

Business In Nebraska

June 1990
Vol. 45 No. 549



Prepared by the Bureau of Business Research
200 College of Business Administration
University of Nebraska-Lincoln
Lincoln, NE 68588-0406
402/472-2334

Higher Education is Essential to Economic Development

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Many conferences and programs on economic development focus on monetary factors as means to promote economic development. Certainly, monetary factors are important; they play a vital role in developing future business strategies. Often discounted or overlooked, however, is the human side of economic development and what that side looks like in a supply and demand context. We never should forget that if we do not have the right persons at the right time, all other factors are of little value.

Human capital is the collection of abilities and skills that form the nation's potential labor force. It is difficult to analyze the human capital situation on a micro scale because many of the driving forces, particularly those regarding higher skill jobs, are highly variable.

It is not easy to isolate Nebraska and provide meaningful statistics on various sectors of our work force because local situations are too volatile. Individuals can and do move, job opportunities shift, and industrial activities change rapidly.

This mixture of movements does tell us, however, that we must be aware of national and international perspectives—many local job opportunities respond to national and international trends. Local situations likely will be secondary when it comes to competition for the better trained work force of the future.

In my job, I must be concerned both about whether we can obtain highly quali-

fied faculty and where job opportunities are likely to be for our graduates. We want to produce topnotch graduates, and we want Nebraska to be attractive to our graduates. We know it is important to the business community of this state to have a source of well qualified persons for our work force. I have studied national and international trends and want to share some of my observations and conclusions.

Throughout the world, but particularly in the U. S. and Pacific Rim countries,

economic growth during the past decade has been driven largely by commercialization of many technological developments. Computers, electronic consumer goods, sophisticated control mechanisms, automobile advancements, and military weapons are a few examples of how highly technical developments have been at the forefront of new products.

The demand for these products has been a major source of economic growth for countries that have the capacity to in-

State Economic Scoreboard

Change from same month one year ago.
See Review and Outlook on page 8 for more details.

	State	Metro+	Nonmetro
Motor Vehicle Sales (February) Constant \$	↑ 6.5%	↑ 9.1%	↑ 4.7%
Nonmotor Vehicle Sales (February) Constant \$	↑ 1.6%	↑ 1.3%	↑ 1.9%
Building Activity (February) Constant \$	↑ 13.5%	↑ 20.3%	↑ 3.0%
Employment (April)	↑ 4.0%	↑ 2.3%	↑ 5.7%
Unemployment Rate* (April)	↓ 2.4%	↓ 2.4%	↓ 2.4%

+Omaha and Lincoln. *Unemployment is this month's rate, not a percent change from year ago.

vent, develop, manufacture, and market these products.

Obviously, a highly trained manpower base and source of supply are needed in those countries that are engaged in technologically oriented industries. An aggressive cutting-edge research and development effort is essential to be competitive in this environment. The availability of technically trained personnel is crucial to any country that expects its economic development and future to depend on high-tech firms and products.

For more than a decade, the U. S. has relied heavily on foreign born persons in such fields as engineering, computer science, chemistry, physics, and other basic and applied sciences. Even in the field of economics relatively high proportions of the students in U.S. graduate programs in economics are foreign born. This trend is growing in the business schools as well as in the technology fields.

The U.S. has been able to attract many of the best and the brightest of students from other countries, and many of these individuals have chosen to remain in the U.S. after obtaining their advanced degrees.

At the same time, interest in science and technology by U.S. native students has waned. The U.S. has become increasingly more dependent on foreign born individuals to provide the technological manpower for its universities and industries.

The U.S. has been able to attract and retain many foreign born scientists and engineers because of attractive differentials in job opportunities and living standards. As other countries have grown and prospered in their technological industries and commerce, however, many foreign born graduates of U.S. universities are choosing to return to their native countries. This trend obviously has an impact on the source of supply of new, bright, and productive staff members for U.S. organizations.

Our national situation is becoming precarious. The number of high school graduates dropped significantly during the 1980s. The supply impact of the drop in high school age population in the U.S. is an important consideration as we look to overall manpower needs in a technological society. The trend in the number of

high school graduates in the U.S. has been down. Nebraska's trend mirrors what has happened nationally, but shows an even steeper decline.

What these trends indicate is that the U.S. and Nebraska populations are aging significantly. In contrast to the downward trends just noted, an upward trend is emerging in terms of job requirements. The interrelation of these two trends suggests a strong likelihood of severe competition for the educated youth of the future.

The statistics and trends related to our youth who are about to become the input to our businesses, industries, and government agencies are particularly disturbing in terms of their ability to provide a properly skilled work force. One of every four ninth graders will not graduate from high school—25 percent of a shrinking number will not have basic high school skills.

