries. Nationally benefits increased by only 1.54%. The increases in the Great Lakes and Plains regions equaled 1.32% and 0.52%, respectively. In Iowa benefits increased by 1.98%. Iowa was one of only three states in which the change in benefits exceeded the change in wages and salaries.

The gains in proprietors' income have been strong in every one of the twelve states. Nationally proprietors' income increased by 13.09%, while in the Great Lakes and Plains regions the increases equaled 14.90% and 18.03%. Iowa's 26.07% increase in proprietors' income over the two years ranked second only to Wisconsin (30.24%). Most states experienced gains in both farm and non-farm

proprietors' income. All states except Kansas experienced gains in farm proprietors' income and all states except Indiana experienced gains in non-farm proprietors' income. In Iowa farm and non-farm proprietors' incomes increased by 53.40% and 10.46%, respectively.



## Iowa Counties Earnings Comparisons

The BEA provides personal income data by county for the years 2001 through 2010. However, the data is only provided in current dollars. For the purposes of this analysis the current dollar values have been adjusted for inflation using the same method used previously for the state data. Another problem encountered is that the county earnings data for some business sectors are suppressed in order to prevent the inadvertent disclosure of proprietary information for individual businesses. In these cases estimates made for the missing values are based on county shares for years for which the data have not suppressed.

### Iowa County Real Earnings Changes, 2001 – 2010

Statewide total earnings in current dollars increased from \$60.534 billion in 2001 to \$84.489 billion in 2010, or by \$23.925 billion (39.50%). When adjusted for inflation the increase equaled \$9.207 billion in 2005 chain-weighted dollar, or 13.86%. Figure 57 shows the percent change in total real earnings by county. Not too surprisingly Dallas County experienced the largest percent increase in total real earnings equaling 203.23%. A couple other counties with large percentage increases are more surprising – Worth (63.14%) and Taylor (67.28%).

**Figure 57: Total Earnings Percent Change, 2001 - 2010**

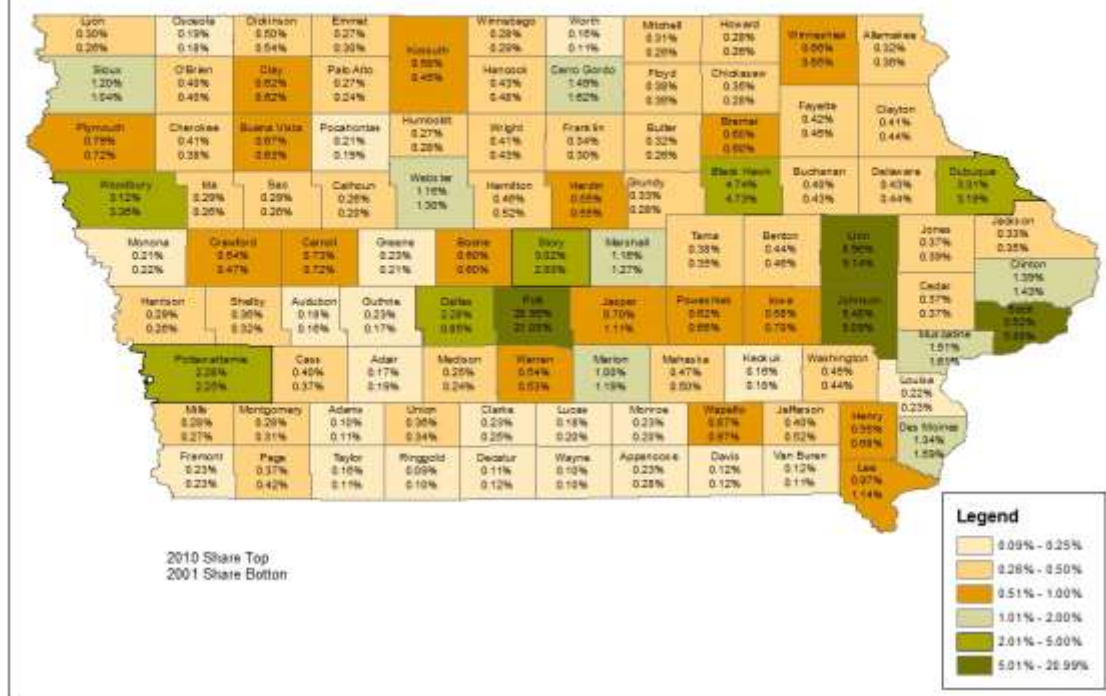
**Legend**

- 27.73% - 50.00%
- 0.01% - 5.00%
- 5.01% - 10.00%
- 10.01% - 25.00%
- 25.01% - 50.00%
- 50.01% - 203.23%

As shown in Figure 58, over the ten years total real earnings remained highly concentrated within the top ten counties, which accounted for over 59 percent of the State total. Between 2001 and 2010 the share of total real earnings accounted for by the top ten counties increased slightly from 59.25% to 59.80%. However, the counties making up the top ten did change with Cerro Gordo dropping out and Dallas coming in. Also, among the other nine counties that stayed in the top ten, Polk County continued to claim the largest share of total real earnings, but its share decreased from 21.05% to 20.99%. In addition, three other counties experienced share declines – Linn (9.14% to 8.96%), Scott (5.88% to 5.62%), and Woodbury (3.36% to 3.12%). Dallas Counties realized the largest share gain going from 0.85% to 2.28%, which equals the Pottawattamie County share in 2010.

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Figure 58: County Shares of Total Earnings, 2001 and 2010



To gain a better understanding the reasons behind the differences in the distribution of earnings among the state's 99 counties changes in earnings for five industry sectors have been analyzed. These sectors include production agriculture, manufacturing, finance and insurance, retail trade, and government.

#### A. Farm Sector Earnings

Production agriculture performed relatively well between 2001 and 2010. Real earnings for this sector increased by 77.69% statewide. Overall farm earnings accounted for 20.72% of the increase in total real earnings statewide between 2001 and 2010. However, as Figure 59 shows the gains were not equally distributed across all counties. Compared to 2001 twelve counties realized smaller farm earnings in 2010. Lee County experienced the largest percentage decrease equal to 68.93%, but this seems to be somewhat of an anomaly for that county. Most of the other counties with smaller real earnings in 2010 than in 2001 from farm operations were concentrated in the east central and southeastern parts of the State. The largest percentage gains in real farm earnings occurred in the northwest, north central, west central and central parts of the State.

During both 2001 and 2010 Sioux County accounted for the largest share of farm earnings. In 2001 Sioux County's share of statewide farm earnings equaled 4.81% and in 2010 its share equaled 3.79%. Sioux County is one of Iowa's primary cattle raising counties. During 2010 there were 315,000 head of cattle and calves raised in Sioux County, which equaled 8.18% of the state total. The other four top farm earning counties in 2010 were Kossuth (2.63%), Plymouth (2.58%), Hardin (2.45%), and Lyon (2.09%).

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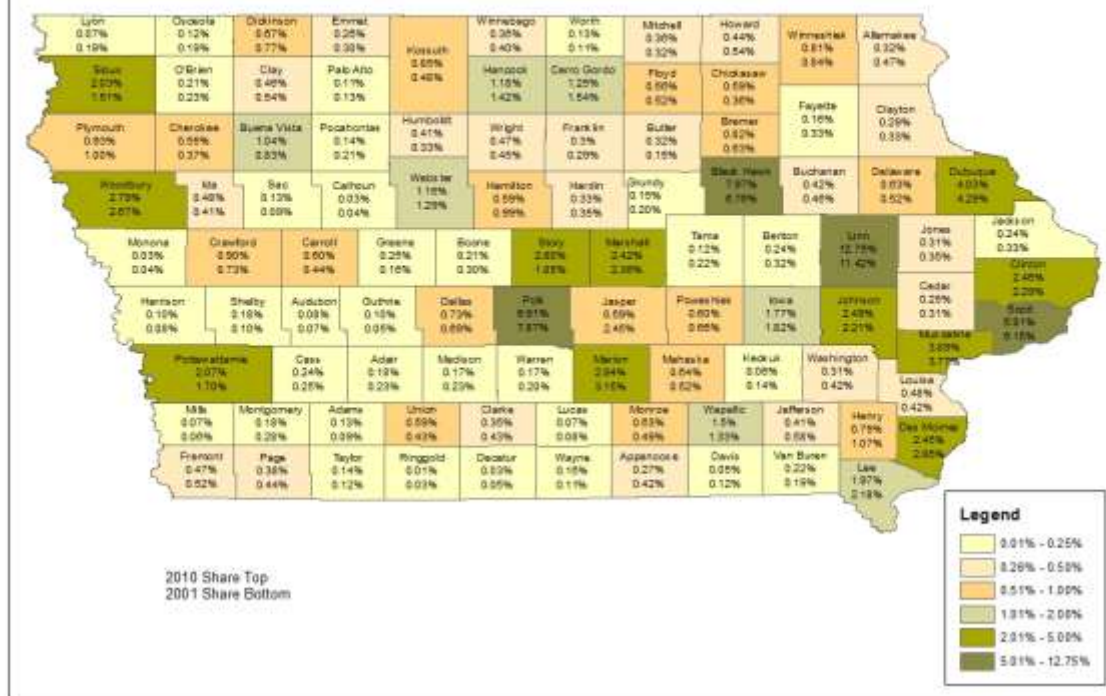
Butler County realized the largest percentage increase (112.51%) followed by Guthrie County (105.59%), Kossuth County (73.35%), Shelby County (66.88%) and Chickasaw County (60.12%). However, manufacturing is not a dominant sector in any of these counties. For example, in 2010 in Butler County manufacturing sector earnings in current dollars equaled \$42.8 million out of \$272.9 million (15.68%) in total earnings for the county.



Comparing county manufacturing sector earnings to total statewide manufacturing earnings provides a sense of the relative importance of each county to the State's manufacturing sector. Figure 61 provides a thematic representation of this comparison for 2010 and within each county the map shows both the 2001 and 2010 shares of total statewide manufacturing earnings.

In both years Linn County accounted for the largest shares of manufacturing earnings equaling 11.42% in 2001 and 12.75% in 2010. According to County Business Patterns 241 manufacturing establishments operated in Linn County in 2001 and they employed 20,403 workers. The number of manufacturing establishments in the county decreased to 217 employing 17,211 workers in 2010. Nevertheless, relative to the state as a whole Linn County's share of manufacturing earnings increased over the decade. Other counties with major concentrations of manufacturing activity based on the 2010 earnings data include Black Hawk County (7.97%), Polk County (6.91%), Scott County (5.91%) and Dubuque County (4.03%). Looking at Figure 61 it is apparent that manufacturing activity in Iowa is most heavily concentrated in the east central and central parts of the State. In addition, the map shows that manufacturing activity is primarily concentrated in the state's metropolitan and micropolitan counties. This will be addressed later in the paper.

**Figure 61: County Shares of Manufacturing Earnings  
2001 and 2010**



### C. Finance and Insurance Sector Earnings

In 2010 the finance and insurance sector accounted for 8.92% of total statewide earnings. Between 2001 and 2010 real earnings for this sector increased by 42.18%. As shown in Figure 62, 22 counties experienced decreases in real earnings for the finance and insurance sector between 2001 and 2010. The largest decrease was experienced by Woodbury County (-38.26%). The next four counties with the largest percentage losses in earnings for this sector were Lucas (-35.26%), Wayne (-24.25%), Pottawattamie (-23.48%) and Cedar (-22.79%). Lucas, Wayne and Cedar counties have small finance sectors so their large earnings percentage decreases are not particularly significant. On the other hand, Woodbury and Pottawattamie counties comprise the core of two of Iowa's nine metropolitan areas. From 2001 to 2010 Woodbury County's share of statewide finance and insurance sector earnings decreased from 2.90% to 1.26% and in Pottawattamie County the share went from 1.22% to 0.66%.

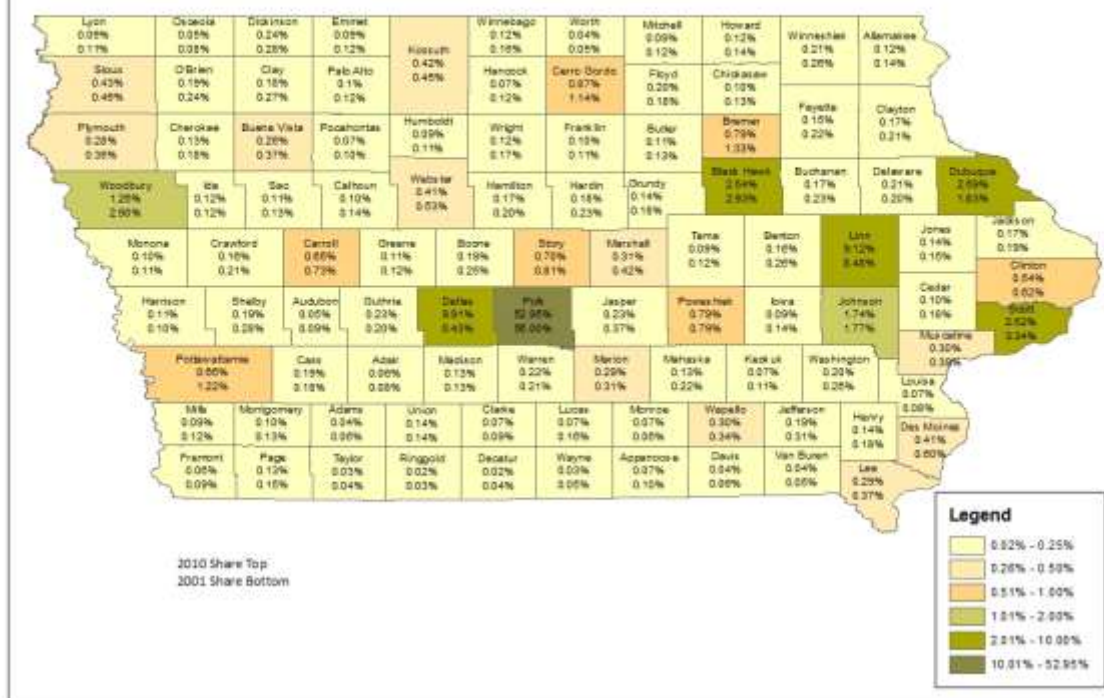
Dallas County experienced a 3,175.84% increase in finance and insurance sector real earnings between 2001 and 2010. In inflation adjusted dollars earnings for this sector in Dallas County increased from \$20.4 million in 2001 to \$668.9 million in 2010 and its share of the statewide total for the sector increased from 0.43% to 9.91%. At least part of the explanation for the increase was the opening of a new headquarters for Wells Fargo Home Mortgage Company. A number of other financial services companies have also located or expanded locations in Dallas County since 2001. Other counties that experienced strong earnings growth for this sector include Dubuque (101.54%), Harrison (66.10%), Guthrie (62.49%) and Floyd (56.68%).

