

PERSPECTIVES ON THE OMAHA WORK FORCE

As Nebraska's largest single work force, Omaha comprises an important element in the economic picture for Nebraska. In the years since 1960, the characteristics of the Omaha work force have undergone numerous changes—some of which have closely paralleled national and Nebraska work-force trends, others which have been unique to Omaha. This article will describe the characteristics of Omaha's work force, and the results of use of the "shift-share" technique to analyze employment change over time. From this perspective, some of the similarities and differences between Omaha's employment trends and those of the state and the nation will be discussed.

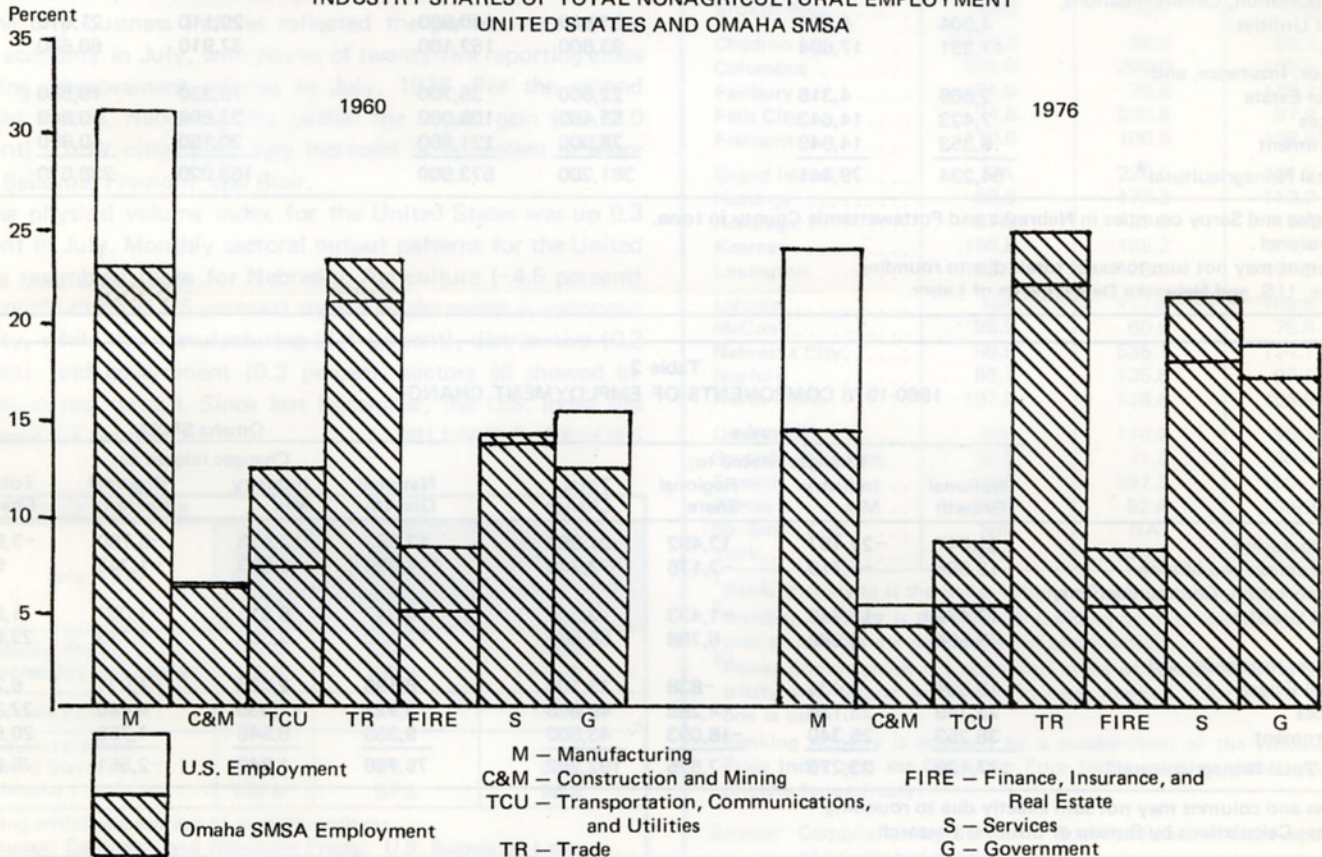
INDUSTRIAL CHARACTERISTICS

Since 1960, the industrial composition of Omaha's work force has changed markedly (see Figure 1 below and Table 1, page 2). While trade continues to be the dominant sector of Omaha's work force, comprising slightly more than one-fourth of total nonagri-