Furthermore, the high school dropout rate is increasing. For minorities and the poor, dropout rates are even higher than they are for the general population. A study sponsored by the National Alliance of Business reported that an estimated three of four jobs will require some education or technical training beyond high school. Yet what we witness is an increasing number of high school dropouts.

The U.S. also must attack the lagging scientific knowledge of its school-age population. In a recent study of 17 major countries by the International Association for the Evaluation of Educational Achievement, U.S. secondary school students ranked in the lowest 25 percentile in terms of our students' achievement in science. Tables 1 and 2 show our relative position within this group of countries. (Not all 17 countries are listed.)

Table 1
Rank Order of Countries for Achievement at Each Level

	10 Year Olds Grades 4/5	14 Year Olds Grades 8/9	Grades 12/13 Science Students		
			Biology	Chemistry	Physics
Canada (Eng.)	6	4	11	12	11
England	12	11	2	2	2
Hong Kong	13	16	5	1	1
Japan	1	2	10	4	4
Korea	1	7	-	-	-
Norway	10	9	6	8	6
Philippines	15	17	-	-	-
Singapore	13	14	1	3	5
Sweden	4	6	8	9	10
U.S.A.	8	14	13	11	9

Source: International Association for Evaluation of Educational Achievement

Table 2
**Percentage of Schools Scoring Lower
than the Lowest School in the Highest Scoring Country**

	10 Year Olds	14 Year Olds	Biology	Chemistry	Physics
Canada (Eng.)	25	6	95	26	93
England	61	19	14	0	18
Hong Kong	77	26	47	0	0
Japan	0	1	84	14	36
Korea	7	5	-	-	-
Norway	58	1	56	4	44
Philippines	83	87	-	-	-
Singapore	75	32	0	0	25
Sweden	3	1	78	11	82
U.S.A.	38	30	98	48	89

Source: International Association for Evaluation of Educational Achievement

One of the most disturbing factors is that our standing drops as students progress through the grades. Among 17 year olds, 40 percent cannot draw inferences from written materials, and 66 percent cannot solve math problems that involve several steps.

If we are to remain a highly competitive economic power in an increasingly technological world, the U.S. school systems must address this fundamental deficiency. Because the new labor force will increase from 18.5 percent nonwhite in 1985 to a projected 29 percent minority in the year 2000, a major challenge for us is to bring our minority population into the mainstream of scientific endeavors.

As we focus on technical personnel, a major concern involves the presence of adequate faculty to meet anticipated educational needs. The situation regarding the supply of sufficient faculty is alarming.

As mentioned earlier, the U.S. has been dependent on foreign born scientists and engineers to fill technical jobs, both in industry and within the universities. This issue is crucial. Without highly skilled faculty, the graduates of our universities will be at a disadvantage in competing in a global marketplace.

In their landmark book, *American Professor—A National Resource Imperiled*, Bowen and Schuster studied manpower trends for a number of years. Of particular concern are the projections of the numbers of new faculty appointments needed from 1990 to 2010 compared to the anticipated number of qualified persons available to fill these positions.

The number of Ph.D. degrees awarded in the U.S. has been constant over the last two decades, with about 33,000 Ph.D. degrees granted per year. During that time, there was a relatively good balance between total Ph.D. degrees produced and number of faculty appointments made.

During these same two decades, however, some significant shifts were occurring with regard to where Ph.D.s were employed. Business and industry employers were increasing their proportion of the new Ph.D.s dramatically.

This increased proportion was most pronounced in the physical sciences and engineering fields. From 1960-1964, colleges and universities hired 55 percent of the Ph.D.s, and business and industry

hired 35 percent. In the 1977-1980 period the proportions reversed, with colleges and universities employing only 34 percent of the Ph.D.s and business and industry employing 53 percent. Business and industry have become attractive employment options for the Ph.D. graduate.

This trend also is occurring in other fields, but not to the same degree as in the physical sciences and engineering. Recent activities in biotechnology are producing similar pressures in the life sciences.

Bowen and Schuster predict the number of faculty appointments needed over the next 10 to 15 years will increase dramatically. The increase is due to several factors.

Our current faculties are aging, and a large number will be retiring during the next two decades. Enrollments in U.S. graduate schools have declined somewhat during the times when faculty jobs were tight; thus, we do not have the potential faculty in the pipeline for replacements. Add to that the competition for Ph.D.s from business and industry noted above.