[illegible]

A second observation is that metropolitan areas dominate this industry sector. In 2001 the other metropolitan core counties of Black Hawk, Dubuque, Johnson, Linn, Pottawattamie, Story, and Woodbury accounted for 19.94% of statewide sector earnings and in 2010 the combined share accounted for by these counties equaled 18.61%. There are two primary reasons for the high concentration of this industry sector. First, Iowa and Des Moines in particular have a much higher concentration of insurance carrier headquarters and back office operations than the rest of the nation. In 2010 insurance accounted for 51.17% of total finance and insurance sector earnings in Iowa but for only 32.65% nationally. Second, large national and regional financial service companies have come to dominate banking operations in the State and these companies tend to concentrate operations in metropolitan areas. A third possible explanation has to do with the proliferation of technology. Automatic teller machines have reduced the need for human tellers. Furthermore, online loan and insurance applications and other electronic banking and investment management services have allowed banks and insurance companies to further reduce personnel needs in small markets.



Figure 63: County Shares of Finance Sector Earnings  
2001 and 2010



#### D. Retail Sector Earnings

In 2010 the retail sector accounted for 6.56% of total statewide earnings. Between 2001 and 2010 real earnings for this sector decreased by 3.83%. As shown in Figure 64, 70 counties experienced declines in retail sector real earnings between 2001 and 2010. The largest decrease occurred in Jefferson County where earnings shrank by 48.46%. The next four counties with the largest decreases were Boone (-42.78%), Jasper (-42.27%), Sac (-39.71%) and Mills (-36.83%). Jefferson, Jasper and Boone counties all suffered substantial losses of manufacturing employment during the decade. Sac County experienced a 9.80% decrease in population during the decade. A likely explanation for Mill County's decrease in retail earnings is its close proximity to Omaha and Council Bluffs.

As with most of the other earnings indicators, Dallas County experienced the greatest gain between 2001 and 2010 with growth of 140.44%. The opening of Jordan Creek Town Center in August 2004 and the subsequent surrounding retail development largely explains this growth. Other counties that experienced substantial retail earnings growth during the decade include Fremont (130.91%), Van Buren (28.95%), Sioux (23.11%) and Jones (22.64%).

Other counties that experienced growth in retail sector earnings are scattered throughout the states. Various local factors explain this pattern of dispersed growth. Included among these factors are the opening of new casino and resort complexes, the completion of several major highway projects, and increased farm income.

[illegible]

Over the decade from 2001 to 2010 the State's retail sector continued to become more concentrated. Big box retailers and other chain stores continued to attract business away from local retailers. The movement of the State's population from rural areas to metropolitan areas and greater income growth in metropolitan areas than in more rural areas has led to the further geographic concentration of the retail sector. From 2001 to 2010 the State's metropolitan counties experienced a 9.16% increase in population, while micropolitan county population decreased by 1.20% and rural county population decreased by 2.57%. An additional factor that has influenced the distribution of retail activity in Iowa is the growth of Internet retailing. Large metropolitan based companies are more likely than small rural retailers to have an Internet presence. Also, order fulfillment centers are more likely to be located near transportation hubs, which tend to be in metropolitan areas.

[illegible]

### E. Government Sector Earnings

In 2010 the government sector accounted for 16.89% of total statewide earnings. Between 2001 and 2010 real earnings for the government sector increased by 19.27%. Looking more closely at the components of government, real earnings for state, local, federal military, and federal civilian government increased by 12.33%, 20.19%, 110.38% and 12.64%, respectively.

Over the decade five counties experienced decreases in real government sector earnings. These counties are Marion (-18.57%), Monona (-17.89%), Buchanan (-4.29%), Decatur (-0.93%) and Tama (-0.05%). None of these counties are very large. The most populous is Marion County with a 2010 population of 33,309.

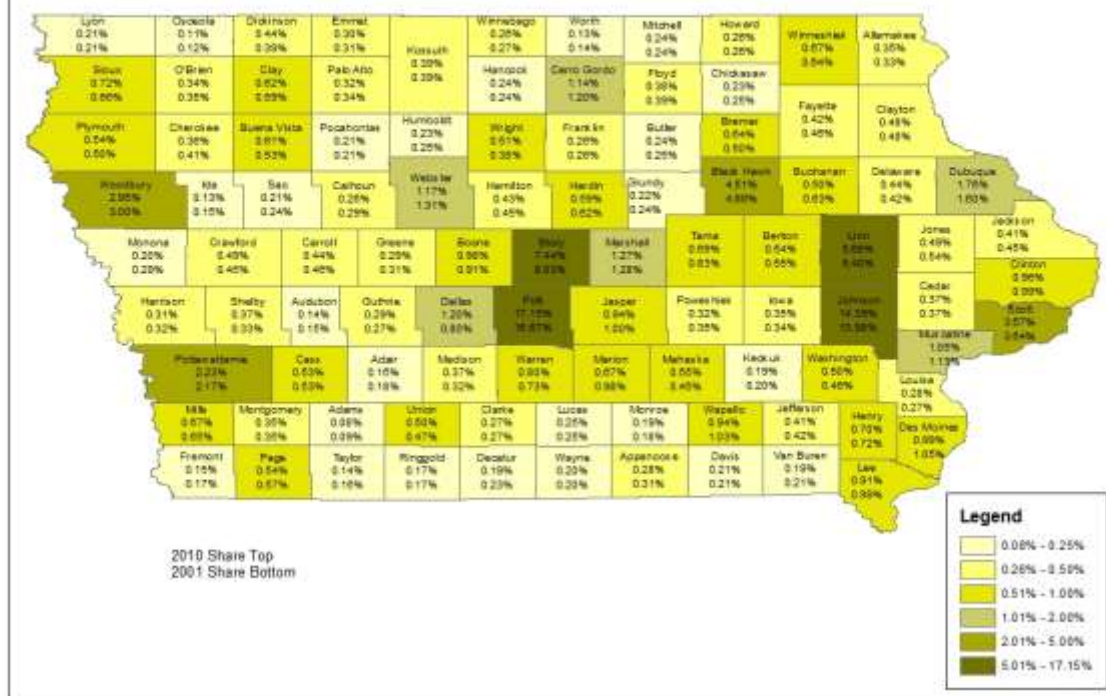
Again, Dallas County experienced the largest percent increase in earnings for the sector, which equaled 79.38%. There is no apparent clustering of high growth rate counties either by region of the state or by county population size. For example, among the core metropolitan area counties Dubuque County had the highest rate of growth (31.13%), while Story County, which is the home of Iowa State University, the Iowa Department of Transportation, and national energy and animal disease research centers, had a growth rate of only 10.59%. Just west of Story County the increase in government earnings for Boone County was 28.77%. In this county inflation adjusted federal military spending increased by 123.61%. The 2<sup>nd</sup> Brigade Combat Team, 34<sup>th</sup> Infantry Division is headquartered in Boone, Iowa.

[illegible]

Although more study is required to determine the reasons for the share decreases in Story and Black Hawk counties, one possible explanation is the reduction in State funding for the universities located in these counties. Johnson County did not experience a similar government earnings share decline, but this could be due to the growth of university's medical complex over the decade.



**Figure 67: County Shares of Government Sector Earnings  
2001 and 2010**



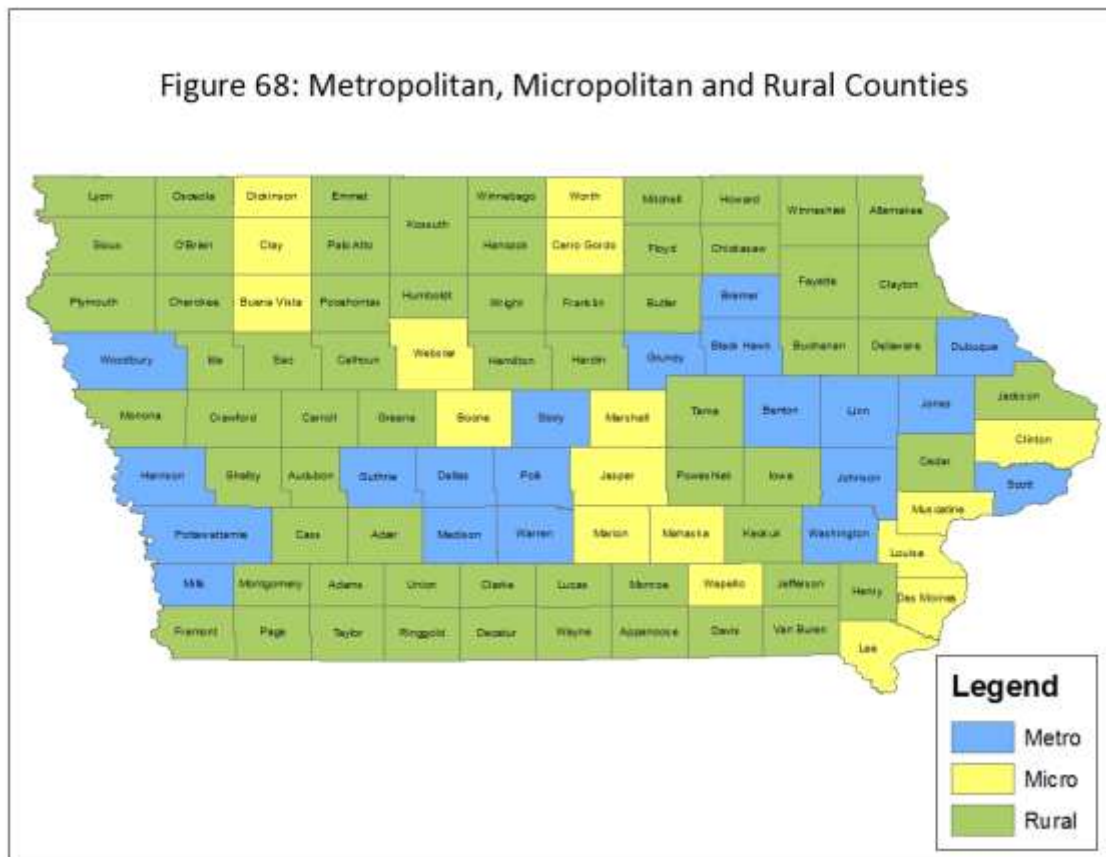
## Metropolitan and Micropolitan Area Earnings Comparisons

Population has been migrating from rural counties to urban counties in Iowa for decades. From 2001 to 2010 the population of the State's nine metropolitan areas increased by 9.16%, while the populations of the State's micropolitan and rural counties have decreased by 1.20% and by 2.57%, respectively. This section of the paper analyzes to what extent economic activity as measured by earnings by place of work has also migrated to the State's most urbanized areas. The focus of this analysis is the State's nine metropolitan and fifteen micropolitan areas. As shown in Figure 68, the nine metropolitan areas include 20 counties and the fifteen micropolitan areas include 17 counties. The assignment of counties to the metropolitan and micropolitan areas is as determined by the U.S. Office of Management and Budget.<sup>12</sup>

The analysis addresses total real earnings and real earnings for the same five sectors previously analyzed at the county level. The analysis begins with the change in real earnings between 2001 and 2010 for each of the metropolitan and micropolitan area county groups. Next, percentage changes over the decade for each of the 24 areas are reviewed. Third, changes in metropolitan and micropolitan area shares of statewide growth totals are compared.

<sup>12</sup> A metropolitan area contains a core urban area of 50,000 or more population and a micropolitan area contains an urban core of at least 10,000 but less than 50,000 population.

Figure 68: Metropolitan, Micropolitan and Rural Counties



As presented in Tables 7 and 8, the change in total real earnings between 2001 and 2010 statewide equaled \$9.207 billion (13.86%). The metropolitan areas' change equaled \$6.814 billion (16.51%). The Des Moines metropolitan area claimed \$3.192 billion of the gain, which is an increase of 21.03%. The Iowa City metropolitan area claimed the next largest gain equaling \$811 million (22.09%). Every one of the metropolitan areas realized gains in total real earnings during the decade.

The total gain in real earnings among the micropolitan areas equaled only \$278 million (2.54%). Four of the micropolitan areas experienced decreases led by Newton which suffered a \$205 million (-27.78%) decline. The other three micropolitan areas that experienced decreases were Burlington (-\$44 million, -4.20%), Pella (-\$31 million, -3.88%), and Keokuk-Ft. Madison (-\$29 million, -3.76%).

A review of the earnings derived from farming, manufacturing, finance, retailing and government reveals some explanations for the increases and decreases in total real earnings experienced by the metropolitan and micropolitan areas. Statewide real earnings from the farm sector increased by \$1.907 billion (77.69%), which accounted for 20.72% of total gains in real earnings over the decade. The farm earnings gains among the metropolitan areas equaled only \$324 million and the amount was even smaller for the micropolitan counties equaling only \$225 million. But in percentage terms the metropolitan area and micropolitan area gains were respectable equaling 68.09% and 59.13%, respectively. The extent to which farm earnings impact the State's urban centers is primarily through other sectors of the economy. Much of the State's manufacturing sector produces products for the farm sector or processes farm products. The finance and retail sectors are also somewhat sensitive to changes in farm earnings growth.