cultural employment in 1976, both the services and the government sectors have more than doubled in size since 1960. By 1976, services and government are the second- and third-ranking industries in Omaha, providing 21.4 and 17.1 percent, respectively, of Omaha's jobs, compared to only 14.4 and 12.4 percent in 1960. While manufacturing employment was a close second to the trade sector in 1960 in terms of its share of total nonagricultural employment (22.9 percent vs. 23.3 percent), it has been eclipsed by the rapidly growing services and government sectors so that by 1976 it accounts for only 14.1 percent of Omaha's employment.

Indeed, the continued transition away from reliance on goods-producing in favor of services-producing employment has been a central characteristic of Omaha's work force for years (as is discussed further below). While similar trends have been occurring to some extent for Nebraska and (Continued on page 2)

Figure 1
INDUSTRY SHARES OF TOTAL NONAGRICULTURAL EMPLOYMENT
UNITED STATES AND OMAHA SMSA



(Continued from page 1) for the nation, Omaha's employment shifts have been in some respects more extensive and, for some industries, more rapid. For example, in 1960 Nebraska's manufacturing sector was by far a less important component of nonagricultural employment (17.5 percent) than was the case for the nation (31.0 percent) or Omaha (22.9 percent). By 1976, however, the relative importance of the manufacturing sector in Omaha had dropped below that of both Nebraska (15.3 percent) and the nation (23.9 percent). The opposite has occurred in the services sector, where Omaha's reliance has by 1976 become much more substantial than for the United States or Nebraska.

In addition to the manufacturing sector, the proportion of Omaha's jobs in the government and construction/mining sectors are less than for Nebraska or the nation. Omaha has long exceeded both Nebraska and the nation in the percent of nonagricultural employment accounted for by the transportation/communications/utilities and finance/insurance/real estate sectors.

THE SHIFT-SHARE TECHNIQUE

A technique used to analyze employment change over time is the "shift-share" technique. Shift-share uses employment growth rates for, in this case, the United States as a standard of reference from which to sort out the differences in rates of employment growth among areas and industries. The technique breaks employment change into three separate components in order to

describe the magnitudes of change attributable to (1) participation in the growth of the national economy, (2) the economic structure of a region, and (3) comparative advantage.

As shown in Table 2, the total change in employment by sector for an area is broken into three separate components: national growth, industry mix, and regional share. The national growth component shows the change in the area's employment that would have occurred from 1960 to 1976 if it had grown at the same rate as did all-industries employment for the United States. The 1960-1976 percent change in total nonagricultural employment for the United States is applied to the 1960 employment for each industry in Nebraska and Omaha (shown in Table 1 below) in order to calculate the national growth factors.

The industry-mix factor shows whether employment in a particular U.S. industry grew faster or slower than the average for all industries. In order to calculate the industry-mix factor, the difference between a particular U.S. sector growth rate and the U.S. all-industries growth rate is applied to the area (Nebraska or Omaha) 1960 employment. A positive industry-mix factor signifies a relatively rapid-growing industry, whereas a negative factor indicates that an industry grew less rapidly than did the national all-industries average.

