

# Business in Nebraska

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## The Near-Term Outlook for the Nebraska Economy: Results From the Quarterly Forecasting Model

John S. Austin and Kurt Stephenson  
UNL Bureau of Business Research

The outlook for the next two years calls for continued growth both in the nation and Nebraska. Both U.S. and Nebraska growth will be moderate. Nebraska's employment growth likely will keep pace with the nation in 1993. By 1994, however, the national employment growth rate is likely to exceed Nebraska's growth rate. Details of the national outlook are in the "Review and Outlook" section of this issue.

Solid gains in employment in our state will work their way through to increases in wages and salaries. Wage and salary gains, in turn, will become gains in total personal income. Increased spending money will result in increased retail sales, especially auto sales. Trends in the state economy are displayed in Tables 1 and 2.

### Employment

We will see overall rates of gain in employment of 1.36 percent in 1993 and 1.29 percent in 1994. These rates of increase contrast sharply to the slow rates of growth in 1991 and 1992. They are short of the gains witnessed in 1990, however.

Let's examine some of the sources of gains in employment. The biggest gains will come from the biggest sector; that is, services proper (Table 3). In 1993 we should see an increase of 2.5 percent and an increase of 2.8 percent in 1994. These gains go a long way toward boosting total employment. The service category includes health and personal services with which we are all familiar and also includes business services, such as telemarketing activity. Many of the new jobs in services will be part-time jobs.

In contrast, goods production will show moderate gains. Construction activity in our state is already at a high level and, therefore, small increases still imply high

levels of activity. We could see a change in the mix of construction activity, as housing activity may increase as a result of lower long-term interest rates.

Nondurable manufacturing activity will continue to advance, with gains in the area of about 2.0 percent per year. Durable manufacturing will snap out of its 1991/1992 doldrums and recover to the 2.0 percent growth area as well.

**Table 1—Summary of Projections, Nebraska Employment and Personal Income**

	1989	1990	1991	1992	1993	1994
<b>Employment</b>						
Annual Totals	707,901	730,026	736,171	738,506	748,544	758,196
Growth Rates	2.9	3.1	0.8	0.3	1.4	1.3
<b>Personal Income</b>						
Annual Totals*	25,262	27,303	28,327	30,641	31,805	33,166
Growth Rates	6.7	8.1	3.8	8.2	3.8	4.3

\* in \$ millions

**Table 2—Summary of Projections, Nebraska Net Taxable Retail Sales, and Consumer Prices Average Annual Growth Rates (percent)**

	1985-1989	1990	1991	1992	1993	1994
<b>Net Taxable Retail Sales</b>						
Total	5.5	4.3	3.2	4.8	5.5	4.9
Motor Sales	6.6	0.9	-5.8	4.0	9.0	5.2
Nonmotor Sales	5.4	4.8	4.5	4.9	5.1	4.9
<b>U.S. Consumer Price Index</b>	3.6	5.4	4.2	3.0	3.1	3.2

Table 3—Nebraska Employment by Industry by Number of Jobs (monthly average, not seasonally adjusted)