Table 7: Metropolitan and Micropolitan Areas, 2001 - 2010

Change in Real Earnings for Selected Sectors

Metropolitan Areas	Change in Real Earnings (\$2005 thousands)					
	Total	Farm	Manufacturing	Finance	Retail	Government
Des Moines	\$3,192,136	\$105,514	-\$146,816	\$1,577,045	-\$114,373	\$519,172
Cedar Rapids	\$751,366	\$20,424	\$99,060	\$213,507	\$74,457	\$162,701
Davenport	\$347,607	-\$3,151	-\$51,901	\$11,762	\$20,841	\$65,933
Iowa City	\$811,193	\$26,896	\$11,769	\$34,603	\$695	\$356,878
Waterloo	\$558,761	\$56,578	\$132,704	\$23,021	-\$7,840	\$107,544
Dubuque	\$382,609	-\$10,492	-\$46,647	\$88,197	-\$5,046	\$53,354
Ames	\$338,915	\$29,151	\$107,388	\$9,028	-\$3,595	\$91,006
Sioux City	\$127,550	\$41,526	\$4,744	-\$52,687	\$8,128	\$55,459
Council Bluffs	\$304,252	\$57,234	\$40,883	-\$10,418	-\$24,400	\$74,579
All Metro Areas	\$6,814,388	\$323,679	\$151,184	\$1,894,057	-\$51,135	\$1,486,625
Micropolitan Areas	Change in Real Earnings (\$2005 thousands)					
	Total	Farm	Manufacturing	Finance	Retail	Government
Mason City	\$99,572	\$44,919	-\$38,918	\$5,154	-\$7,276	\$18,543
Muscatine	\$82,092	-\$4,969	\$5,816	\$2,795	\$7,453	\$20,389
Clinton	\$105,544	\$5,124	\$12,170	\$6,778	-\$3,146	\$16,878
Burlington	-\$44,388	\$4,644	-\$59,246	-\$985	-\$1,178	\$14,829
Marshalltown	\$31,290	\$28,147	-\$825	\$882	-\$8,084	\$26,287
Newton	-\$204,735	\$24,155	-\$229,667	-\$1,651	-\$26,494	\$12,616
Fort Dodge	\$12,758	\$31,828	-\$20,811	\$2,584	-\$9,399	\$8,387
Keokuk-Ft Madison	-\$28,506	-\$9,701	-\$32,772	\$2,081	-\$587	\$10,051
Pella	-\$30,563	\$2,516	-\$37,123	\$4,652	-\$2,882	-\$19,513
Ottumwa	\$14,700	\$1,147	\$15,419	\$4,198	\$1,931	\$10,386
Boone	\$50,289	\$22,071	-\$11,377	\$925	-\$22,289	\$27,981
Spirit Lake	\$19,553	\$21,773	-\$14,420	\$2,431	\$2,662	\$14,413
Spencer	\$56,122	\$31,447	-\$11,908	-\$662	-\$4,807	\$16,992
Oskaloosa	\$23,922	\$921	\$12,407	-\$1,977	-\$688	\$21,671
Storm Lake	\$90,014	\$21,244	\$22,012	-\$113	-\$654	\$21,012
All Micro Areas	\$277,664	\$225,267	-\$389,244	\$27,092	-\$75,437	\$220,923
Rural Counties	\$2,115,127	\$1,358,418	-\$132,326	\$80,807	-\$71,337	\$356,153
State Total	\$9,207,179	\$1,907,364	-\$370,386	\$2,001,956	-\$197,909	\$2,063,701

**Table 8: Metropolitan and Micropolitan Areas, 2001 - 2010**  
**Percent Change in Real Earnings for Selected Sectors**

Metropolitan Areas	Percent Change in Real Earnings					
	Total	Farm	Manufacturing	Finance	Retail	Government
Des Moines	21.03%	217.91%	-13.22%	58.32%	-9.80%	25.81%
Cedar Rapids	11.32%	20.06%	6.67%	50.61%	15.53%	23.40%
Davenport	8.90%	-17.55%	-6.87%	7.43%	5.87%	16.90%
Iowa City	22.09%	53.93%	3.64%	35.98%	0.27%	23.09%
Waterloo	14.98%	73.13%	14.23%	10.90%	-2.80%	18.59%
Dubuque	18.03%	-22.50%	-8.85%	101.54%	-2.59%	31.13%
Ames	17.43%	122.15%	47.36%	23.60%	-2.96%	10.59%
Sioux City	5.72%	141.81%	1.45%	-38.26%	4.28%	17.24%
Council Bluffs	16.42%	71.40%	18.07%	-15.33%	-12.56%	22.21%
<b>All Metro Areas</b>	<b>16.51%</b>	<b>68.09%</b>	<b>2.56%</b>	<b>48.29%</b>	<b>-1.58%</b>	<b>21.52%</b>

Micropolitan Areas	Percent Change in Real Earnings					
	Total	Farm	Manufacturing	Finance	Retail	Government
Mason City	8.62%	91.48%	-19.12%	9.10%	-6.88%	12.94%
Muscatine	6.70%	-17.43%	1.13%	12.59%	11.63%	13.59%
Clinton	11.14%	13.23%	4.33%	23.08%	-4.01%	15.87%
Burlington	-4.20%	74.78%	-16.85%	-3.47%	-1.44%	13.25%
Marshalltown	3.71%	141.55%	-0.28%	4.39%	-13.93%	19.25%
Newton	-27.78%	62.77%	-76.45%	-9.47%	-42.27%	11.77%
Fort Dodge	1.48%	91.53%	-13.12%	10.27%	-12.73%	5.96%
Keokuk-Ft Madison	-3.76%	-68.93%	-12.26%	11.73%	-1.07%	9.46%
Pella	-3.88%	20.32%	-9.58%	31.30%	-6.79%	-18.57%
Ottumwa	2.28%	-42.41%	9.44%	26.04%	3.55%	9.44%
Boone	12.55%	185.47%	-30.76%	7.72%	-42.78%	28.77%
Spirit Lake	5.48%	147.04%	-15.22%	18.06%	7.29%	34.45%
Spencer	13.71%	86.34%	-17.87%	-5.20%	-7.56%	27.10%
Oskaloosa	7.22%	4.05%	19.42%	-18.70%	-2.48%	44.87%
Storm Lake	21.65%	38.17%	21.70%	-0.65%	-2.08%	37.10%
<b>All Micro Areas</b>	<b>2.54%</b>	<b>59.13%</b>	<b>-11.86%</b>	<b>8.62%</b>	<b>-8.50%</b>	<b>14.50%</b>
<b>Rural Counties</b>	<b>14.88%</b>	<b>84.96%</b>	<b>-4.28%</b>	<b>15.87%</b>	<b>-6.87%</b>	<b>15.66%</b>
<b>State Total</b>	<b>13.86%</b>	<b>77.69%</b>	<b>-3.01%</b>	<b>42.18%</b>	<b>-3.83%</b>	<b>19.27%</b>



Statewide manufacturing earnings decreased by \$370 million (-3.01%) between 2001 and 2010. For the metropolitan areas as a group real earnings derived from manufacturing businesses increased by \$151 million (2.56%). However, in the Des Moines, Davenport and Dubuque metropolitan areas manufacturing sector earnings decreased. The decreases in these three areas are at least partially due to the downturn in residential and commercial construction. Among the manufacturing subsectors that experienced earnings decreases in these three metropolitan areas at the end of the decade were wood products, non-metallic mineral products, fabricated metal products and furniture. Somewhat surprisingly earnings from the machinery manufacturing subsector stayed up after 2007, which may mean construction equipment decreases were offset by agricultural machinery increases.

Manufacturing sector derived earnings in micropolitan areas decreased by \$389 million (-11.86%). Manufacturing sector earnings decreased in ten of the fifteen micropolitan areas. The largest loss occurred in the Newton micropolitan area where manufacturing earnings dropped by \$230 million (-76.45%). The closing of Maytag and the associated reduction in business for Maytag suppliers is the primary cause of the decrease.

Although in its early days Iowa's finance and insurance sector had close ties to the farm sector, today this sector is much diversified. Finance and insurance sector companies located in Iowa are major players in casualty, health, and life insurance, commercial and mortgage banking, corporate finance and investment management. As shown above, businesses operating in this sector are located primarily in a few metropolitan areas. Between 2001 and 2010 finance sector real earnings increased by \$1.894 billion (48.29%) in metropolitan areas. In the Des Moines metropolitan area the increase equaled \$1.577 billion (58.32%). The Cedar Rapids metropolitan area accounted for the second largest increase, which equaled \$214 million (50.61%). Although much smaller in dollar terms, the Dubuque metropolitan area realized the largest percentage increase for this sector equaling 101.54% (\$88 million).

Earnings derived from the financial sector in micropolitan areas increased by only \$27 million (8.62%) between 2001 and 2010. Clinton realized the largest increase among micropolitan areas equaling \$6.8 million (23.08%). Five of the micropolitan areas experienced decreases in earnings from this sector. Oskaloosa's \$2.0 million decrease was the largest among these areas.

Retail trade represents a derived demand meaning businesses within this sector primarily serve a local clientele. An exception to this characterization is retailers engaged in remote sales, such as Internet and more traditional catalogue based businesses. In metropolitan areas earnings derived from retail businesses decreased by \$51 million (-1.58%) over the decade. The Des Moines metropolitan area experienced a \$114 million (-9.80%) decrease. What is particularly interesting is that the decrease in retail earnings for this area began in 2005 well before the beginning of the Great Recession and only one year after the opening of Jordan Creek Town Center. The other big loser among the metropolitan areas was Council Bluffs where real earnings decreased by \$24 million (-12.56%). On the other hand, earnings for the retail sector in the Cedar Rapid metropolitan area increased by \$74 million (15.53%). Most of the increase in this metropolitan area occurred between 2001 and 2006.

Among the micropolitan areas retail sector earnings decreased by \$75 million (-8.50%) over the decade. Twelve of the fifteen micropolitan areas experienced retail sector earnings decreases. The areas that experienced the largest decreases were Newton and Boone. Both lost considerable manufacturing employment over the decade.

Table 9: Metropolitan and Micropolitan Areas, 2001 - 2010

Share of Change in Real Earnings for Selected Sectors

Metropolitan Areas	Share of Change in Real Earnings					
	Total	Farm	Manufacturing	Finance	Retail	Government
Des Moines	34.67%	5.53%	39.64%	78.78%	57.79%	25.16%
Cedar Rapids	8.16%	1.07%	-26.75%	10.66%	-37.62%	7.88%
Davenport	3.78%	-0.17%	14.01%	0.59%	-10.53%	3.19%
Iowa City	8.81%	1.41%	-3.18%	1.73%	-0.35%	17.29%
Waterloo	6.07%	2.97%	-35.83%	1.15%	3.96%	5.21%
Dubuque	4.16%	-0.55%	12.59%	4.41%	2.55%	2.59%
Ames	3.68%	1.53%	-28.99%	0.45%	1.82%	4.41%
Sioux City	1.39%	2.18%	-1.28%	-2.63%	-4.11%	2.69%
Council Bluffs	3.30%	3.00%	-11.04%	-0.52%	12.33%	3.61%
All Metro Areas	74.01%	16.97%	-40.82%	94.61%	25.84%	72.04%

Micropolitan Areas	Share of Change in Real Earnings					
	Total	Farm	Manufacturing	Finance	Retail	Government
Mason City	1.08%	2.36%	10.51%	0.26%	3.68%	0.90%
Muscatine	0.89%	-0.26%	-1.57%	0.14%	-3.77%	0.99%
Clinton	1.15%	0.27%	-3.29%	0.34%	1.59%	0.82%
Burlington	-0.48%	0.24%	16.00%	-0.05%	0.60%	0.72%
Marshalltown	0.34%	1.48%	0.22%	0.04%	4.08%	1.27%
Newton	-2.22%	1.27%	62.01%	-0.08%	13.39%	0.61%
Fort Dodge	0.14%	1.67%	5.62%	0.13%	4.75%	0.41%
Keokuk-Ft Madison	-0.31%	-0.51%	8.85%	0.10%	0.30%	0.49%
Pella	-0.33%	0.13%	10.02%	0.23%	1.46%	-0.95%
Ottumwa	0.16%	0.06%	-4.16%	0.21%	-0.98%	0.50%
Boone	0.55%	1.16%	3.07%	0.05%	11.26%	1.36%
Spirit Lake	0.21%	1.14%	3.89%	0.12%	-1.35%	0.70%
Spencer	0.61%	1.65%	3.22%	-0.03%	2.43%	0.82%
Oskaloosa	0.26%	0.05%	-3.35%	-0.10%	0.35%	1.05%
Storm Lake	0.98%	1.11%	-5.94%	-0.01%	0.33%	1.02%
All Micro Areas	3.02%	11.81%	105.09%	1.35%	38.12%	10.71%
Rural Counties	22.97%	71.22%	35.73%	4.04%	36.05%	17.26%
State Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

The demand for government services is also a derived demand and as such local government services are distributed throughout the State in a manner that closely corresponds to the distribution of population. However state government employment is highly concentrated in a few metropolitan areas. State government employment is concentrated in the Des Moines, Iowa City, Ames and Waterloo metropolitan areas. These areas are homes to the State capitol complex and the State's three universities.

Between 2001 and 2010 statewide government sector earnings increased by \$2.064 billion (19.27%). Metropolitan area government sector earnings grew by \$1.467 billion (21.52%). The Des Moines metropolitan area experienced real earnings growth of \$519 million (25.81%). For the three university metropolitan areas the increases equaled \$357 million (23.09%) for Iowa City, \$91 million (10.59%) for Ames, and \$108 million (18.59%) for Waterloo.

Among the micropolitan areas government sector real earnings increased by \$221 million (14.50%). The areas with the largest percentage increases were Oskaloosa at 44.87% (\$22 million), Storm Lake at 37.10% (\$21 million), Spirit Lake at 34.45% (\$14 million), Boone at 28.77% (\$28 million) and Spencer at 27.10% (\$17 million). One micropolitan area experienced a decrease in government sector earnings. This was Pella where real earnings for this sector decreased by \$20 million (-18.57%).

One final way of looking at the contribution of metropolitan and micropolitan areas to changes in real earnings is to determine the share of the change in earnings between 2001 and 2010 contributed by these areas both in total and for the five sectors. These shares are presented in Table 9 and reveal the following findings:

- Metropolitan areas accounted for 74.01% of the increase in total real earnings, while micropolitan areas accounted for only 3.02% of the increase. The Des Moines metropolitan area accounted for over a third of the total statewide gain.
- The metropolitan areas accounted for 16.97% of farm earning gains and micropolitan areas accounted for 11.81% of the increase.
- For the manufacturing sector, metropolitan areas offset 40.82% of the statewide decrease in earnings, but micropolitan areas contributed 105.09% of the decrease.
- The metropolitan areas accounted for 94.61% of the earnings growth for the financial and insurance sector and the micropolitan areas accounted for 1.35%.
- For the retail sector, metropolitan areas accounted for 25.84% of the decrease in real earnings and micropolitan areas accounted for 38.12% of the decrease.
- The metropolitan areas accounted for 72.04% of the growth in government sector earnings and the micropolitan areas accounted for 10.71% of this sector's earnings growth.

The analysis of real earnings changes within the metropolitan and micropolitan areas shows increasing concentration of growth in the manufacturing, finance, and government sectors within the State's nine metropolitan areas. On the other hand, what may be surprising to some growth in retail trade seems to still be relatively dispersed across the State.

A second way of looking at the geographic distribution of personal income involves disaggregating total personal income among its major sources, which are work-related income, investment income and transfer payments. Work-related income may be further disaggregated among wages and salaries, benefits, and proprietors' income. This way of looking at personal income differs from the previous analysis of earnings by business sector because the earnings data is reported by place of work whereas the income source data is reported by place of residence. This difference makes one final factor included in the place of residence data of particular interest. The residence adjustment indicates the magnitude of the net flow of work-related income across county lines.