Finally, the regional-share component indicates whether employment in a particular sector for Nebraska or Omaha grew faster

Table 1
NONAGRICULTURAL EMPLOYMENT BY INDUSTRY

Industry	United States (in thousands)		Nebraska		Omaha SMSA ¹	
	1960	1976	1960	1976	1960	1976 ²
Manufacturing	16,796	18,956	66,800	87,900	37,400	33,450
Construction and Mining	3,597	4,377	27,100	30,800	10,620	11,180
Transportation, Communications, and Utilities	4,004	4,508	37,600	40,900	20,110	21,610
Trade	11,391	17,694	93,600	152,100	37,910	60,600
Finance, Insurance, and Real Estate	2,669	4,315	22,600	35,700	13,330	19,580
Services	7,423	14,643	55,400	105,000	23,500	50,840
Government	8,353	14,949	78,000	121,500	20,150	40,820
Total Nonagricultural ³	54,234	79,441	381,200	573,900	163,020	238,070

¹ Douglas and Sarpy counties in Nebraska and Pottawattamie County in Iowa.

² Provisional.

³ Columns may not sum to exact totals due to rounding.

Source: U.S. and Nebraska Departments of Labor.

Table 2
1960-1976 COMPONENTS OF EMPLOYMENT CHANGE

Industry	Nebraska				Omaha SMSA			
	National Growth	Changes related to:		Total Change*	National Growth	Changes related to:		Total Change*
		Industry Mix	Regional Share			Industry Mix	Regional Share	
Manufacturing	31,047	-22,457	12,492	21,082	17,383	-12,573	-8,760	-3,950
Construction and Mining	12,596	-6,719	-2,176	3,700	4,936	-2,633	-1,743	560
Transportation, Communications, and Utilities	17,476	-12,743	-1,433	3,300	9,347	-6,815	-1,031	1,500
Trade	43,504	8,288	6,708	58,500	17,620	3,357	1,713	22,690
Finance, Insurance, and Real Estate	10,504	3,434	-838	13,100	6,196	2,025	-1,971	6,250
Services	25,749	28,136	-4,285	49,600	10,922	11,935	4,483	27,340
Government	36,253	25,340	-18,093	43,500	9,365	6,546	4,758	20,670
Total Nonagricultural*	177,129	23,279	-7,625	192,782	75,768	1,842	-2,551	75,050

* Rows and columns may not sum exactly due to rounding.

Source: Calculations by Bureau of Business Research.

or slower than did U.S. employment in that sector. The difference between the 1960 to 1976 growth rate of U.S. employment in an industry and the growth rate for that industry in the region (Nebraska or Omaha) is applied to 1960 employment in the sector in order to determine the regional-share factor.

The sum of all three components equals the total change in employment from 1960 to 1976 for each sector, and the sum for all the sectors equals the change in all-industries employment for the area. As is evident from Table 2, the signs of the three factors for a particular industry may be the same and mutually reinforcing, or the signs may differ so that various factors work against one another.

SHIFT-SHARE RESULTS

As shown in Table 2, the Omaha SMSA has a positive overall industry-mix factor, indicating that the overall industrial composition of Omaha's employment among fast- and slow-growth industries allowed for a positive contribution to employment growth relative to that of the nation. Industries which grew faster than the all-industries average for the nation were trade, finance/insurance/real estate, services, and government. Lagging industries were manufacturing, construction/mining, and transportation/communications/utilities.

As shown by the regional-share column, negative regional-share factors reinforced the sluggish pace of U.S. employment change in Omaha's manufacturing, construction/mining, and transportation/communications/utilities sectors. Both the industry-mix and the regional-share factors were negative for all three of the sectors, suggesting that neither the national trends nor any regional advantages favored employment growth in these industries. Although finance/insurance/real estate was a relatively rapid-growing sector for the nation, it grew less rapidly in Omaha, resulting in a negative regional-share component combined with a positive industry-mix component for that industry.

The large employment gains in the Omaha services, government, and trade sectors primarily reflected the national growth in the industries. But in addition to rapid national growth, indicated by the positive industrial-mix factors, these three industries also showed positive regional-share components. The growth of services, trade, and government employment in Omaha has been more rapid than for the nation since 1960. Services employment growth was the most rapid for both the nation and Omaha during the period, increasing 97.3 percent for the nation and 116.3 percent for Omaha. While the government sector recorded the second-fastest growth of any sector for the nation, increasing 79.0 percent, it was surpassed by Omaha's 102.6 percent growth. In fact, Table 2 shows that the largest absolute regional-share factor for Omaha was in the government sector, although the regional gain in services employment was nearly as large.