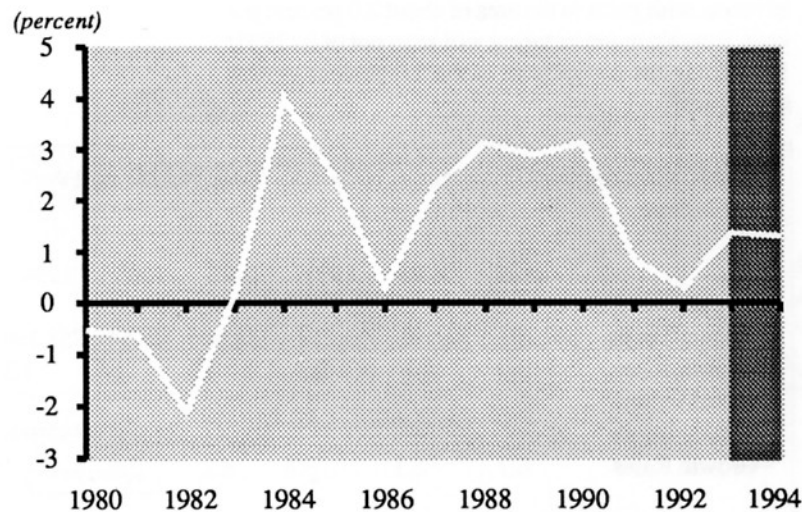
## Annual Monthly Average

Year	Mining	Const	Durables	Nondurable	T.C.U.	Wholesale Retail		F.I.R.E.	Services	State & Federal		Local	Total
						Trade	Trade			Govt	Govt		
1989	1,480	25,296	46,794	47,869	45,496	52,525	131,400	47,879	169,459	17,703	122,001	707,901	
1990	1,534	27,062	48,522	49,286	46,276	53,392	134,144	48,426	177,966	18,040	125,378	730,026	
1991	1,510	27,595	47,588	51,680	47,505	51,475	135,107	48,479	179,730	17,616	127,888	736,171	
1992	1,435	28,113	47,146	52,236	47,572	51,360	132,712	48,750	180,914	17,715	130,553	738,506	
1993	1,482	28,620	47,964	53,376	47,618	52,495	134,705	48,921	185,513	17,169	130,682	748,544	
1994	1,526	29,046	48,919	54,457	47,815	53,332	136,182	49,093	190,779	17,076	129,972	758,196	

## Percent Change

1990	3.62	6.98	3.69	2.96	1.71	1.65	2.09	1.14	5.02	1.90	2.77	3.13
1991	-1.52	1.97	-1.93	4.86	2.66	-3.59	0.72	0.11	0.99	-2.35	2.00	0.84
1992	-4.99	1.88	-0.93	1.08	0.14	-0.22	-1.77	0.56	0.66	0.56	2.08	0.32
1993	3.28	1.80	1.73	2.18	0.10	2.21	1.50	0.35	2.54	-3.08	0.10	1.36
1994	2.94	1.49	1.99	2.02	0.41	1.60	1.10	0.35	2.84	-0.54	-0.54	1.29

Figure 1  
Nebraska Total Employment Percent Change



Transportation, communication, and utility (TCU) workers will witness moderate growth in both years, as will finance, insurance, and real estate (FIRE) workers. A new national medical policy could change the outlook for Nebraska's insurance industry dramatically. At this point, however, we don't know whether the new program will result in pluses or minuses for Nebraska's insurance business. In any event, it will take several years to implement a new medical policy.

In the trades area, wholesale trade may show a recovery from the downturn in 1991 and 1992. Retail trade should increase about 1.5 percent in 1993 and just over

1.0 percent in 1994. The increases in retail trade employment will reflect some of the increases we foresee in overall retail trade activity.

The federal government will cut that sector's employment in Nebraska sharply in 1993 and moderately in 1994. Changes in federal government employment are somewhat at the whim of the federal government and how they want to locate employees among states. Military employment in the state is likely to decrease with the national policy of a shrinking role for the military.

State and local government employment will show little or no change in 1993 and will drop perhaps .5 percent in 1994. We are aware of pressure to tighten state government spending, but it is uncertain whether local governments and school districts will be subject to such discipline.

#### Income

Increases in employment activity will result in increases in wages and salaries. We expect wages and salaries to rise about 5.0 percent in 1993 and about 4.5 percent in 1994. Both increases imply solid real gains in Nebraska's wages and salaries, as inflation is expected to be in the neighborhood of 3.0 percent.

The increases we foresee in wages and salaries will result in increases in total personal income. We expect that personal income will increase 3.8 percent in 1993 and 4.3 percent in 1994. Some readers may notice that the gains in personal income have a different pattern than the gains in wages and salaries. The differences in the growth structure are due in part to a major swing variable, namely farm income. It is hard to measure farm

income. A large increase was reported in 1992. Frankly, we expect that there is a good chance that these numbers will be revised in the future. In any event, we do not believe that 1993 farm income can maintain the pace reported for 1992 and will fall a bit. In 1994 we expect about the same performance as in 1993. In essence, the better performance in the 1994 personal income numbers is due to a less negative farm income situation.