Work-related income equals earnings by place of work minus an adjustment from employee contributions to government social insurance programs (i.e., Social Security, Medicare, etc.) and a residence adjustment. The residence adjustment may be either positive or negative. This adjustment is positive when residents of a county earn more income outside the county than non-residents earn inside the county.





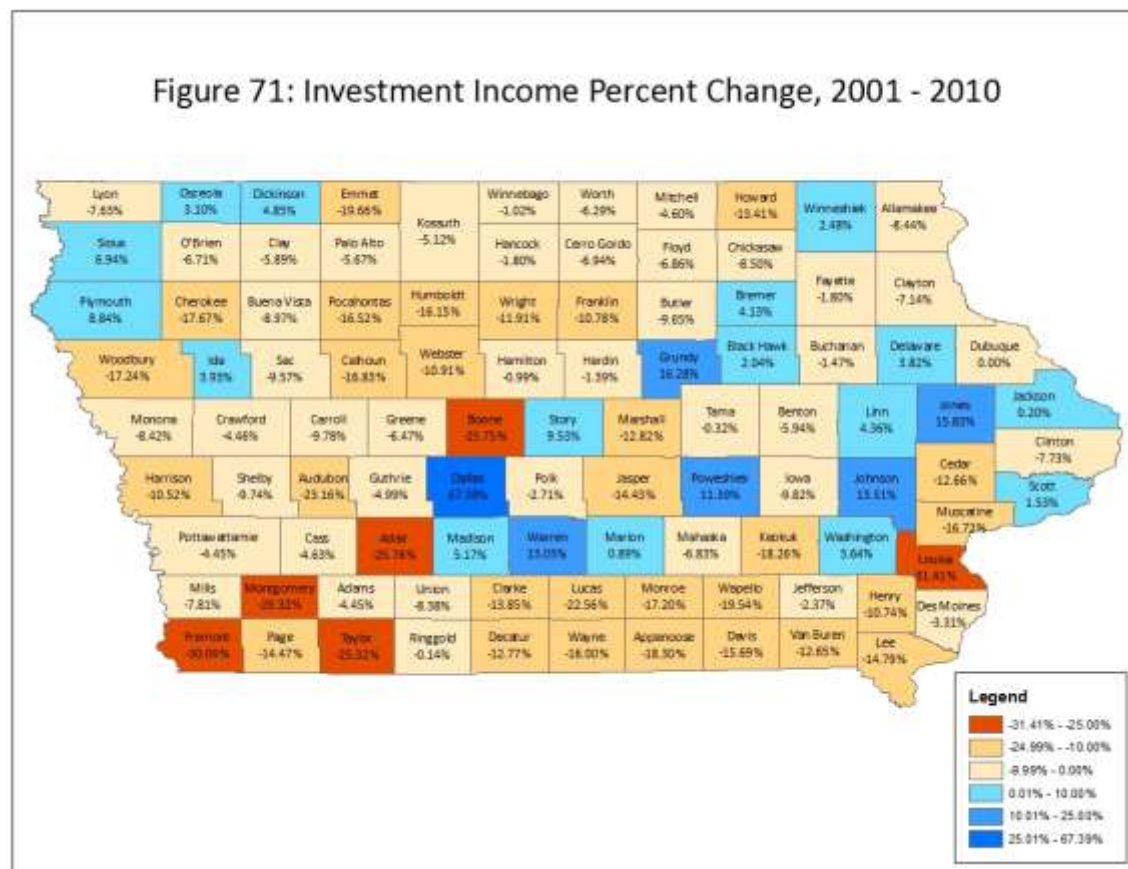


Polk County claimed the largest share of work-related income in both years and slightly increased its share from 17.47% to 17.52%. This is somewhat surprising given the migration of higher income residents to the suburbs west of Des Moines. However, what this likely indicates is that at least through 2010 residential development in the Dallas County parts of these suburbs has remained relatively modest. From 2001 to 2010 the Dallas County share of work-related income only increased from 1.84% to 2.89%.

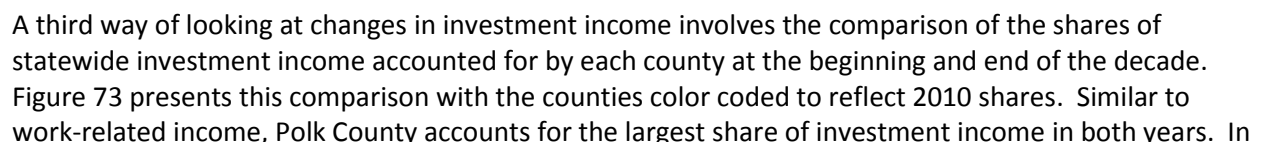
In addition, the income shares presentation reveals the continued decline of the work-related income of the residents of most of the counties in the southernmost two tiers of counties. Factors that have no doubt contributed to this include the aging of their populations, outmigration, manufacturing job losses, and relatively higher paying jobs growing almost exclusively in the more northern and more urban parts of the State.

## B. Investment Income

The three components of investment income are dividends, interest and rent. Regrettably, the BEA data does not provide data separately for the three components. However, some inferences can be made about the relative importance of the different types of investment income by looking at the geographic distribution of changes in investment income over the decade and for parts of the decade.

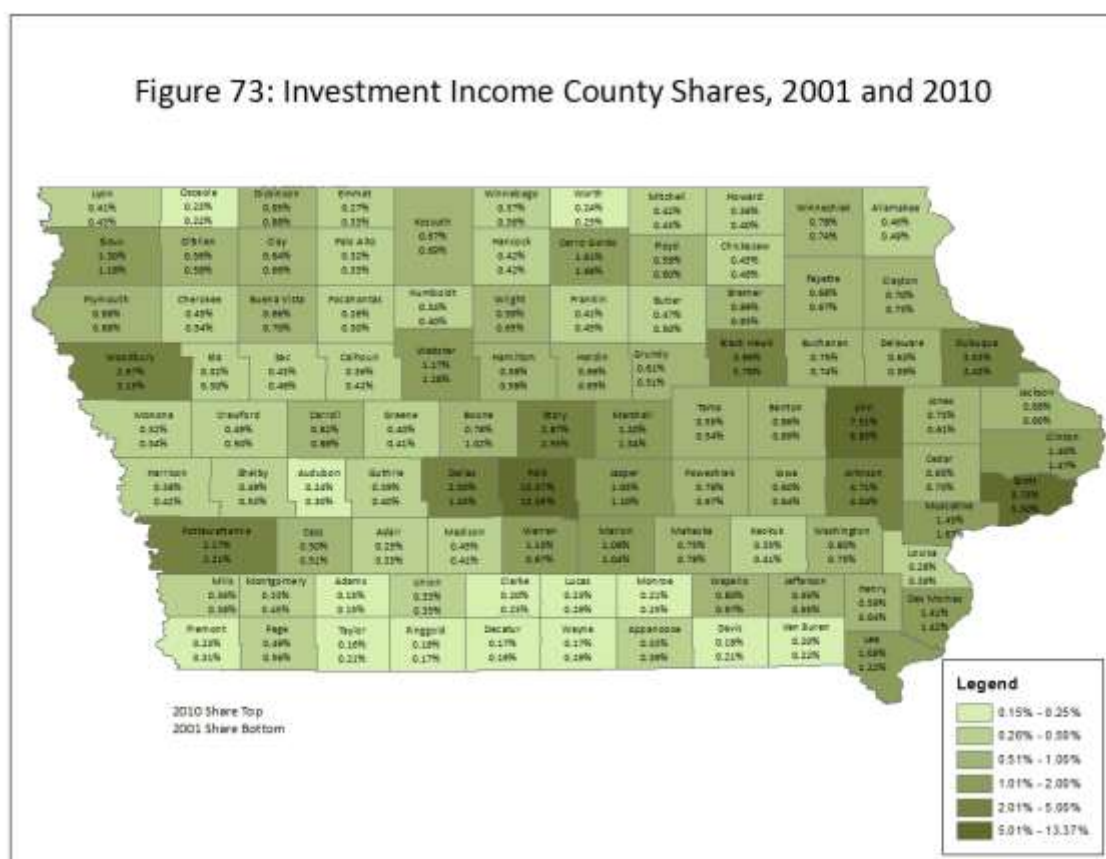


Breaking the decade down into segments reveals the impact of rising agricultural land rents. For example, as shown in Figure 72, during the recession years from 2007 to 2009, 48 counties experienced increases in investment income. Of these counties, four are included in a micropolitan area, five are included in a metropolitan area, and the remaining 38 are rural counties. Over this period interest rates for 1-year certificates of deposit decreased from an average of 3.25% in 2007 to 0.87% in 2009, and the average dividend yield for Standard & Poor's 500 stocks only increased from 1.79% to 2.73%. On the other hand, farmland rents increased by 16.67%.<sup>13</sup> So, it appears that rental income dominated other sources of investment income over these years.



<sup>13</sup> Sources: 1-year CD rate, Bank Rate Monitor's Weekly Survey, Federal Reserve Bank of St. Louis; Average S&P 500 dividend yield, Standard & Poor's, [www.multpl.com](http://www.multpl.com); Iowa farmland rents, Iowa State University, Iowa Farmland Rental Rates, 1994 – 2011. File C2-09.

2001 Polk County's share equaled 13.39% and in 2010 it equaled 13.37%. These shares are about 4 percentage points less than Polk County's share of work-related income. As expected the highest concentrations of investment income are in and around the state's core metropolitan counties. Again the counties with the smallest shares of investment income are congregated along the state's southern border. To at least some extent population drives the distribution of investment income among the counties. The final paper of this series will look at this and other income sources on a per capita basis to see how the distribution patterns may differ when controlled for population.



### C. Transfer Payments

Transfer payments include income from government social insurance programs, such as Social Security, Medicare, veterans' benefits and other similar programs, as well as payments associated with safety net programs, such as Medicaid, unemployment compensation and food assistance. Consequently, the growth of this income source reflects both long-term demographic trends and short-term cyclical factors associated with the condition of the economy. From 2001 to 2010 the number of Iowa residents receiving Social Security old age and survivors' benefits increased from 542,536 to 584,113, or by 7.66%. Furthermore, after adjusting for inflation the average benefit received by Iowa residents increased by 10.23%.<sup>14</sup> Also, the number of unemployed Iowans about doubled over this period.

<sup>14</sup> Source: U.S. Social Security Administration, OASDI Beneficiaries by State and County, 2001 and 2010.



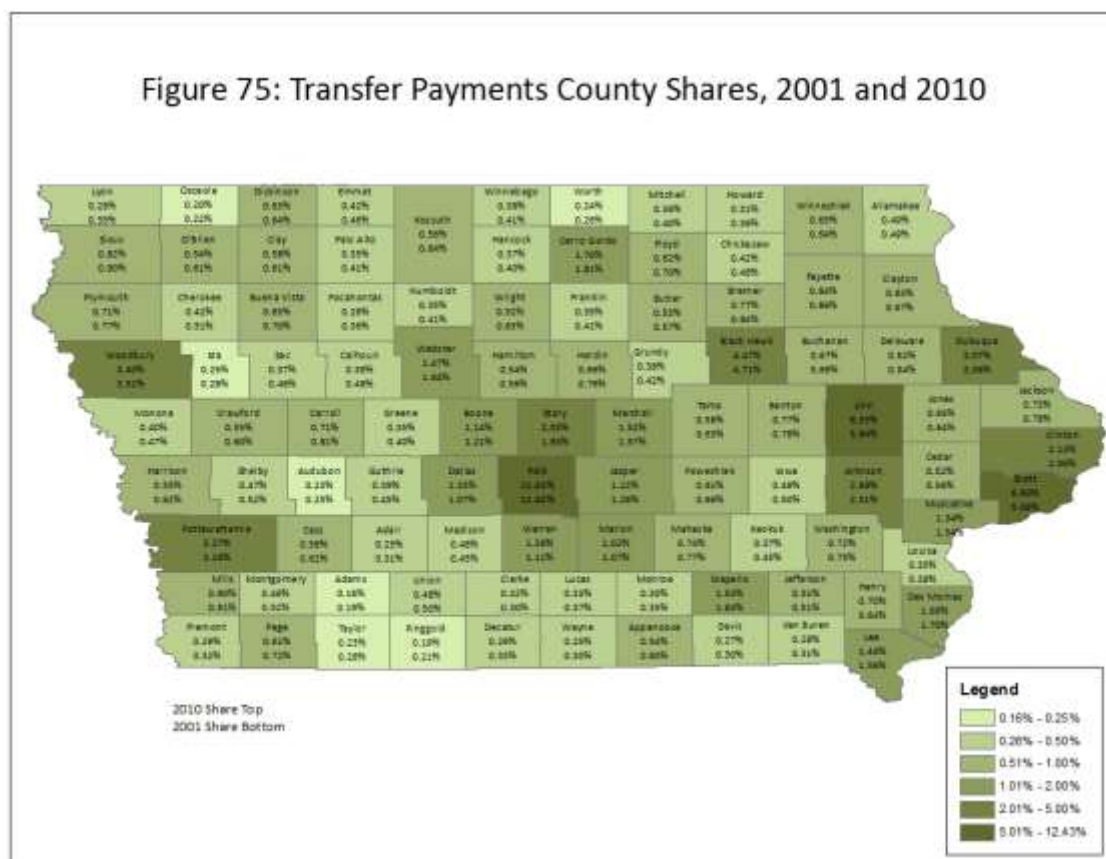


Similar to the analysis of work-related and investment income the comparison of each county's share of

This analysis shows that 83 counties experienced a decrease in their shares of transfer payments. Scott

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2001 and 2010 and increase its share from 11.40% to 12.43%. But to put this in perspective Polk County's share of total state population increased over the same period from 13.01% to 14.14%.