Omaha's negative regional-share factors in manufacturing, construction/mining, transportation/communications/utilities, and finance/insurance/real estate—particularly in the manufacturing sector, which showed an absolute decline in employment from 1960 to 1976—more than offset the positive factors in trade, services, and government, resulting in a negative all-industries regional share (-2,551 jobs). Also the net *relative* employment change, that is, the sum of the industry mix and the regional-share factors, was -709 for Omaha (see Table 3). In other words, Omaha's non-agricultural employment change was 709 jobs short of matching the pace of national employment growth from 1960 to 1976,

primarily as a result of the large negative factors for the manufacturing industry.

OMAHA'S MANUFACTURING EMPLOYMENT

No other single sector has played as dramatic a role as has manufacturing in causing Omaha's negative net relative employment change, and both the nondurable and durable components of manufacturing have been affected. Omaha's nondurable manufacturing sector has been heavily influenced by changes in the meat-packing industry, in particular, and an examination of national and local trends in meat-packing is illuminating.

For at least a century, retail stores traditionally received beef from meat-packers in carcass form, after it had been slaughtered and dressed. Then butchers in grocery stores cut up the carcasses into retail cuts to be sold to consumers. Structural changes in the marketing system began some 15 years ago with the rising popularity of the self-service supermarket and prepackaged retail cuts. Particularly during the 1960s, many different beef-handling systems were tried by meat packers, retailers, and distributors, with the primary objective of cutting costs. By 1974 it was estimated that two-thirds of the beef entering supermarkets was no longer arriving in carcass form, but rather in other forms such as vacuum-sealed and boxed in smaller parcels.¹

Labor-management issues (particularly regarding labor displacement from automation) and the financial difficulties of substituting new, modern capital facilities for obsolete ones have been among the problems associated with the transition away from the old beef-marketing system. These problems have characterized Omaha's meat-packing industry and have contributed to closure of several major packers and numerous small ones in recent years.

The establishment of manufacturing plants in outstate areas (for meat-packing, particularly in rural central and eastern Nebraska) has also contributed to the diversion of activity away from Omaha. Omaha (Nebraska portion only) has experienced declines in its share of Nebraska's manufacturing employment overall, and food and kindred employment to an even greater extent, for some time (see Table 4, page 6). While Nebraska's food and kindred employment was highly concentrated in Omaha in the 1940s and 1950s, by 1970 more

(Continued on page 6)

¹ *Agricultural Economics Research* 29, No. 3 (July, 1977).

Industry	Nebraska		Omaha SMSA	
	Net Relative Change	Percent of 1960 Employment	Net Relative Change	Percent of 1960 Employment
Manufacturing	-9,965	-14.9	-21,333	-57.0
Construction and Mining	-8,895	-32.8	-4,376	-41.2
Transportation, Communications, and Utilities	-14,176	-37.7	-7,846	-39.0
Trade	14,996	16.0	5,070	13.4
Finance, Insurance, and Real Estate	2,596	11.5	54	0.4
Services	23,851	43.1	16,418	69.9
Government	7,247	9.3	11,304	56.1
Total	15,654	4.1	-709	-0.4

*The net relative change equals the sum of the industry mix and the regional share components of employment change, shown in Table 2.

Review and Outlook

Real output in Nebraska fell 0.5 percent in July. The drop in the state physical volume index for the month followed a sharp 2.8 percent increase in state economic activity the previous month.¹ The July decline in economic activity in Nebraska was centered in the agricultural sector, which registered a 2.3 percent decline, although nonagricultural activity also fell slightly during the month (-0.2 percent). Nonagricultural sectors experiencing reduced levels of activity for the month were construction and government. The decline in real output in these two sectors more

¹Real output for the state in June was revised upward, mainly as a consequence of preliminary estimates of construction expenditures on a second power plant under construction by NPPD in central Nebraska.

than offset the monthly increases registered by the distributive and manufacturing sectors of the Nebraska economy.