#### Net Taxable Retail Sales

Retail sales in our state are reported as net taxable retail sales. The major omissions are in food and most services.

Big gains that we foresee in net taxable retail sales are in motor vehicles. We see some parallel here to the U.S. as a whole. Although not as weak as the national sales level, Nebraska auto sales have been weak in the past few years. In 1993 we expect net taxable retail sales in motor vehicles to increase nearly 9.0 percent and then fall to a little over 5.0 percent in 1994. Automobile price increases will account for part of the sales increases and, therefore, the real increases in motor vehicle sales will be a bit less.

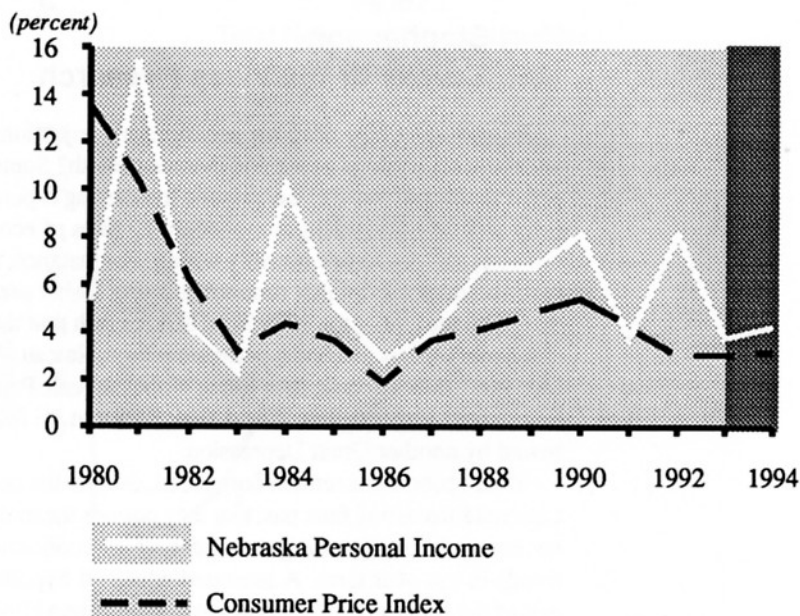
Nonmotor vehicle net taxable retail sales will gain 5.1 percent in 1993 and 4.9 percent in 1994. These figures are in much the same area that we witnessed in 1992. They imply a real gain in sales activity of about 2.0 percent in each year. Total retail sales will increase 5.5 percent in 1993 and about 5.0 percent in 1994.

#### Nebraska's Agricultural Economic Outlook

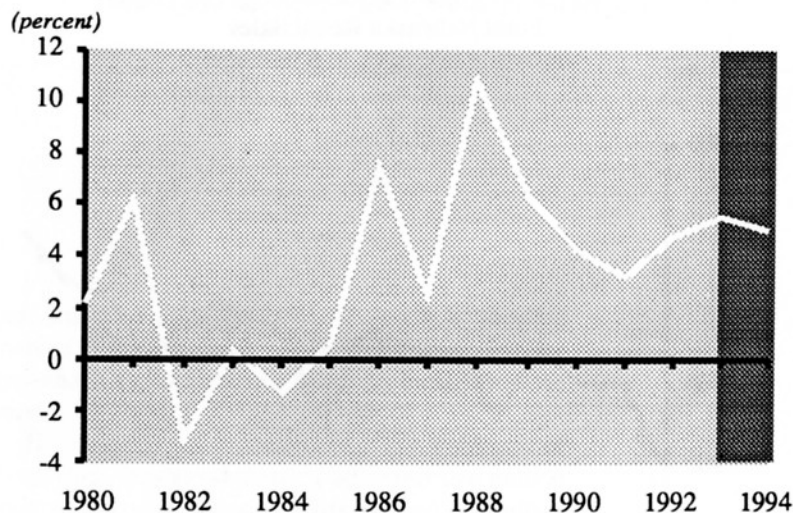
1992 was reported as a very good year for net farm income. The gains in farm income in our state, however, were not in grain production. Despite a bumper crop of corn, prices were low, as carryover was high. The livestock sector did show an improvement in prices and somewhat lower feed costs. Both these movements help to increase livestock profitability. Nevertheless, it is hard to support the reported increase in farm proprietors' income of 62.6 percent.