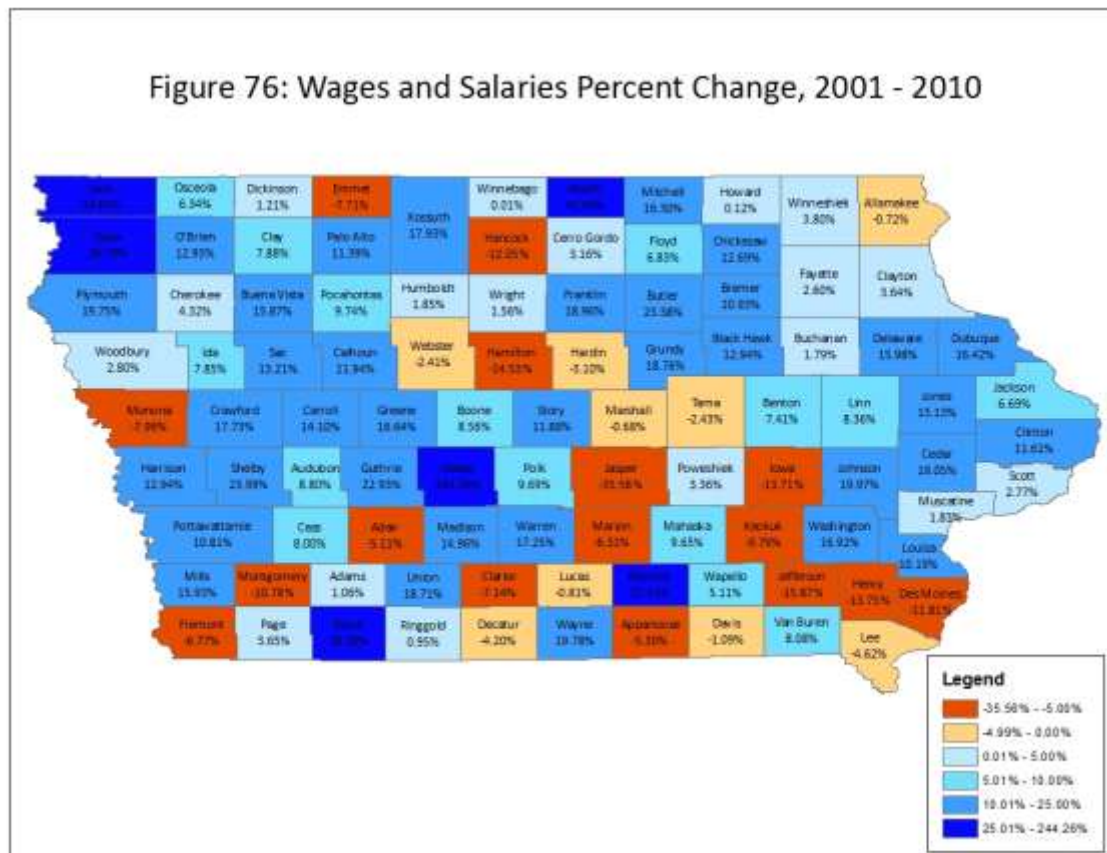


## D. Wages and Salaries

Wages and salaries account for the largest share of work-related income. From 2001 to 2010 wages and salaries increased by 9.30% statewide after adjusting for inflation. As shown in Figure 76, Dallas County claimed the largest percentage increase equaling 244.26%. In comparison, population in Dallas County increased by 54.81%. Other counties that experienced large percentage increases are Worth (42.06%), Lyon (34.69%), Taylor (28.39%) and Monroe (27.14%). All four of these counties either lost population or experienced very small population increases over the decade. Various local factors likely explain the growth of wages and salaries in these counties. About a quarter of Lyon County's population commutes to work outside the county with the most likely destination being Sioux Falls, South Dakota. A new casino opened up in Worth County (Northwood) in December 2008. Eddyville in Monroe County is the home to two large corn processing facilities, which have benefited from the increased demand for ethanol and other corn based products.

Most of the counties that suffered decreases in wage and salary income during the decade are congregated in the southeast quadrant of the state. Counties that experienced the largest percentage decreases in real wages and salaries are Jasper (-35.56%), Jefferson (-15.87%), Hamilton (-14.53%), Henry

(-13.75%) and Iowa (-13.71%). All of these counties suffered large manufacturing job losses during the decade with a large share of the losses being related to the home appliance industry.



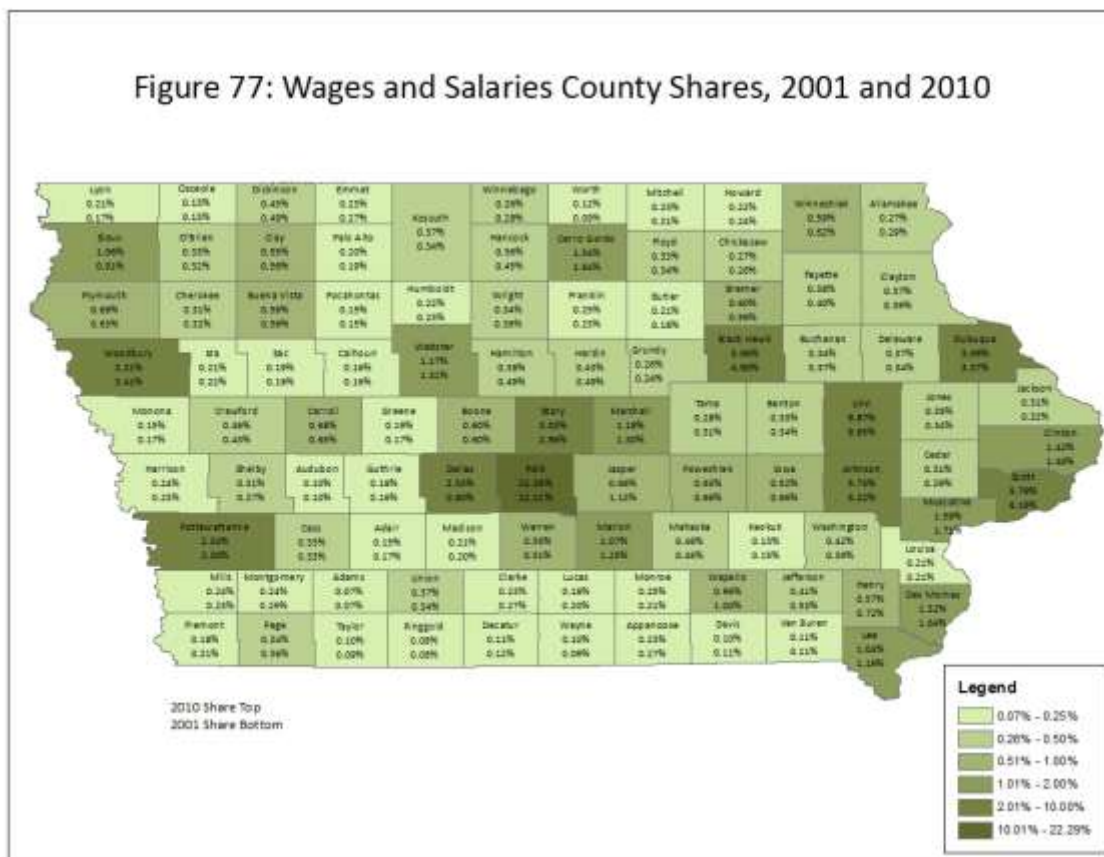
Percentage changes tell only part of the story. The level of wages and salaries at the beginning of the period strongly influences the magnitude of the percentage changes. A comparison of county shares of statewide wage and salary income provides a different perspective, one that controls of the magnitude of income levels.

Figure 77 presents a thematic map in which the counties are shaded based on their shares of State wages and salaries in 2010. In addition, within each county their 2001 and 2010 percentages of total State wages and salaries are provided. Not too surprisingly the nine core metropolitan account for the largest shares of this income source. Polk County's share equals 22.21% in 2001 and 22.29% in 2010.

<sup>15</sup> The Webster City Electrolux factory ceased operations in March 2011.

The Polk County share is over twice as large as the number two county – Linn County – both years. Linn County’s share equals 9.95% in 2001 and 9.87% in 2010.

Fifty-five counties experienced wage and salary income share decreases over the decade. Also, during this decade 87 counties saw their shares of the State’s population decrease. The correlation between counties that experienced decreases in their wage and salary income and population ranks equals only 34.15, which implies some factors other than population change are influencing changes in wage and salary income.



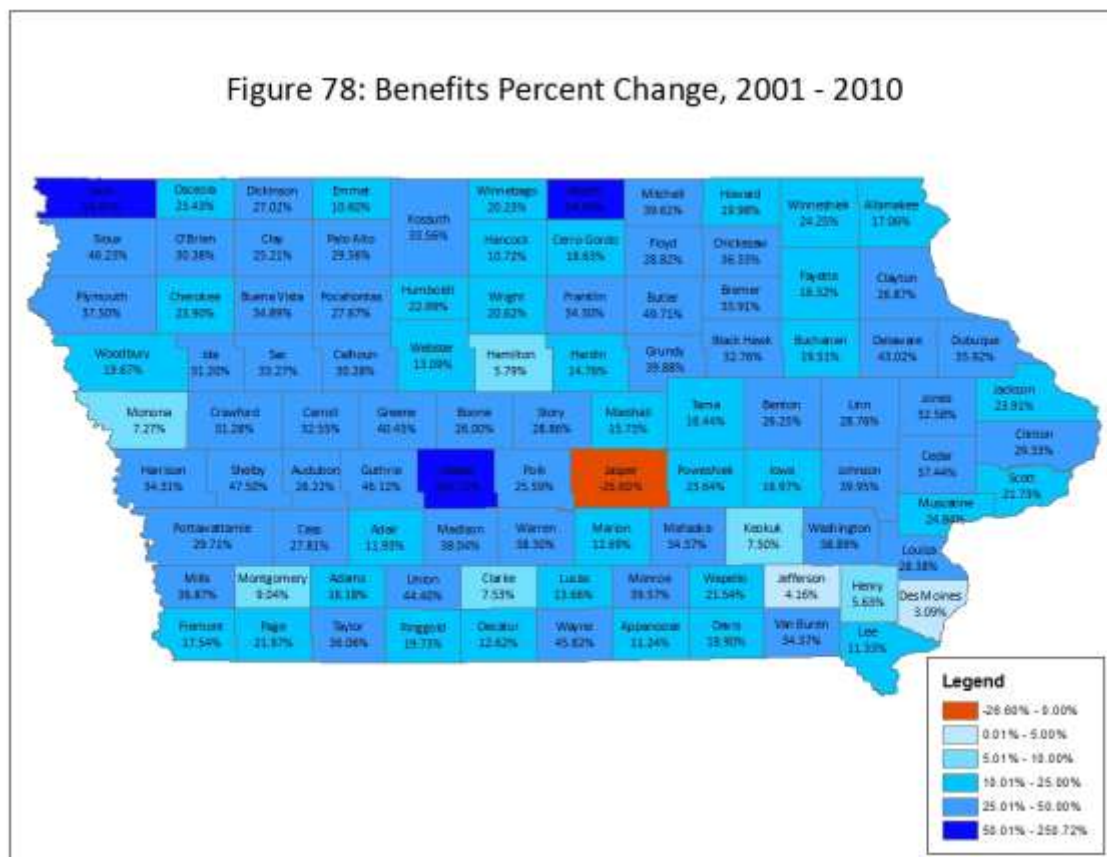
## E. Employer Provided Benefits

Employer provides benefits include primarily health insurance premiums, pension contributions, and Social Security, Medicare, and unemployment taxes. To a great extent employer contributions for these benefits parallel wage and salary disbursements. However, in recent years as the cost of health care has exploded employers have undertaken ways to shift at least some of the cost of health insurance to employees. In addition, during the Great Recession years a number of employers either reduced or stopped contributions to pension and retirement savings plans.

Statewide between 2001 and 2010 benefits increased by 27.57% after adjusting for inflation. This is almost three times as much as the 9.30% increase in wages and salaries. During the decade Jasper County experienced the only decrease in benefits contributions. This decrease in real terms equaled



-26.60%. In comparison wage and salary income in Jasper County decreased by 35.56% during the decade.

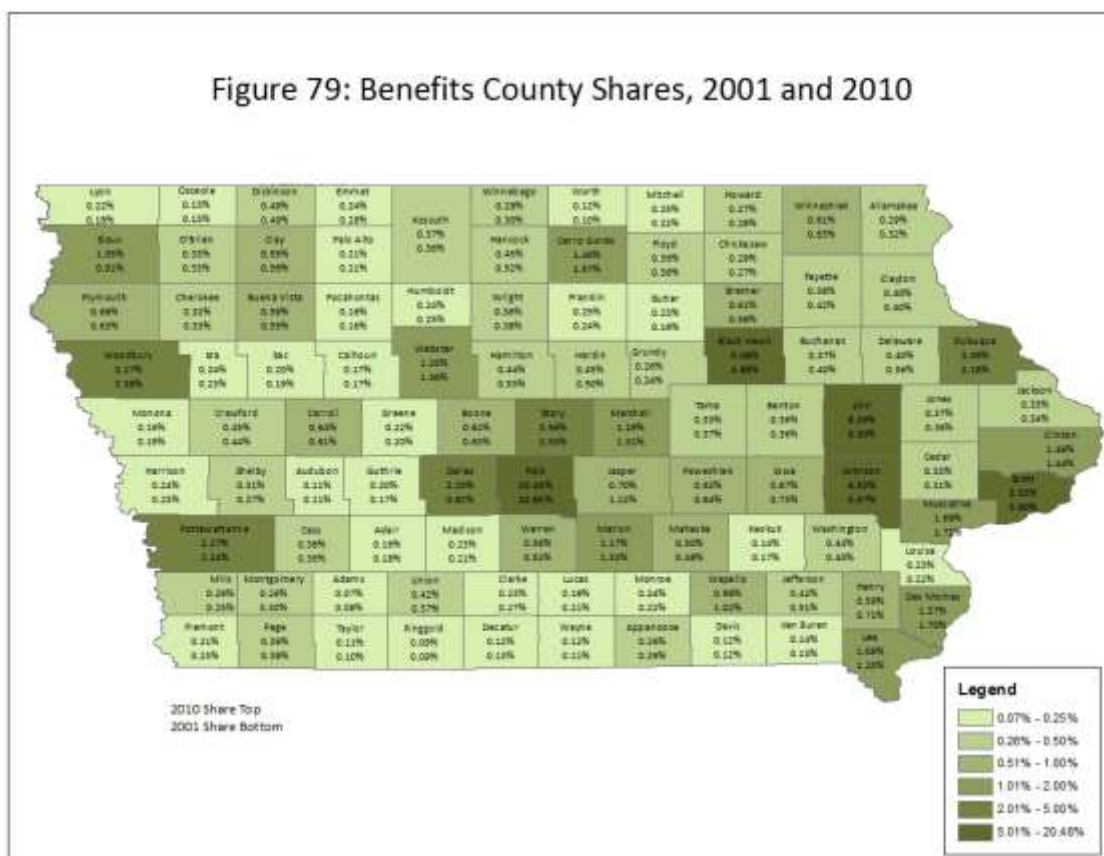


Three counties – Dallas (250.72%), Worth (54.84%) and Lyon (53.43%) – experienced increases of over 50 percent. Fifty-two other counties experienced real benefits increases of 25 percent or more. These counties are spread fairly evenly through the State. Most of the counties with benefits growth below 25 percent are clustered in the north central, northeast and southeast parts of the state.