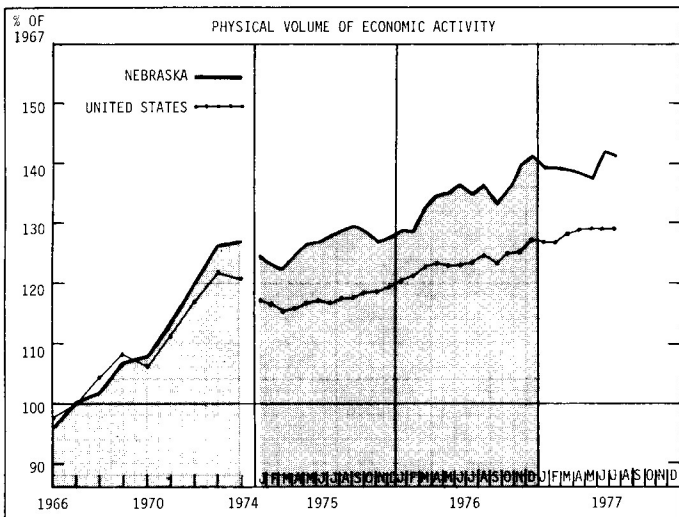
The 2.3 percent decline in state agricultural output in July followed a robust 8.9 percent increase the previous month. Given the volatility of output measures for the agricultural sector, output decreases of the magnitude recorded for July are not uncommon, especially when considered in conjunction with the previous month's increase. Nevertheless, recent trends in agricultural output and prices in the state indicate that the Nebraska agricultural sector has provided little, if any, stimulus to the rest of the state economy. For the first seven months of the year, real agricultural output was 6.9 percent higher than the level recorded for the comparable period last year. All of (Continued on page 5)

Notes for Tables 1 and 2: (1) The "distributive" indicator represents a composite of wholesale and retail trade; transportation, communication and utilities; finance, insurance, and real estate; and selected services. (2) The "physical volume" indicator and its components represent the dollar volume indicator and its components adjusted for price changes using appropriate price indexes—see Table 5, page 5.

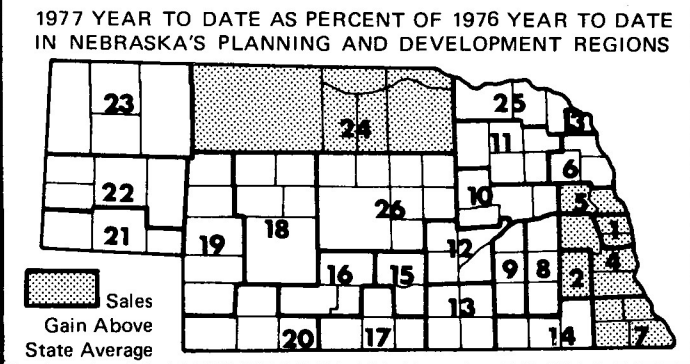
ECONOMIC INDICATORS: NEBRASKA AND UNITED STATES				
1. CHANGE FROM PREVIOUS YEAR				
July, 1977	Current Month as Percent of Same Month Previous Year		1977 Year to Date as Percent of 1976 Year to Date	
	Nebraska	U.S.	Nebraska	U.S.
Dollar Volume	109.1	110.4	109.6	110.6
Agricultural	97.1	98.1	96.9	100.3
Nonagricultural	111.1	110.9	111.7	111.0
Construction	140.4	117.1	143.6	113.8
Manufacturing	112.2	112.3	112.8	111.5
Distributive	109.3	110.9	109.8	111.7
Government	107.1	106.2	107.9	106.4
Physical Volume	104.9	104.5	105.0	104.5
Agricultural	110.9	105.8	106.9	101.8
Nonagricultural	104.0	104.4	104.7	104.6
Construction	134.3	112.0	136.8	108.3
Manufacturing	106.3	105.7	106.5	105.1
Distributive	102.4	103.9	103.2	105.0
Government	97.9	102.0	99.0	101.3