This year's farm income won't repeat last year's levels. The large carryover in corn will continue to put downward pressure on prices. Livestock numbers are up somewhat and may soften prices. It is expected that a 10.0 percent reduction in net farm income may be within the realm of possibility. Farm income in 1994 is almost impossible to predict at this time. Nevertheless, we call for virtually no change in our model forecast. Decreased federal government payments will result in reduced net farm income for both Nebraska and the U.S. as a whole in the long run.

**Figure 2**  
Nebraska Total Personal Income and U.S. Consumer Price Index  
Percent Change



**Figure 3**  
Nebraska Net Taxable Retail Sales Percent Change





# Evaluating the Accuracy of the Nebraska Economic Quarterly Forecasting Model

Kurt Stephenson

UNL Bureau of Business Research

Ever wonder how accurate economists' projections are about such things as job and income growth? Some persons are convinced that economic forecasting is pure folly and take great delight in recounting tales of economic predictions gone horribly wrong. For instance, a cynic could point out that economist Irving Fisher predicted on the eve of the 1929 Wall Street crash that the stock market had reached a permanent high plateau. A little more than a decade later future Nobel laureate Paul Samuelson forecast that World War II would be followed by another Great Depression.

Most economists remain convinced, despite the occasional forecasting faux pas, that they possess the tools necessary to predict the general course of economic trends in the near term. A reasoned educated hypothesis of the economic future is always better than a blind guess for the economist.

For over two years the Bureau of Business Research has published the projections of the Nebraska economic

quarterly forecasting model (NEQFM). The NEQFM, developed by John S. Austin and former Bureau graduate research assistants Sanath C. Jayanetti and Darnell B. Smith, predicts the course of Nebraska jobs, income, and retail sales.

In 1991 the first forecasts from the NEQFM appeared in the Bureau's *1991 Annual Economic Outlook Report*. The forecast period for the first NEQFM covered ten quarters, beginning with the third quarter of 1990 and ending with the fourth quarter of 1992. Data for 1992 are now available so we can compare the model's original predictions with what actually occurred.

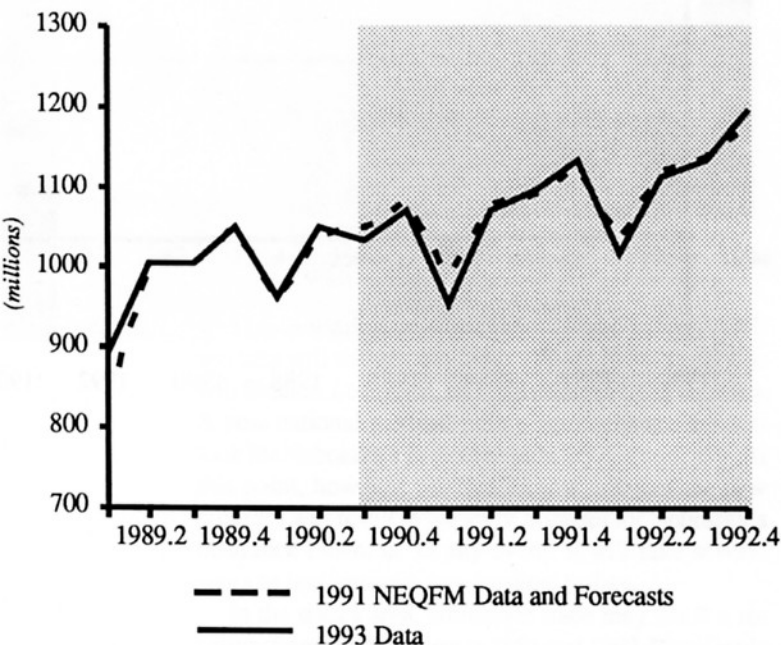
The NEQFM forecast mapped the route of the Nebraska economy better than might have been expected. NEQFM forecasts generally were within 1 percent to 3 percent of the actual figures. In addition, the model's estimates tended to be slightly conservative—the Nebraska economy generally outperformed what the model predicted over the ten quarter forecast period.