As shown in Figure 79, benefits are highly concentrated in the State's most urban counties. Polk County's share in 2010 equaled 20.48%, which is only a small decrease from its 20.80% share in 2001. In comparison, Polk County accounted for 22.21% of wage and salary income in 2001 and for 22.29% in 2010. Dallas County experienced the largest percentage point increase during the decade rising from 0.80% to 2.53% of total statewide benefits. Other counties with large increases include Johnson (5.22% to 5.73%), Dubuque (3.37% to 3.59%), and Black Hawk (4.90% to 5.06%). Dubuque and Black Hawk counties are home to large agricultural and construction equipment manufacturing facilities, which have experienced strong growth in recent years.

Jasper County experienced the largest decrease in benefits going from 1.12% to 0.66% of the statewide total. Other counties that experienced large share decreases are Scott (6.16% to 5.79%) and Des Moines (1.64% to 1.32%). All three counties experienced manufacturing sector declines during the decade.

Counties with the small statewide shares of benefits throughout the decade are located primarily in the southern and western parts of the State. These counties have economies dominated by production agriculture.



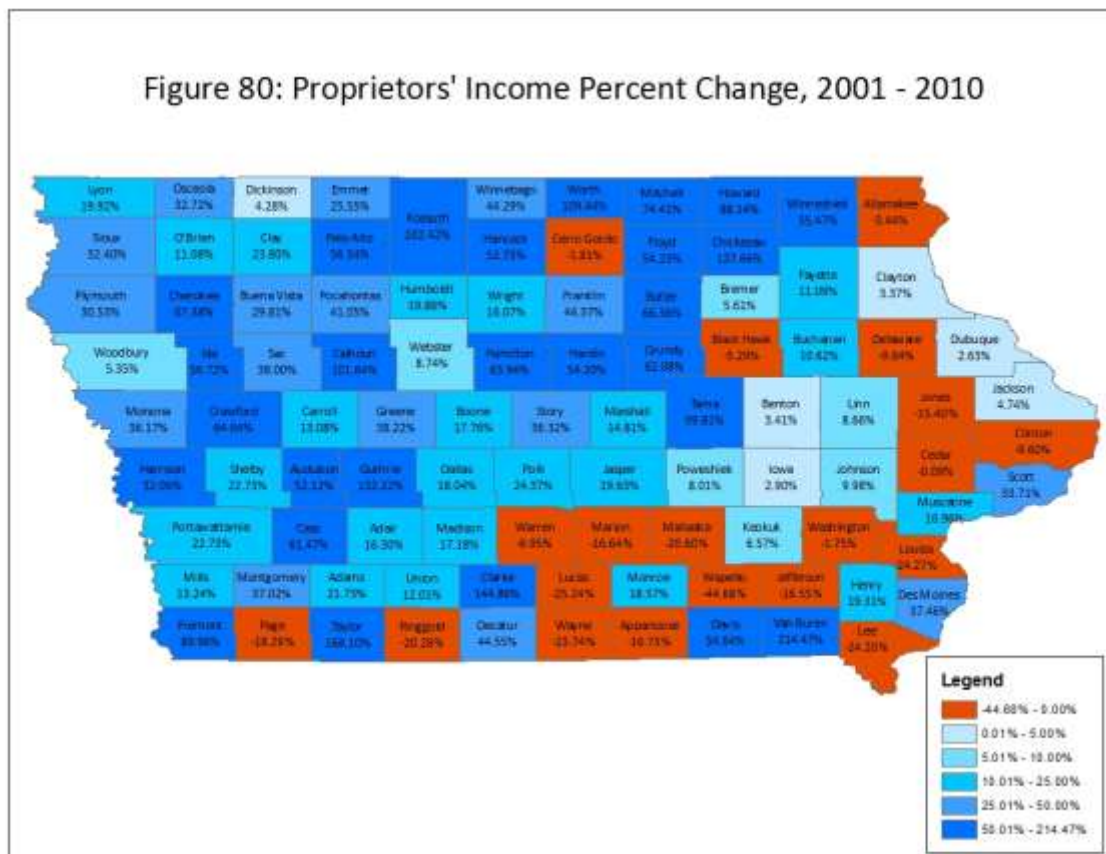
## F. Proprietors' Income

Proprietors' income consists of the current period income of sole proprietors, partnerships, and tax-exempt cooperatives adjusted for inventory valuation changes and capital consumption. Proprietors' income generally accounts for a larger share of total personal income in Iowa than it does nationally. In 2010 proprietors' income accounted for 10.73% of total personal income in Iowa versus 8.37% nationally. The BEA data presents statistics separately for farm and non-farm proprietors' income.

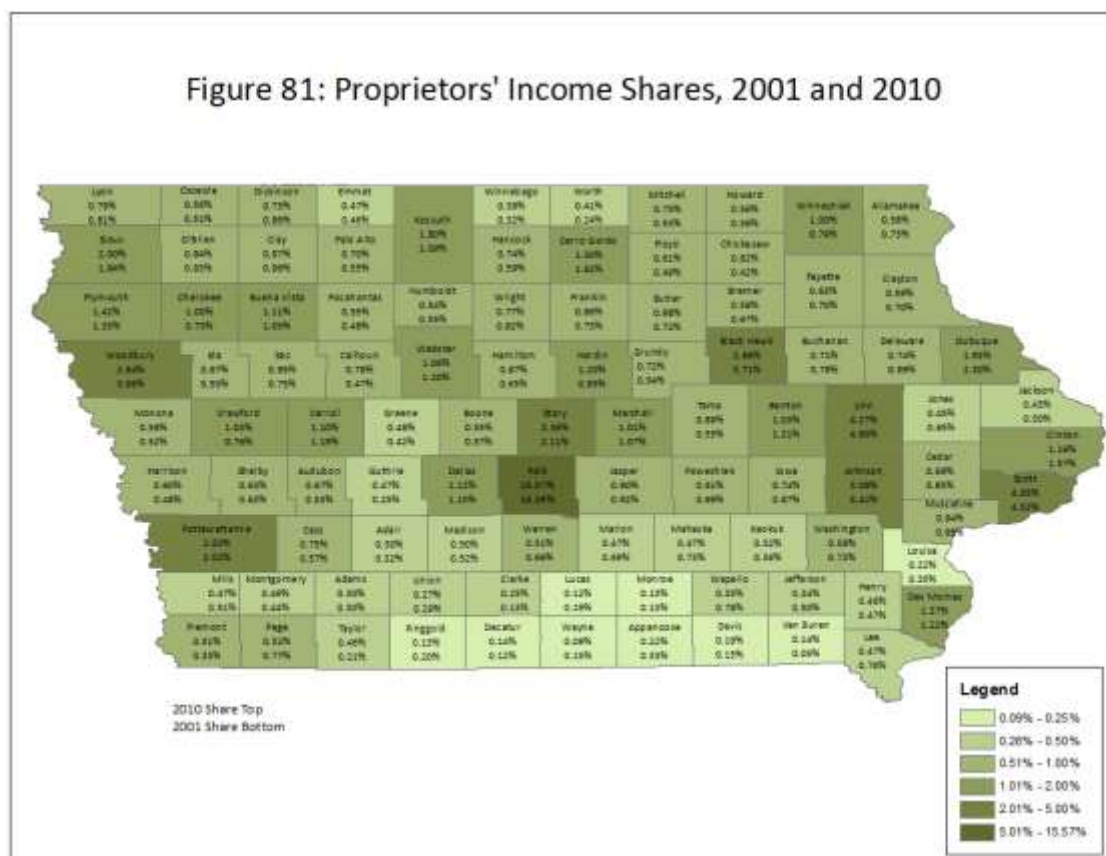
Figure 80 shows the percent change in proprietors' income by county between 2001 and 2010. Drawing a line from Allamakee County in the northeast corner of the State to Fremont County in the southwest corner of the State almost all of the counties that experienced decreases in proprietors' income are located to the south and east of the line. The five counties that experienced the largest percentage decreases are Wapello (-44.68%), Lucas (-25.24%), Louisa (-24.27%), Lee (-24.20%) and Wayne (-23.74%). All of the nine metropolitan area core counties escaped decreases in proprietors' income, but none of these counties were among the highest growth counties. The metropolitan county with the highest growth rate was Story County (36.32%).

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increased by 36.36% and its share of non-farm proprietors' income increased from 5.61% to 7.33%. In 2010 Scott County's share of non-farm proprietors' income ranked second statewide.



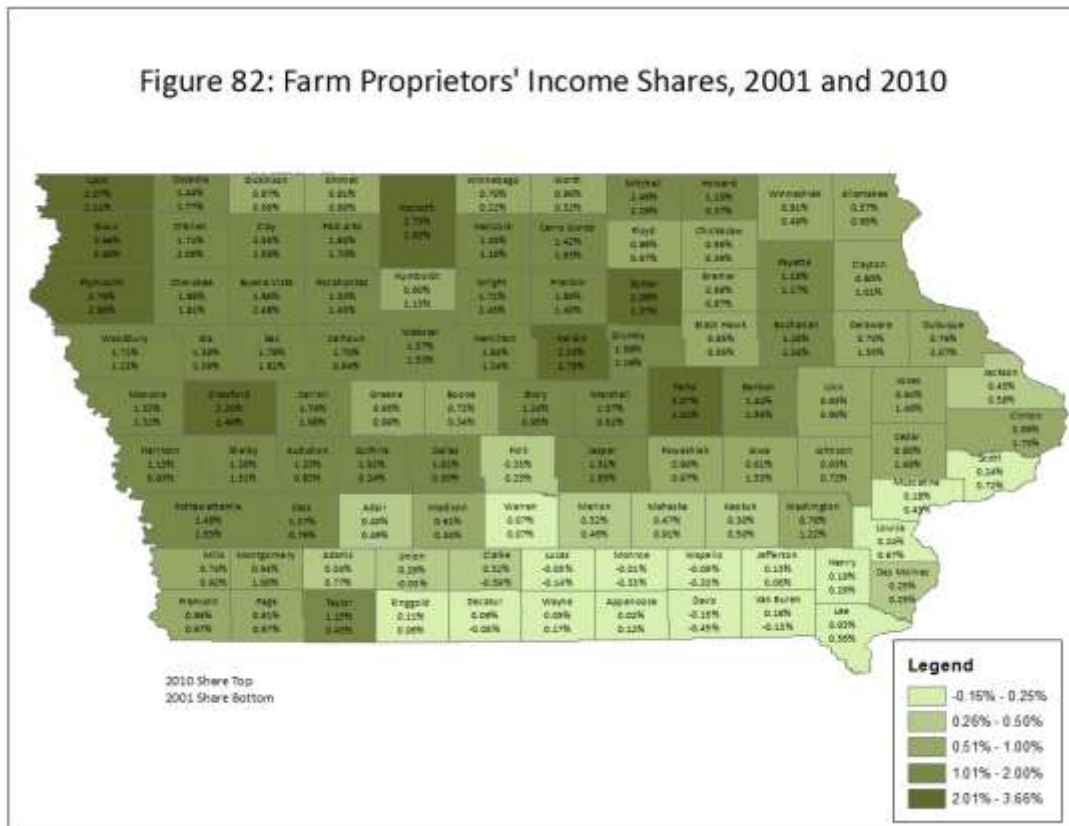
Black Hawk County experienced the largest decrease in proprietors' income share dropping from 3.71% to 2.88%. This is interesting because in many ways Black Hawk County and Scott County have similar manufacturing based economies. At the beginning of the decade Black Hawk County's accounted for 4.50% of non-farm proprietors' income and ranked fourth statewide, but by the end of the decade its share decreased to 3.91% and its rank decreased to fifth.

Some additional insight into proprietors' income is gained by focusing on the component of such income derived from farm operations. Unlike in some other states that allow large scale corporate farming, in Iowa farm operations are generally moderate in size and often are family operations that employ little outside labor. Consequently, most of the income from Iowa farms is categorized as proprietors' income rather than wage and salary income.

Figure 82 classifies Iowa's counties by their shares of farm proprietors' income in 2010, and in addition, the shares for this income source in 2001 and 2010 are shown for each county. This map shows a distinct pattern of increasing shares of farm proprietors' income moving from the southeast corner to northwest corner of the State. This corresponds with the northwest part of Iowa generating the highest field crop yields and having the highest concentrations of livestock operations.



Figure 82: Farm Proprietors' Income Shares, 2001 and 2010



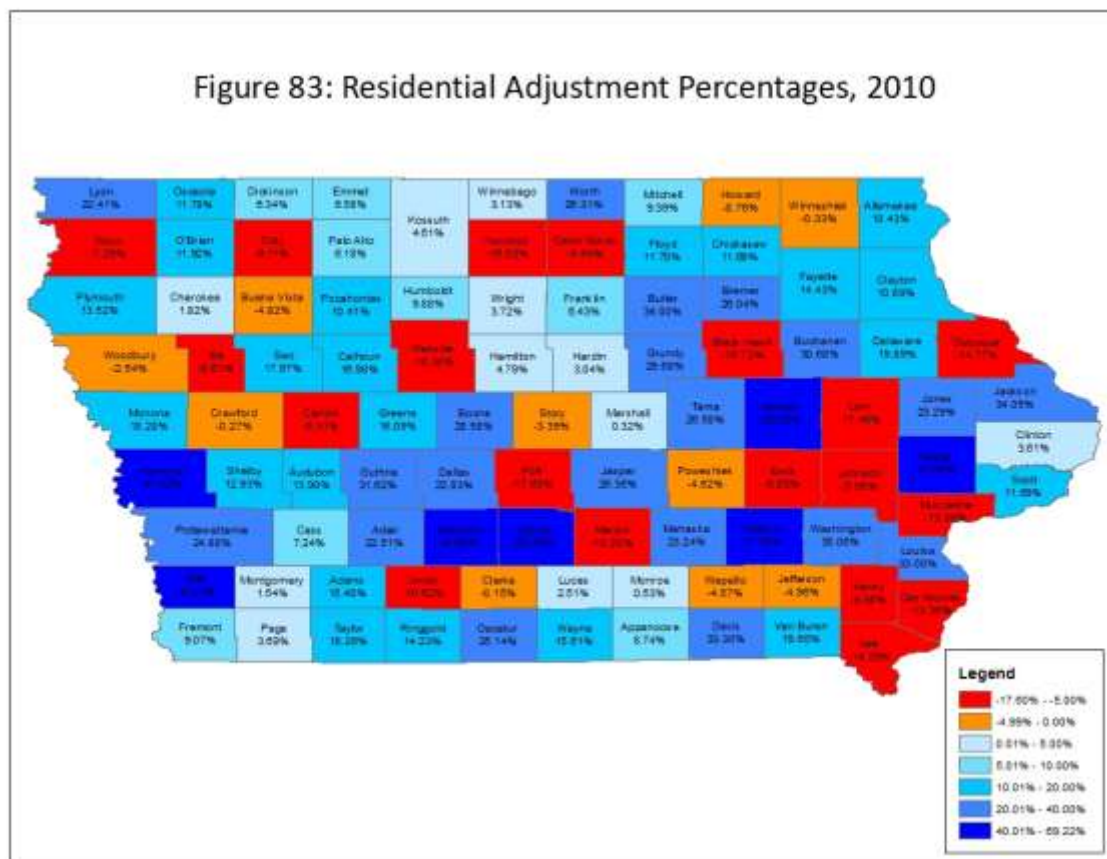
## G. Residential Adjustment

Since the BEA presents total personal income by place of residence, but much of the data is compiled on a place of work basis an adjustment is required to account for work-related income earned outside the county of residence. Figure 83 presents the Iowa county residence adjustments for 2010 expressed as a ratio to their work-related income values. The red and orange shaded counties on this map have negative valued residence adjustments. This indicates that individuals who commute from outside these counties to work locations inside these counties earn more than residents of these counties earn from work outside these counties.