2. CHANGE FROM 1967		
Indicator	Percent of 1967 Average	
	Nebraska	U.S.
Dollar Volume	262.2	238.3
Agricultural	224.7	218.9
Nonagricultural	268.7	239.0
Construction	318.9	212.8
Manufacturing	280.3	230.5
Distributive	262.0	246.3
Government	262.2	238.9
Physical Volume	141.3	129.3
Agricultural	132.9	123.0
Nonagricultural	142.7	129.5
Construction	153.3	102.3
Manufacturing	146.1	120.7
Distributive	143.5	134.9
Government	130.4	138.0

3. NET TAXABLE RETAIL SALES OF NEBRASKA REGIONS AND CITIES (Adjusted for Price Changes)			
Region Number ¹ and City	City Sales ²	Sales in Region ³	
	July, 1977 as percent of July, 1976	July, 1977 as percent of July, 1976	Year to date '77 as percent of Year to date '76
<i>The State</i>	95.6	93.8	98.7
1 Omaha	103.0	101.4	101.6
Bellevue	111.4		
2 Lincoln	99.4	98.4	105.4
3 So. Sioux City	104.5	95.5	94.1
4 Nebraska City	108.7	94.5	100.4
5 Fremont	102.0	96.6	98.8
Blair	103.6		
6 West Point	94.1	90.8	94.2
7 Falls City	106.4	90.4	100.6
8 Seward	84.9	90.8	95.0
9 York	77.3	77.7	95.7
10 Columbus	102.3	90.5	98.7
11 Norfolk	90.0	81.0	94.8
12 Grand Island	98.5	93.5	96.4
13 Hastings	93.8	88.3	93.9
14 Beatrice	97.9	93.6	97.9
Fairbury	91.1		
15 Kearney	94.4	88.7	97.7
16 Lexington	103.0	88.6	97.9
17 Holdrege	84.9	82.3	89.0
18 North Platte	97.1	92.8	96.7
19 Ogallala	96.1	85.3	90.5
20 McCook	103.7	94.7	91.6
21 Sidney	88.5	85.7	89.4
Kimball	87.6		
22 Scottsbluff/Gering	87.7	84.7	90.5
23 Alliance	78.7	85.3	94.4
Chadron	83.0		
24 O'Neill	96.4	89.5	101.5
25 Hartington	101.0	85.2	94.7
26 Broken Bow	83.4	83.0	93.3



¹ See region map below.
² Sales on which sales taxes are collected by retailers located in the state. Region totals include motor vehicle sales; city totals exclude motor vehicle sales.
 Compiled from data provided by Nebraska Department of Revenue.



(Continued from page 4) this growth, however, reflects increases in agricultural output in late 1976. Since December, real agricultural output has declined 2.2 percent. Compounding the problem of negative 1977 output growth in this sector were lower agricultural prices. While prices received by Nebraska farmers were up slightly in July (0.6 percent), they were 12.8 percent below levels of last July. Given both the importance of agriculture to the Nebraska economy and the interdependence among the sectors of the state economy, it is not surprising to find that these trends in agricultural output and prices are having a depressive effect on other sectors of the Nebraska economy. The impact on retail sales, especially in those areas of the state where agriculture represents a significant portion of the economic base, are quite apparent.

Real construction activity, down 7.8 percent, also contributed to lower state output in July. Despite this sharp drop, the construction sector remains the principal source of strength in the Nebraska economy in 1977. With the exception of the level for June (which was revised upward, see footnote 1), Nebraska construction activity in July was higher than for any other month in the current economic expansion. For the first seven months of 1977, price-adjusted activity for this sector was 36.8 percent above the year-earlier level. Seasonally adjusted real construction in Nebraska in July was 14.1 percent above that of last December.