Total employment in Nebraska was underestimated consistently. The 1991 estimates of the total number of jobs in Nebraska were on average about 15,000 jobs less than the number of jobs created. Because the Nebraska economy employed an average of 737,300 persons a month between 1990:3 and 1992:4, the 15,000 job difference represents an underestimation of about 2 percent of the total.

Turning to employment by industrial sectors, the NEQFM also slightly underestimated the number of jobs in the service, retail trade, wholesale trade, and transportation-communication-utilities sectors about 1 percent to 3 percent. Charting the path of the manufacturing sectors (durables and nondurables) proved more difficult, with the model underreporting the number of jobs in both of these sectors 2 percent to 8 percent. On the other hand, the model predicted a slightly larger number of jobs in the financial-insurance-real estate and federal government sectors than materialized.

The model closely charted the level and pattern of net taxable retail sales over the forecast period (Figure 1). There was less than a 2 percent difference between actual and predicted total retail sales in nine of the ten quarterly estimates. For instance, in the fourth quarter of 1992 total net taxable retail sales in Nebraska averaged about \$1.19 billion per month. The 1991 model predicted monthly retail sales would average \$1.18 billion during the same quarter.

**Figure 1**  
**Total Nebraska Retail Sales**  
(monthly averages, in \$ millions)



\*Shaded area represents original forecast period beginning 1990.3

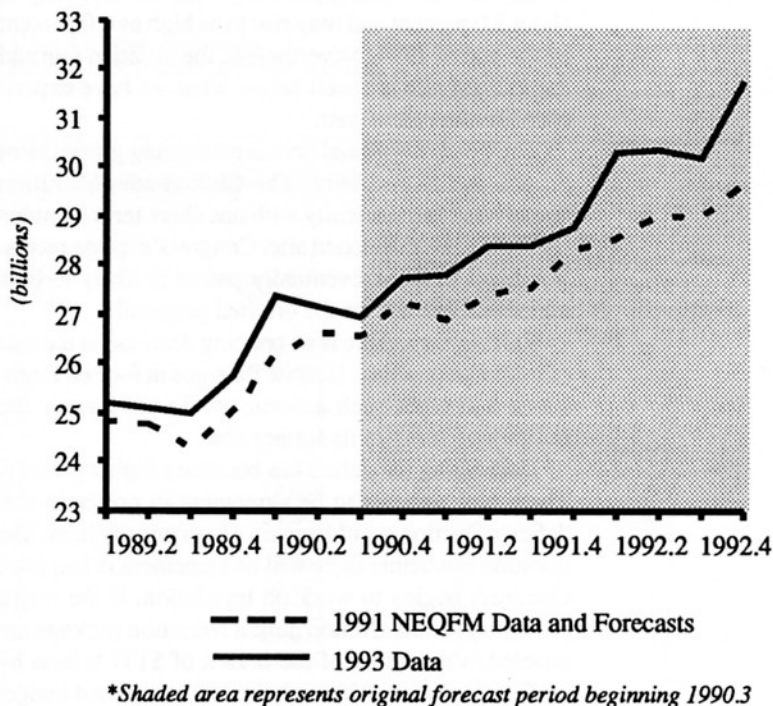
The accuracy of the NEQFM predictions, however, was hampered by several data revisions between the time of the original forecast and 1993. The state and federal agencies responsible for employment, income, and sales data series make data revisions from time to time based on new methods and information. Many of the historical time series data that form the basis for the model were revised upward after the model's original forecast was published. These revisions partially explain the consistently conservative forecasts.

Figure 2 plots the 1991 predicted values of total personal income in Nebraska against the 1993 figures and shows how the data revisions impacted the predictive accuracy of the model. The bottom line represents the original 1991 historical data and predictions, while the top line charts the path of total personal income after revisions. If there would have been no revisions in the personal income data, the personal income figures for 1989 and the first two quarters of 1990 would be the same. Because there is a 1 percent to 4 percent difference in the two historical series (unshaded region in Figure 2), it comes as little surprise that 1991 forecasts were off 1 percent to 5.5 percent (shaded region in Figure 2). The original unrevised data gave the model a bad start. Similar upward data revisions also can be found, although to a lesser degree, in the employment time series.