The counties with negative residential adjustment values are predominantly metropolitan core counties. For example, the residence adjustment for Black Hawk County equals of negative 16.72% of total work-related income, while all of the counties surrounding Black Hawk County have positive residential adjustments. The same is true for many of the micropolitan counties, such as Cerro Gordo, Clay, Des Moines, Lee and Webster counties.

However, not all of the metropolitan area core counties have negative residential adjustment factors. The two exceptions among this group of counties are Pottawattamie and Scott counties. The explanation in the case of Pottawattamie County is that Omaha dominates the metropolitan area of which it is part and many more Pottawattamie residents likely commute to Omaha to work than the reverse. Similarly, in the Quad-Cities even though Davenport is the largest of the cities that comprise

this metropolitan area, the Illinois side of the Mississippi River offers more high paying industrial jobs than does the Iowa side.



Ida, Sioux and Union counties represent some other unusual cases. These relatively small population centers are far enough distant from either metropolitan or micropolitan areas to offer attractive work opportunities for non-residents. These three counties all contain cities with strong manufacturing, health care and retail sectors.

## Metropolitan and Micropolitan Area Income Source Comparisons

This section of the paper analyzes changes in real personal income and its major components between 2001 and 2010 for the State's metropolitan and micropolitan areas. This analysis differs from the prior metropolitan and micropolitan area analysis in two regards. First, the real income data is compiled by place of residence rather than by place of work as was the case with the earnings data. Second, total personal income is a broader measure than earnings because it includes investment income and transfer payments in addition to work-related earnings.

The sources of income addressed in this sector are the same as were addressed in the previous county level analysis. First, changes in work-related income, investment income and transfer payments are analyzed. Second, a more detailed analysis of the components of work-related income – wages and salaries, benefits and proprietors' income – is presented. Similar to the earlier metropolitan and

micropolitan area earnings analysis this section looks at changed in real income in three ways. First, it looks as the absolute change levels measured in 2005 constant chain-weighted dollars. Second, changes are presented in percentage terms. Third, the presentation addresses the shares of the total statewide real change amounts accounted for by the metropolitan and micropolitan areas.

Table 10 presents level changes and Table 11 presents percent changes in real income by source over the period from 2001 to 2010. Over the decade real work-related income increased by \$5.800 billion (16.01%) in the metropolitan areas and by \$330 million (3.46%) in the micropolitan areas. In the 62 rural counties the increase equaled \$2.131 billion (15.30%).

The Des Moines metropolitan area experienced the strongest growth equaling \$2.689 billion (20.85%). In percentage terms, the Iowa City metropolitan area performed almost as well with growth equaling \$633 million (19.97%). One metropolitan area – Sioux City – experienced a decrease in work-related income.

Among the micropolitan areas strong percentage increases in work-related income occurred in Storm Lake (\$74 million, 20.63%), Boone (\$79 million, 16.68%) and Spencer (\$48 million, 14.35%). In five of the areas work-related income decreased led by Newton (-\$114 million, -15.18%).

Statewide investment income decreased by \$444 million (-2.58%), but as a group the metropolitan areas experienced an investment income increase of \$253 million (2.79%), while in the micropolitan areas there was a decrease of \$330 million (-10.65%) and in the rural counties a decrease of \$367 million (-7.22%).

Among the metropolitan areas investment income decreased in Sioux City (-\$93 million, -17.24%) and Council Bluffs (-\$30 million, -5.71%). Iowa City households experienced the largest investment income percentage increase equaling \$98 million (11.96%).

Thirteen of the fifteen micropolitan areas experienced investment income decreases. Boone (-\$45 million, -25.75%) experienced the largest percentage decrease, followed by Ottumwa (-33 million, -19.54%) and Keokuk-Ft. Madison (-\$31 million, -14.79%).

All of the metropolitan areas and micropolitan areas experienced increases in transfer payments. For all of the metropolitan areas transfer payments increased by \$3.800 billion (60.29%). For the micropolitan areas the increase equaled \$1.112 billion (42.98%). For the rural counties the increase equaled \$1.390 billion (35.24%).

Among the metropolitan areas the largest percentage increase by a substantial margin occurred in Davenport (\$671 million, 103.41%) followed by Iowa City (\$259 million, 65.90%) and Des Moines (\$1.184 billion, 63.71%).

Among the micropolitan areas the percentage increases were fairly similar in the range between 33.59% for Fort Dodge (\$71 million) and 59.17% for Clinton (\$152 million).

Looking more closely at the components of work-related income reveals substantial differences between the metropolitan and micropolitan areas. For all of the metropolitan areas wage and salary income increased by \$4.012 billion (13.19%), while for the micropolitan areas wage and salary income decreased by \$83 million (-1.06%).

**Table 10: Metropolitan and Micropolitan Areas, 2001 - 2010**  
Change in Real Income by Source

Metropolitan Areas	Change in Real Income (\$2005 thousands)					
	Work-Related	Investment	Transfers	Wages	Benefits	Proprietors'
Des Moines	\$2,688,869	\$128,324	\$1,183,729	\$2,013,440	\$786,219	\$392,478
Cedar Rapids	\$638,081	\$59,038	\$538,812	\$425,343	\$293,505	\$32,518
Davenport	\$603,702	\$14,467	\$671,333	\$80,460	\$128,128	\$139,019
Iowa City	\$633,489	\$98,801	\$258,541	\$522,846	\$258,329	\$30,018
Waterloo	\$463,098	\$33,554	\$308,957	\$350,375	\$192,315	\$16,071
Dubuque	\$277,196	-\$27	\$195,857	\$260,867	\$116,236	\$5,506
Ames	\$288,893	\$41,971	\$140,288	\$165,443	\$103,464	\$70,008
Sioux City	-\$6,498	-\$93,487	\$199,286	\$44,973	\$67,635	\$14,943
Council Bluffs	\$213,335	-\$29,673	\$303,107	\$148,647	\$84,823	\$70,781
<b>All Metro Areas</b>	<b>\$5,800,164</b>	<b>\$252,968</b>	<b>\$3,799,911</b>	<b>\$4,012,393</b>	<b>\$2,030,653</b>	<b>\$771,343</b>

Micropolitan Areas	Change in Real Income (\$2005 thousands)					
	Work-Related	Investment	Transfers	Wages	Benefits	Proprietors'
Mason City	\$80,675	-\$22,872	\$104,101	\$42,840	\$35,446	\$21,285
Muscatine	\$64,381	-\$69,418	\$103,703	\$24,859	\$49,884	\$7,348
Clinton	\$76,085	-\$19,654	\$151,777	\$76,377	\$42,928	-\$13,761
Burlington	-\$5,482	-\$8,084	\$98,232	-\$91,439	\$5,333	\$41,717
Marshalltown	\$26,903	-\$29,531	\$88,988	-\$4,170	\$20,990	\$14,471
Newton	-\$113,949	-\$29,774	\$69,508	-\$188,092	-\$33,078	\$16,435
Fort Dodge	\$5,577	-\$24,004	\$70,536	-\$14,821	\$18,048	\$9,531
Keokuk-Ft Madison	-\$37,238	-\$31,020	\$75,208	-\$25,991	\$14,356	-\$16,871
Pella	-\$6,825	\$1,597	\$58,099	-\$37,212	\$17,111	-\$10,461
Ottumwa	-\$1,606	-\$32,576	\$84,906	\$24,045	\$22,417	-\$31,763
Boone	\$78,861	-\$45,442	\$63,637	\$24,364	\$16,715	\$9,210
Spirit Lake	\$24,638	\$7,369	\$38,123	\$2,782	\$13,425	\$3,346
Spencer	\$47,722	-\$6,736	\$31,911	\$20,859	\$14,438	\$20,825
Oskaloosa	\$15,979	-\$9,198	\$42,459	\$20,917	\$16,635	-\$13,630
Storm Lake	\$73,787	-\$10,867	\$31,010	\$41,873	\$19,640	\$28,500
<b>All Micro Areas</b>	<b>\$329,508</b>	<b>-\$330,211</b>	<b>\$1,112,196</b>	<b>-\$82,810</b>	<b>\$274,289</b>	<b>\$86,184</b>
<b>Rural Counties</b>	<b>\$2,130,893</b>	<b>-\$367,187</b>	<b>\$1,389,515</b>	<b>\$453,975</b>	<b>\$498,248</b>	<b>\$1,162,903</b>
<b>State Total</b>	<b>\$8,260,565</b>	<b>-\$444,430</b>	<b>\$6,301,622</b>	<b>\$4,383,558</b>	<b>\$2,803,190</b>	<b>\$2,020,430</b>

**Table 11: Metropolitan and Micropolitan Areas, 2001 - 2010**  
Percent Change in Real Income by Source

Metropolitan Areas	Percent Change in Real Income					
	Work-Related	Investment	Transfers	Wages	Benefits	Proprietors'
Des Moines	20.85%	4.47%	63.71%	17.88%	34.34%	24.07%
Cedar Rapids	11.31%	4.11%	57.07%	8.49%	28.80%	5.34%
Davenport	16.66%	1.53%	103.41%	2.77%	21.73%	33.71%
Iowa City	19.97%	11.96%	65.90%	19.76%	39.89%	7.93%
Waterloo	14.98%	3.80%	40.28%	12.97%	33.17%	3.58%
Dubuque	16.99%	0.00%	49.94%	16.42%	35.92%	2.63%
Ames	17.35%	9.53%	56.62%	11.88%	28.86%	36.32%
Sioux City	-0.32%	-17.24%	44.17%	2.80%	19.67%	5.35%
Council Bluffs	8.63%	-5.71%	50.43%	11.41%	30.75%	25.80%
<b>All Metro Areas</b>	<b>16.01%</b>	<b>2.79%</b>	<b>60.29%</b>	<b>13.19%</b>	<b>31.59%</b>	<b>17.39%</b>

Micropolitan Areas	Percent Change in Real Income					
	Work-Related	Investment	Transfers	Wages	Benefits	Proprietors'
Mason City	8.07%	-6.86%	39.20%	5.26%	20.86%	12.55%
Muscatine	6.23%	-19.50%	47.06%	2.75%	25.24%	6.04%
Clinton	8.65%	-7.73%	59.17%	11.61%	29.33%	-9.60%
Burlington	-0.70%	-3.31%	44.96%	-11.81%	3.09%	37.46%
Marshalltown	3.62%	-12.82%	44.07%	-0.68%	15.73%	14.81%
Newton	-15.18%	-14.43%	42.26%	-35.56%	-26.60%	19.63%
Fort Dodge	0.80%	-10.91%	33.59%	-2.41%	13.09%	8.74%
Keokuk-Ft Madison	-6.32%	-14.79%	37.56%	-4.62%	11.33%	-24.20%
Pella	-1.12%	0.89%	42.41%	-6.31%	12.69%	-16.64%
Ottumwa	-0.29%	-19.54%	40.67%	5.11%	21.54%	-44.68%
Boone	16.68%	-25.75%	41.04%	8.56%	26.00%	17.76%
Spirit Lake	7.48%	4.85%	46.66%	1.21%	27.02%	4.28%
Spencer	14.35%	-5.89%	40.69%	7.88%	25.21%	23.80%
Oskaloosa	4.10%	-6.83%	42.86%	9.65%	34.37%	-20.60%
Storm Lake	20.63%	-8.97%	34.34%	15.87%	34.89%	29.81%
<b>All Micro Areas</b>	<b>3.46%</b>	<b>-10.65%</b>	<b>42.98%</b>	<b>-1.06%</b>	<b>15.91%</b>	<b>6.07%</b>
<b>Rural Counties</b>	<b>15.30%</b>	<b>-7.22%</b>	<b>35.24%</b>	<b>5.08%</b>	<b>24.70%</b>	<b>35.60%</b>
<b>State Total</b>	<b>13.84%</b>	<b>-2.58%</b>	<b>49.10%</b>	<b>9.30%</b>	<b>27.57%</b>	<b>22.15%</b>

The Des Moines metropolitan area realized the largest increase in wage and salary income totaling \$2.013 (17.88%), while the Iowa City metropolitan area experienced the largest percentage increase equaling 19.76% (\$523 million). All of the metropolitan areas experienced wage and salary income increases, but the increases for Sioux City (\$45 million, 2.80%) and Davenport (\$80 million, 2.77%) were small in percentage terms.

Six of the micropolitan areas experienced real wage and salary income decreases over the decade. Newton's \$188 million (-35.56%) decrease was by far the largest. The next largest decrease was experienced by Burlington at -\$91 million (-11.81%). The largest percentage increase among the micropolitan areas was realized by Storm Lake (\$42 million, 15.87%).

Benefits received by residents of metropolitan areas increased by 31.59% during the decade. In the micropolitan areas benefits increased by 15.91% and in rural areas the increase equaled 24.70%. None of the metropolitan areas experienced a decrease in benefits and the only micropolitan area with a benefits decrease was Newton (-\$33 million, -26.60%).

The change in proprietors' income exhibits considerable variability among both the metropolitan and micropolitan areas. All of the metropolitan areas experienced growth in proprietors' income over the decade. However, the amount of growth varied from 36.32% for Ames (\$70 million) to only 2.63% for Dubuque (\$6 million). In fact, only four of the metropolitan areas experienced real proprietors' income growth of over 10 percent. Total proprietors' income for the metropolitan areas increased by \$771 million (17.39%). What may be somewhat surprising is that for the metropolitan areas non-farm proprietors' income growth equaled only 12.04%. Part of the explanation for why non-farm proprietors' income grew at a slower rate than total proprietors' income is that in the Waterloo and Sioux City areas this component of income actually decreased over the decade.