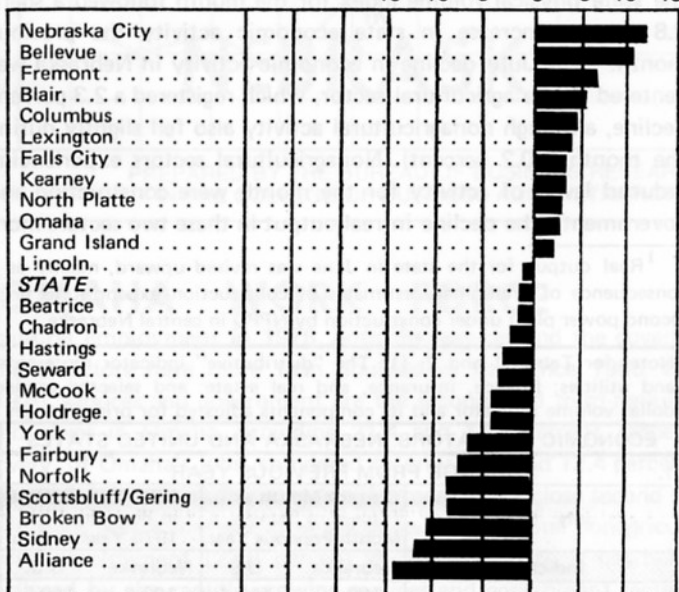
Two of the remaining three sectors of the state economy registered increases in real output in July. Activity in the distributive sector was up 0.7 percent; manufacturing, 0.3 percent. Both sectors have shown renewed economic strength of late, following a slow start in 1977. July was the second consecutive month of real output growth for the distributive sector, while manufacturing output increased for the third time in four months. Government sector output declined 2.0 percent in July.

The city business indexes reflected the performance of the state economy in July, with eleven of twenty-five reporting cities showing improvement relative to July, 1976. For the second straight month, Nebraska City posted the largest gain (up 12.0 percent). Other cities with July increases of 5 percent or more were Bellevue, Fremont, and Blair.

The physical volume index for the United States was up 0.3 percent in July. Monthly sectoral output patterns for the United States resembled those for Nebraska. Agriculture (-4.5 percent) and construction (-1.5 percent) registered decreases in economic activity, while the manufacturing (1.4 percent), distributive (0.2 percent), and government (0.3 percent) sectors all showed increases in real output. Since last December, the U.S. index has increased 1.7 percent.

WILLIAM D. GERDES

CITY BUSINESS INDEXES
Percent Change July, 1976 to July, 1977
-15 -10 -5 0 5 10 15



Source: Table 4 below.

4. JULY CITY BUSINESS INDICATORS

The State and Its Trading Centers	Percent of Same Month a Year Ago		
	Banking Activity ¹ (Adjusted for Price Changes) ⁴	Building Activity ²	Power Consumption ³
<i>The State</i>	98.3	139.1	99.3
Alliance	93.7	67.3	80.6
Beatrice	97.1	111.6	103.9
Bellevue	108.9	108.8	118.4*
Blair	102.5	144.5	110.5
Broken Bow	93.3	133.7	75.6
Chadron	117.3	66.5	93.2
Columbus	101.0	200.0	105.9
Fairbury	91.6	75.8	110.2*
Falls City	94.8	230.8	97.9
Fremont	110.6	100.5	108.8*
Grand Island	NA	220.6	101.2
Hastings	90.6	172.3	112.0
Holdrege	97.3	129.8	115.0
Kearney	106.8	188.2	106.4
Lexington	103.1	128.4	108.6
Lincoln	NA	117.8	102.5
McCook	95.9	60.6	78.8
Nebraska City	96.9	535.1	124.7
Norfolk	85.7	135.6	99.8
North Platte	107.8	128.6	104.9
Omaha	NA	174.2	95.7
Scottsbluff/Gering	99.8	71.2	80.4
Seward	98.6	197.3	100.0
Sidney	89.8	52.4	100.0
So. Sioux City	NA	NA	NA
York	95.2	275.7	103.9

¹Banking Activity is the dollar volume of bank debits.
²Building Activity is the value of building permits issued as spread over an appropriate time period of construction.
³Power Consumption is a combined index of consumption of electricity and natural gas except in cases marked * for which only one is used.
⁴Banking Activity is adjusted by a combination of the Wholesale Price Index and the Consumer Price Index, each weighted appropriately for each city.

Source: Compilation by Bureau of Business Research from reports of private and public agencies.