Finally, the number of high school graduates will begin to increase again in

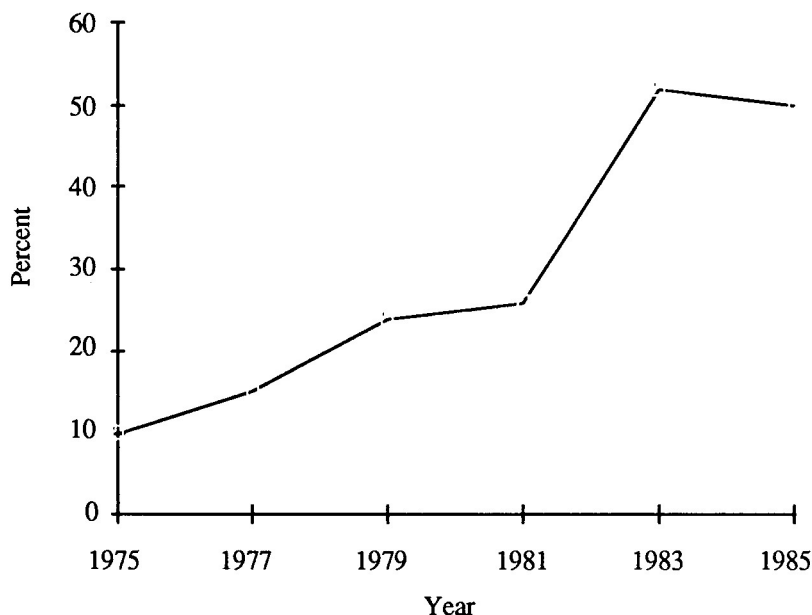
the mid-1990s, requiring new faculty jobs just to address that growth. Even though high school graduates dropped significantly during the 1980s, the enrollments in colleges and universities dropped little due to a high proportion of high school graduates going to college and the large entry of older students seeking higher education.

One of the factors that helped the U.S. overcome some of these deficiencies in the past was the immigration of exceptional talent to the U.S. The graduate schools in the U.S. attracted a large number of foreign born students who were eager to study in the U.S. Many successfully sought permanent employment.

In 1975, foreign born students earned 42 percent of the Ph.D.s granted by U.S. engineering schools. By 1985 this proportion had grown to 55 percent. In engineering today, more foreign born Ph.D. candidates are produced than native born candidates.

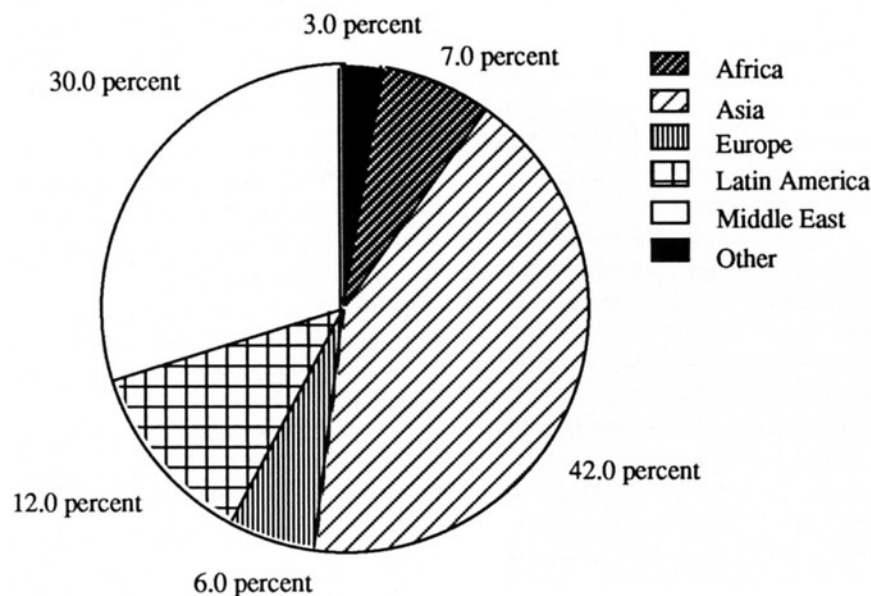
In the past, many of these graduates were hired as new faculty in our engineering schools. Only 10 percent (Figure 1) of all engineering professors age 35 or less

Figure 1
Foreign as Proportion of All Engineering Faculty & Assistant Professors Age 35 or Less For Selected Years, 1975-1985



Source: National Research Council's Survey of Doctorate Recipients

Figure 2
Foreign Engineering Students
By Area of Origin
1983-1984



Source: *Profiles, 1983-1984* (New York: Institute of International Education, 1985)

were foreign born in 1975. This proportion grew rapidly in the next decade. By 1985, over 50 percent of new engineering professors in the field were foreign born.

The U.S. was able to attract talented and gifted students to its universities and work force because of the promise of an excellent education and the potential for well paying jobs. Figure 2 shows the general area of origin for foreign engineering students.

The Pan-Pacific area has been, and continues to be, a large contributor to the U.S. Shifts are beginning to occur, however. As many Pan-Pacific countries have expanded their economies, numerous job opportunities have been created in these countries for their own citizens.