The overall accuracy of the NEQFM's first projections compares favorably with other state forecasting models. To the reassurance of economists, the 1991

model predictions seem to confirm that a systematic reasoned projection of the economic future is better than a blind guess.

**Figure 2**  
**Total Nebraska Personal Income**  
(annual totals, in \$ billions)



## Review & Outlook

**John S. Austin**  
**UNL Bureau of Business Research**

### National Outlook

#### *The U.S. Economy*

Overall growth rates for the nation slightly will exceed 3.0 percent in 1993 and 1994 in real terms. There has been no period of rapid growth in the most recent business cycle, as is expected in a recovery. Instead, a modest downturn resulted in a modest recovery.

The weakness of the recovery has resulted in slow job growth. Job growth has been in spits and sputters throughout 1992 and into early 1993. In 1992 jobs increased only 0.1 percent. Jobs are expected to grow about 1.5 percent during the current year, and growth may exceed 2.0 percent in 1994.

Personal income was up 4.8 percent in nominal terms in 1992. This year we may see as much as a full 1.0 percentage point gain in the growth rate and another

percentage point gain in 1994. The gains in personal income at the national level parallel wage and salary growth. This growth, in turn, is coming mostly from the service industries.

Housing starts have come out of the doldrums of 1991 when they stood at just a little over one million units for the year. Housing starts reached 1.2 million units in 1992. Although housing starts will increase steadily in the forecast period, they are not expected to reach the 1.5 million unit level.

Auto sales are likely to continue to improve. Total light vehicle sales (both cars and light trucks) were 12.3 million units in 1991 and reached 12.8 million units in 1992. In 1993 sales should rise to about 13.5 million and may reach as much as 15 million in 1994. Ten million units of the latter total will be cars. Weak gains in per-

sonal income and job growth continue to dampen consumer confidence. If consumer confidence fails to grow, prospects for increased auto sales will dim.

There is good news on the economic front. Inflation and interest rates will remain low. Consumer prices advanced only 3.0 percent in 1992. We expect that consumer prices will increase about that much again in each of the next two years. Treasury bills are currently at about 3.0 percent and may rise to as high as 4.0 percent by the end of 1994. Nevertheless, the inflation rate and the interest rate are well below what we have experienced in the recent past.

The level of national debt is restraining government growth in this recovery. The Clinton administration already has had difficulty with one short-term stimulus package, now abandoned after Congress's spring recess. Whatever package eventually passes is likely to be a major reduction from the original proposal.

Furthermore, there is an ongoing decrease in the role of military spending. Despite flair-ups in former Yugoslavia and other such actions, we do not foresee the military growing to its former size.

Decreasing the deficit has become a higher priority. There now appears to be agreement in principle that deficit reduction should remain a high priority item. The question is whether there will be agreement in fact once Congress begins to work on legislation. If the major provisions of the Clinton deficit reduction package are enacted, a reduction of the deficit of \$137 billion by 1997 is projected. Although the 1997 projected budget deficit still would be \$186 billion, the plan does signal an effort to significantly reduce the deficit.

One victim of the new austerity is likely to be the farm program. We may be at the start of a considerably

reduced role of government in the business of agriculture.

There has been some speculation that the private sector may try to shed the debt burden it gained throughout the 1980s. With the current low levels of interest rates, it would not be surprising to see a fair amount of refinancing activity. Evidence suggests that the overall level of private debt remains high—only servicing costs have been reduced. To the extent that refinancing has been done on a short-term basis, a rise in the interest rates will increase servicing costs quickly.

The recovery also has been hampered by a weakening of the global economy. U.S. export growth will slow as a result.