5. PRICE INDEXES

July, 1977	Index (1967 = 100)	Percent of Same Month Last Year	Year to Date as Percent of Same Period Last Year*
Consumer Prices	182.6	106.7	106.4
Commodity component	175.8	105.9	105.6
Wholesale Prices	194.9	105.7	106.3
Agricultural Prices			
United States	178.0	92.7	98.6
Nebraska	169.0	87.6	90.8

*Using arithmetic average of monthly indexes.
 Sources: Consumer and Wholesale Prices: U.S. Bureau of Labor Statistics; Agricultural Prices: U.S. Department of Agriculture.

(Continued from page 3) than 61 percent of the industry employment was located outside the Omaha area, compared to only around 32 percent in 1950.

Recently efforts have been under way to upgrade Omaha's stockyard facilities. In addition, the meat business in the western United States had reportedly been disrupted by extended drought and by high wage rates compared to the Midwest. These factors could have a positive impact on the outlook for Omaha's meat-packing industry.

Table 4
OMAHA MANUFACTURING EMPLOYMENT*
AS A PERCENT OF NEBRASKA

	Manufacturing	Food and Kindred Products
1940	54.7	62.8
1950	51.9	63.8
1960	48.2	53.5
1970	37.5	38.2

*Nebraska portion only.

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

Omaha's declining share of Nebraska manufacturing employment has not been limited to nondurables, but has included durable categories as well. Employment in the fabricated metals industries, as well as "miscellaneous" manufacturing, has since 1960 increasingly been located outside the Omaha area. Whereas more than half of the state's fabricated metals employment was in Omaha in 1960, the share had dropped to only around one-fourth by 1970. And Omaha accounted for roughly a quarter of the state's miscellaneous manufacturing in 1970, down from more than a third in 1960.

Employment in machinery industries, by far the largest category of durable manufacturing employment in Omaha, has shown virtually no tendency to shift outstate since 1960. Omaha maintained nearly a 50 percent share of the state's machinery and equipment employment in both 1960 and 1970. While employment data for 1976 show a dip in the metro area's machinery and equipment employment relative to that of the state, the dip may well be only temporary.

GROWTH SECTORS

While declining employment in the manufacturing sector had the largest absolute impact on Omaha's net relative change in

employment from 1960 to 1976, Table 3 shows that the combined net relative employment gain of the services and government industries (+27,722 jobs) was more than sufficient to offset the net relative loss in the manufacturing sector (-21,333 jobs). Rapid employment gains in educational services, legal and miscellaneous services, and business and repair services have led the gains in Omaha's services sector. In the government sector, employment growth has been concentrated in the state and local, rather than federal, categories.

NEBRASKA SHIFT-SHARE

Important differences between Omaha's employment patterns and those of Nebraska may be seen from Table 2. In both the services and government sectors, Nebraska did not experience the positive regional-share components which Omaha did, but instead lagged behind national growth in those industries. Conversely, Nebraska's manufacturing sector grew much more rapidly than that of the nation, resulting in a positive regional-share factor alongside a negative industry-mix factor. Nebraska's rapid manufacturing employment growth from 1960 to 1976 is completely in contrast to Omaha's declines, and occurred in spite of the fact that manufacturing has been a slowly growing sector nationally.

Nebraska's overall regional-share factor, like Omaha's, was negative. The larger positive industry-mix factor, however, more than offset Nebraska's regional component resulting in a positive net relative change of 15,654 jobs for the state (see Table 3). Nebraska's overall growth in nonagricultural employment, in other words, was 15,654 in excess of what it would have been at the national rate from 1960 to 1976.

CONCLUSION

It should be emphasized that the shift-share technique does not assume that employment growth is always desirable in every industry, nor that employment growth is equivalent to increased welfare. Indeed, declines in agricultural employment, for example, have been the result of increasing productivity in that sector which has been to the benefit of society. Interpretation of the results of the shift-share technique must be cautious, and must be made with the awareness that employment change is a complex phenomenon reflecting the interaction of many factors.

The technique is useful in highlighting industries where employment growth has been relatively rapid or slow, and in describing similarities and differences in employment trends among areas.

VICKI S. STEPP

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