For the micropolitan areas total proprietors' income increased by only 6.07% (\$86 million). Five of these areas experienced proprietors' income decreases over the decade. These areas are Ottumwa (-\$32 million, -44.68%), Keokuk-Ft. Madison (-\$17 million, -24.20%), Oskaloosa (-\$14 million, -20.60%), Pella (-\$10 million, -16.64%) and Clinton (-\$14 million, -9.60%). The micropolitan area with the largest increase is Burlington (\$42 million, 37.46%).

For rural counties proprietors' income increased by 35.60% (\$1.163 billion). For these counties farm proprietors' income accounted for more than 100 percent of the growth equaling \$1.235 billion. Non-farm proprietors' income for the rural counties decreased over the decade by \$72 million.

Table 12 summarizes the contribution in percentage terms that metropolitan and micropolitan areas made to the State's income growth by source from 2001 to 2010. Looking at work-related growth shares draws a stark contrast between the metropolitan and micropolitan areas. The metropolitan areas as a group accounted for 70.22% of statewide growth, while the micropolitan areas contributed only 3.99% of the growth. The Des Moines metropolitan area contributed almost a third (32.55%) of total statewide work-related income growth. The next largest contributor to work-related income growth was Cedar Rapids (7.72%).

Since investment income statewide decreased over the decade, the negative 56.92% shown for metropolitan areas indicates that the growth of investment income in these nine areas offset over half the investment income decrease elsewhere in the state. The losses in investment income were about evenly split between the fifteen micropolitan areas (74.30%) and the 62 rural counties (82.62%).

**Table 12: Metropolitan and Micropolitan Areas, 2001 - 2010**  
Share of Change in Real Income by Source

Metropolitan Areas	Share of Change in Real Income					
	Work-Related	Investment	Transfers	Wages	Benefits	Proprietors'
Des Moines	32.55%	-28.87%	18.78%	45.93%	28.05%	19.43%
Cedar Rapids	7.72%	-13.28%	8.55%	9.70%	10.47%	1.61%
Davenport	7.31%	-3.26%	10.65%	1.84%	4.57%	6.88%
Iowa City	7.67%	-22.23%	4.10%	11.93%	9.22%	1.49%
Waterloo	5.61%	-7.55%	4.90%	7.99%	6.86%	0.80%
Dubuque	3.36%	0.01%	3.11%	5.95%	4.15%	0.27%
Ames	3.50%	-9.44%	2.23%	3.77%	3.69%	3.47%
Sioux City	-0.08%	21.04%	3.16%	1.03%	2.41%	0.74%
Council Bluffs	2.58%	6.68%	4.81%	3.39%	3.03%	3.50%
<b>All Metro Areas</b>	<b>70.22%</b>	<b>-56.92%</b>	<b>60.30%</b>	<b>91.53%</b>	<b>72.44%</b>	<b>38.18%</b>

Micropolitan Areas	Share of Change in Real Income					
	Work-Related	Investment	Transfers	Wages	Benefits	Proprietors'
Mason City	0.98%	5.15%	1.65%	0.98%	1.26%	1.05%
Muscatine	0.78%	15.62%	1.65%	0.57%	1.78%	0.36%
Clinton	0.92%	4.42%	2.41%	1.74%	1.53%	-0.68%
Burlington	-0.07%	1.82%	1.56%	-2.09%	0.19%	2.06%
Marshalltown	0.33%	6.64%	1.41%	-0.10%	0.75%	0.72%
Newton	-1.38%	6.70%	1.10%	-4.29%	-1.18%	0.81%
Fort Dodge	0.07%	5.40%	1.12%	-0.34%	0.64%	0.47%
Keokuk-Ft Madison	-0.45%	6.98%	1.19%	-0.59%	0.51%	-0.83%
Pella	-0.08%	-0.36%	0.92%	-0.85%	0.61%	-0.52%
Ottumwa	-0.02%	7.33%	1.35%	0.55%	0.80%	-1.57%
Boone	0.95%	10.22%	1.01%	0.56%	0.60%	0.46%
Spirit Lake	0.30%	-1.66%	0.60%	0.06%	0.48%	0.17%
Spencer	0.58%	1.52%	0.51%	0.48%	0.52%	1.03%
Oskaloosa	0.19%	2.07%	0.67%	0.48%	0.59%	-0.67%
Storm Lake	0.89%	2.45%	0.49%	0.96%	0.70%	1.41%
<b>All Micro Areas</b>	<b>3.99%</b>	<b>74.30%</b>	<b>17.65%</b>	<b>-1.89%</b>	<b>9.78%</b>	<b>4.27%</b>
<b>Rural Counties</b>	<b>25.80%</b>	<b>82.62%</b>	<b>22.05%</b>	<b>10.36%</b>	<b>17.77%</b>	<b>57.56%</b>
<b>State Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>



The metropolitan areas accounted for 60.30% of the growth in transfer payments, while the micropolitan areas and rural counties accounted for 17.65% and 22.05%, respectively, of transfer payment growth. In comparison, the metropolitan areas accounted for 123.58% of the State's population growth over the decade, while the micropolitan areas (-5.39%) and rural counties (-18.19%) both lost population.

Looking more closely at the components of work-related income finds that the metropolitan areas accounted for 91.35% of the increase in wage and salary income and 72.44% of the benefits increase, but only 38.18% of proprietors' income growth. The Des Moines metropolitan area accounted for slightly over half of the total metropolitan share of proprietors' income growth (19.43%).

In the micropolitan areas wage and salary income decreased by an amount equal to 1.89% of the net statewide gain. Micropolitan areas did contribute 9.78% of statewide benefits growth and 4.27% of statewide proprietors' income growth.

Rural counties accounted for 10.36% of wage and salary growth, 17.77% of benefits growth and 57.56% of the growth of proprietors' income statewide. Rural counties accounted for 71.79% of farm proprietors' income growth, but subtracted 23.84% from statewide non-farm proprietors' income growth over the decade.

## Concluding Observations

- From 2000 through 2011 personal income as a share of State gross domestic product declined from 63.71% to 60.66%. This decline occurred throughout the period, not just since the beginning of the Great Recession.
- The five sectors that account for the highest shares of earnings during 2011 are government (15.89%), manufacturing (15.45%), health care and social assistance (10.22%), finance and insurance (8.77%), and agriculture, forestry, fishing and hunting (8.74%). These five sectors account for 59.07% of total earnings in 2011. This is up from a combined share of 54.90% in 2000.
- Between 2000 and 2011 eight sectors increased their shares of total earnings. Among the five largest sectors four increased their shares of total earnings. The agricultural sector's share almost doubled from 4.43% to 8.74%. The finance and insurance sector's share increased from 6.82% to 8.77%. The health care and social assistance sector's share increased from 8.99% to 10.22%. The government sector's share increased slightly from 15.63% to 15.89%. On the other hand, manufacturing's share of total earnings decreased from 19.03% to 15.45%, which is almost a 20 percent decrease.
- The fact that real earnings derived from by the manufacturing sector decreased by \$726 million (-5.68%) over the twelve years, while real manufacturing output increased by \$4.454 billion (22.45%) over the same period raises the question of what has happened to worker productivity in the State. In addition, it raises the question has worker compensation risen commensurate with their apparent increased productivity.
- There has been a shift in the relative importance of the different sources that comprise total personal income. In 2000 the shares accounted for by work-related income, investment income and

transfer payments equaled 66.86%, 19.60% and 13.53%, respectively. In 2011 the shares for these three primary income sources equaled work-related income at 66.48%, investment income at 15.94% and transfer payments at 17.58%. This begs the question as to what extent the changes are due to cyclical versus structural factors affecting the State's economy.

- Two sectors – agriculture and finance and insurance were the major drivers of earnings growth in Iowa over the twelve years. For the agricultural sector real earnings grew by 129.29% compared to 20.91% nationally. For the finance and insurance sector Iowa earnings increased by 49.39% compared to 12.76% nationally.
- Even though real earnings for the manufacturing sector decreased both in Iowa (-5.68%) and the nation (-22.82%), Iowa's manufacturing sector performed much better than for the nation as a whole. The same is true for the construction sector for which real earnings decreased by 4.46% in Iowa compared to 12.48% decrease nationally.
- Compared to the other eleven states that comprise the Great Lakes and Plains regions of the country, Iowa's 16.24% growth in real earnings over the twelve years ranks third behind only North Dakota (45.70%) and South Dakota (25.86%). This rank is particularly noteworthy given that North Dakota's growth was driven largely by the development of the Bakken Shale Oil deposits and there was likely some spillover benefits from North Dakota's growth to South Dakota.
- During the Great Recession (2007 – 2009) and subsequent initial years of recovery (2009 – 2011) Iowa's real earnings growth ranked fourth from among the twelve Great Lakes and Plains states both periods.
- Looking at how different sectors of the Iowa economy performed during the Great Recession and the subsequent initial recovery years provide a mixed picture. Although agricultural sector real earnings increased by 15.91% from 2007 to 2009 this was only seventh best among the Midwest states and Iowa's growth for this sector of 44.01% from 2009 to 2011 was fourth among the twelfth states. Similarly, for the manufacturing sector Iowa's 11.32% decrease in real earnings from 2007 to 2009 and 5.73% increase from 2009 to 2011 ranks only fifth and sixth best, respectively. For the finance and insurance sector Iowa's 1.56% real earnings decrease between 2007 and 2009 ranks sixth best, while from 2009 to 2011 its 7.28% increase in real earnings ranks third best. Where earnings growth for Iowa fared the worst since the end of the Great Recession is for the retail and the lodging and food service sectors. From 2009 to 2011 real earnings derived from these two sectors have increased by only 0.87% and 4.62%, respectively. Both of these growth rates rank last among the twelve Midwest states.
- In Iowa work-related income increased by 17.90% between 2000 and 2011, which ranked the State third after North Dakota (47.23%) and South Dakota (29.31%). Nebraska, Minnesota, and Kansas experienced the next three highest growth rates. What all of these states have in common is a strong and relatively large agricultural sector. In addition, North Dakota obviously realized an additional boost from newly developed oil and gas fields.
- Wage and salary income for Iowa increased by 9.10% over the twelve years, which was the third largest percentage increase among the twelve states. In Iowa total proprietors' income increased by 34.76% over the twelve years, while non-farm proprietors' income decreased by 1.45% and farm proprietors' income increased by 150.95%. Compared to the other eleven states Iowa's percent

change in total proprietors' income ranked third behind Nebraska (36.88%) and South Dakota (35.79%). Iowa's percent change in non-farm proprietors' income ranked seventh and Iowa's percent change in farm proprietors' income ranked seventh. However, in real dollars Iowa's \$3.559 billion increase in farm proprietors' income was the largest increase of the twelve states.

- Among the twelve states the residents of five earned more income outside their state of residence than non-residents earned within the state. Overall Iowa ranked fourth in terms of the net amount of earnings residents brought into the state, which equaled \$1.186 billion in 2011 in inflation adjusted dollars.
- During the Great Recession it is somewhat surprisingly total real personal income in Iowa decreased by only 0.18% between 2007 and 2009. This ranked third best among the Midwest states behind only North Dakota and South Dakota, both of which experienced real personal income growth these two years. Two of the most likely explanations for this small decrease are that Iowa was not impacted nearly as much by the housing bubble and by subprime mortgage problems as the rest of the nation. Also, at the same time the recession took hold farm commodity prices began to experience strong growth.
- From 2009 to 2011 total real personal income increased by 5.27% nationally, by 4.97% in the Great Lakes region and by 4.44% in the Plains region. In comparison from 2002 to 2004 immediately following the 2001 recession total real personal income increased by 3.91% nationally, by 2.22% in the Great Lakes region and by 4.07% in the Plains region. So, in spite of the much greater severity of the 2007 to 2009 recession the initial recovery was stronger than the initial recovery following the 2001 recession. In Iowa total real personal income increased by 5.38% between 2009 and 2011 compared to an increase of 4.50% between 2002 and 2004. During these first two years of recovery from the Great Recession Iowa's growth ranked fifth among the twelve states.
- Following the Great Recession, from 2009 to 2011 the gains in proprietors' income have been strong in every one of the twelve states. This is somewhat surprising given the weakness in wage and salary income growth and benefits growth during these two years. Nationally proprietors' income increased by 13.09%, while in the Great Lakes and Plains regions the increases equaled 14.90% and 18.03%, respectively. Iowa's 26.07% increase in proprietors' income over the two years ranked second only to Wisconsin (30.24%). Most states experienced gains in both farm and non-farm proprietors' income. All states except Kansas experienced gains in farm proprietors' income and all states except Indiana experienced gains in non-farm proprietors' income. In Iowa farm and non-farm proprietors' incomes increased by 53.40% and 10.46%, respectively.
- An analysis of personal income changes among Iowa's 99 counties reveals significant variation across the State. Statewide total earnings in current dollars increased from \$60.534 billion in 2001 to \$84.489 billion in 2010, or by \$23.925 billion (39.50%). When adjusted for inflation the increase equaled \$9.207 billion in 2005 chain-weighted dollar, or 13.86%. Not too surprisingly Dallas County experienced the largest percent increase in total real earnings equaling 203.23%. A couple other counties with large percentage increases are more surprising – Worth (63.14%) and Taylor (67.28%). Counties that suffered decreases in total real earnings over the ten years are concentrated in the southeast quadrant of the state. Jasper county experienced the largest decrease equaling -27.78%, which can be attributed to the loss of Maytag. Des Moines, Henry, Jefferson, and Lee counties in the far southeast corner of the state lost a total of 4,701 manufacturing jobs between 2001 and 2010, or in excess of 30 percent of their combined manufacturing workforce.

- The analysis of real earnings changes within the metropolitan and micropolitan areas shows increasing concentration of growth in the manufacturing, finance, and government sectors within the State's nine metropolitan areas. On the other hand, what may be surprising to some growth in retail trade seems to still be relatively dispersed across the State.
- Looking at work-related growth shares draws a stark contrast between the metropolitan and micropolitan areas. The metropolitan areas as a group accounted for 70.22% of statewide growth, while the micropolitan areas contributed only 3.99% of the growth. The Des Moines metropolitan area contributed almost a third (32.55%) of total statewide work-related income growth. The next largest contributor to work-related income growth was the Cedar Rapids metropolitan area (7.72%).
- Looking more closely at the components of work-related income finds that the metropolitan areas accounted for 91.35% of the increase in wage and salary income and 72.44% of the benefits increase, but only 38.18% of proprietors' income growth. The Des Moines metropolitan area accounted for slightly over half of the total metropolitan share of proprietors' income growth (19.43%). In the micropolitan areas wage and salary income decreased by an amount equal to 1.89% of the net statewide gain. Micropolitan areas did contribute 9.78% of statewide benefits growth and 4.27% of statewide proprietors' income growth.

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