At this writing (early May), the Clinton medical program is an unknown. There are two areas of concern that are likely to receive attention. There will be considerable pressure toward reducing medical costs. There will be some attempt to provide coverage for those currently

**Table II**  
City Business Indicators  
February 1992 Percent Change from Year Ago

The State and Its Trading Centers	Employment (1)	Building Activity (2)
NEBRASKA	0.0	-9.1
Alliance	-3.8	-15.9
Beatrice	-1.6	-11.7
Bellevue	17.0	1.3
Blair	8.5	72.4
Broken Bow	-1.4	348.8
Chadron	-0.8	0.9
Columbus	-1.0	-38.2
Fairbury	0.7	-74.0
Falls City	0.8	-54.4
Fremont	-2.1	5.2
Grand Island	-0.4	8.9
Hastings	1.7	146.3
Holdrege	0.9	-3.2
Kearney	0.5	-3.2
Lexington	1.1	-35.8
Lincoln	-0.5	44.0
McCook	1.6	-31.5
Nebraska City	0.2	-31.0
Norfolk	-1.3	36.2
North Platte	-2.9	14.0
Ogallala	-7.7	-24.6
Omaha	-1.3	-10.5
Scottsbluff/Gering	-0.8	-50.8
Seward	-0.7	222.9
Sidney	-6.7	-7.0
South Sioux City	-0.1	0.0
York	-8.5	5.1

(1) As a proxy for city employment, total employment (labor force basis) for the county in which a city is located is used

(2) Building activity is the value of building permits issued as a spread over an appropriate time period of construction. The U.S. Department of Commerce Composite Cost Index is used to adjust construction activity for price changes

Sources: Nebraska Department of Labor and reports from private and public agencies

**Table I**  
Employment in Nebraska

	Revised February 1993	Preliminary March 1993	% Change vs. Year Ago
Place of Work			
Nonfarm	738,170	743,315	0.7
Manufacturing	101,339	101,847	2.4
Durables	47,726	48,023	2.6
Nondurables	53,613	53,824	2.2
Mining	1,299	1,390	-0.4
Construction	25,538	26,063	6.6
TCU*	46,792	47,044	0.7
Trade	185,197	185,386	-0.7
Wholesale	52,997	53,080	2.3
Retail	132,200	132,306	-1.8
FIRE**	48,589	48,526	-0.4
Services	182,181	184,491	1.0
Government	147,235	148,568	0.3
Place of Residence			
Civilian Labor Force	849,028	858,270	0.8
Unemployment Rate	3.1	3.2	

\* Transportation, Communication, and Utilities

\*\* Finance, Insurance, and Real Estate

Source: Nebraska Department of Labor

without medical insurance. The biggest issue is how we will pay for whatever plan emerges. Given the deficit problem, we may see a gradual approach in the proposed new medical care system rather than a leap toward a final solution. There may be an attempt to shift more of the burden of medical care toward the state. It is unlikely that such a shift would be met with open arms, as the Medicaid problem already is wreaking havoc with many state budgets.

**Table III**  
**Price Indices**

	March 1993	% Change vs. Year Ago	YTD % Change vs. Year Ago
Consumer Price Index - U* (1982-84 = 100)			
All Items	143.6	3.1	3.1
Commodities	131.4	2.3	2.3
Services	156.2	3.6	3.6

U\* = All urban consumers

Source: U.S. Bureau of Labor Statistics

**Table IV**  
**Net Taxable Retail Sales of Nebraska Regions and Cities**

Region Number and City (1)	City Sales (2)		Region Sales (2)		Year to Date % Change vs. Year Ago
	January 1992 (000s)	% Change vs. Year Ago	January 1992 (000s)	% Change vs. Year Ago	
<b>NEBRASKA</b>	885,283	0.2	994,192	-0.1	-0.1
1 Omaha	318,901	3.4	377,674	1.7	1.7
Bellevue	11,354	8.6	*	*	*
Blair	4,561	-5.4	*	*	*
2 Lincoln	118,065	1.7	132,426	0.4	0.4
3 South Sioux City	6,322	13.7	8,318	10.5	10.5
4 Nebraska City	3,693	0.3	18,058	-3.7	-3.7
6 Fremont	16,111	-3.2	28,842	-4.2	-4.2
West Point	2,958	-5.2	*	*	*
7 Falls City	1,892	-12.2	8,846	-6.3	-6.3
8 Seward	4,316	-4.3	14,602	-7.0	-7.0
9 York	5,747	-8.9	13,283	-10.5	-10.5
10 Columbus	13,418	-15.2	23,613	-15.5	-15.5
11 Norfolk	19,250	2.7	32,682	-1.5	-1.5
Wayne	3,191	-4.7	*	*	*
12 Grand Island	31,821	0.9	43,211	-5.4	-5.4
13 Hastings	14,999	-2.2	23,595	-6.6	-6.6
14 Beatrice	7,428	-1.4	16,485	-5.5	-5.5
Fairbury	2,695	-4.0	*	*	*
15 Kearney	20,130	0.2	27,560	-3.6	-3.6
16 Lexington	5,901	-3.3	16,003	-9.6	-9.6
17 Holdrege	4,253	-9.7	7,858	-9.9	-9.9
18 North Platte	14,652	-1.5	18,836	-0.5	-0.5
19 Ogallala	4,080	-20.0	8,751	-15.0	-15.0
20 McCook	7,763	1.4	10,807	-1.9	-1.9
21 Sidney	4,400	6.6	7,972	4.3	4.3
Kimball	1,531	6.0	*	*	*
22 Scottsbluff/Gering	17,613	-0.4	24,698	-0.2	-0.2
23 Alliance	4,683	0.5	12,997	-1.5	-1.5
Chadron	2,812	4.1	*	*	*
24 O'Neill	3,611	-3.6	12,483	-5.9	-5.9
Valentine	2,482	-2.1	*	*	*
25 Hartington	1,561	-4.5	7,547	-4.7	-4.7
26 Broken Bow	3,322	-2.5	10,610	-7.7	-7.7

(1) See Figure II of previous *Business in Nebraska* issues for regional composition

(2) Sales on which sales taxes are collected by retailers located in the state. Region totals include motor vehicle sales

\*Within an already designated region

Compiled from data provided by the Nebraska Department of Revenue



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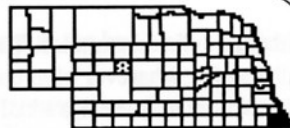
To order this valuable training tool, please call the Bureau, 402/472-2334.

## Mark Your Calendar


This year's State of the State Conference will be held at the Nebraska Center for Continuing Education, Lincoln, Nebraska on December 15. Registration will begin at 8:00 a.m., the program at 8:30 a.m. The program will end with a luncheon speaker.

County of the Month

## Richardson



County seat: Falls City

License plate prefix number: 19  Next County of Month

Size of county: 553 square miles, ranks 69th in the state

Population: 9,937 in 1990, a change of -12.2 percent from 1980

Median age: 39.7 years in Richardson County, 33.0 years in Nebraska in 1990

Per capita personal income: \$14,797 in 1990, ranks 85th in the state

Net taxable retail sales (\$000): \$44,684 in 1992, a change of -1.4 percent from 1991; \$3,108 during January 1993, a change of -9.3 percent from the same period one year ago

Number of business and service establishments: 288 in 1990; 63.2 percent had less than five employees

Unemployment rate: 4.4 percent in Richardson County, 2.7 percent in Nebraska for 1991

Nonfarm employment (1991):

	State	Richardson County
Wage and salary workers	736,172	2,822
	(percent of total)	
Manufacturing	13.5%	12.8%
Construction and Mining	4.0	4.0
TCU	6.4	5.8
Retail Trade	18.3	20.1
Wholesale Trade	7.0	7.5
FIRE	6.6	4.4
Services	24.4	22.9
Government	<u>19.8</u>	<u>22.5</u>
Total	100.0%	100.0%

### Agriculture:

Number of farms: 826 in 1987, 813 in 1982

Average farm size: 375 acres in 1987

Market value of farm products sold: \$48.0 million in 1987 (\$58,147 average per farm)

Sources: U.S. Bureau of the Census, U.S. Bureau of Economic Analysis, Nebraska Department of Labor, Nebraska Department of Revenue

Merlin W. Erickson

**Business  
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