A notable trend is starting where foreign students come to the U.S. for their education and then choose to return to their home countries. An article in the April 18, 1989 edition of the *Wall Street Journal* entitled, "Reverse 'Brain Drain' Helps Asia but Robs U.S. of Scarce Talent" illustrates this trend.

The scramble for skilled and educated talent is spreading. Industrialized nations

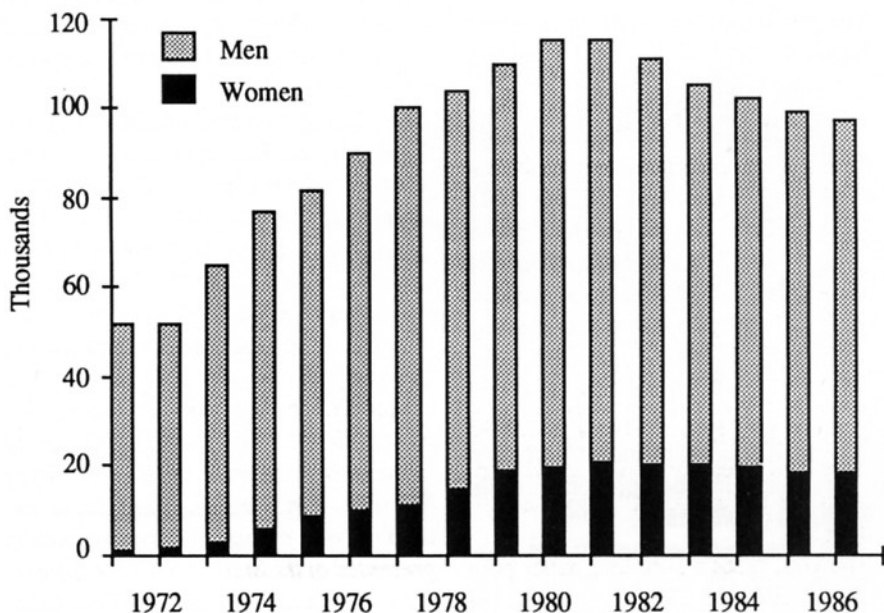
will be hard pressed to fill the needed positions for their economic development.

A recent article in *Business Week* reported that the Japanese are facing a severe labor shortage—their working age population will drop after 1995. Developing countries will be under intense competition for their own talent, as competition undoubtedly will drive up salary levels—especially for scientists and engineers. Without such talent it will be exceedingly hard for them to develop industries with large value-added elements.

The availability of faculty talent is a key to a sufficient, appropriately educated, and skilled work force. The predicted faculty shortage for the U.S. is mirrored worldwide. Recent articles in the *Chronicle of Higher Education* reflect a growing awareness of the problem. Private companies, too, are expressing fears of a shortage of qualified college graduates for the nonacademic labor market.

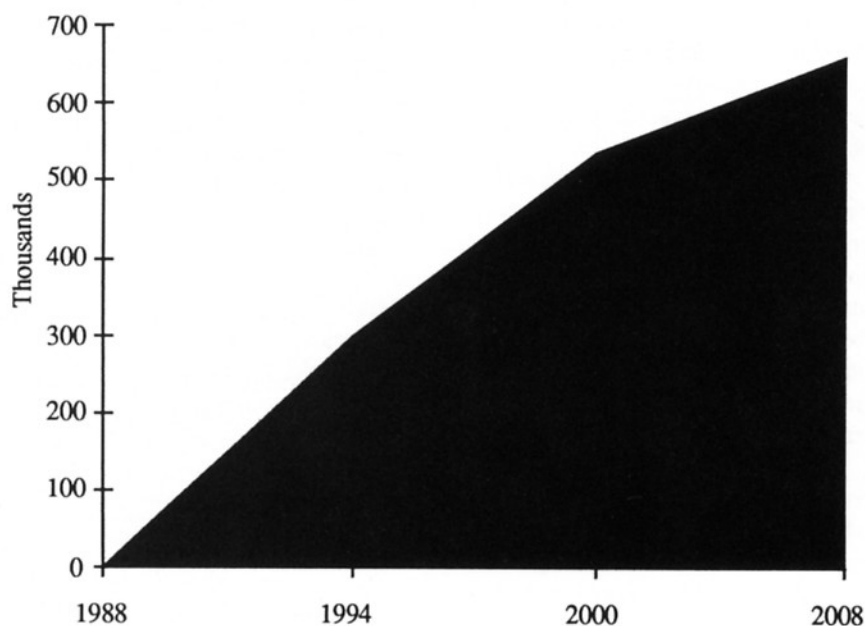
The U.S., in particular, must take dramatic steps to increase the production of highly trained persons, especially in the sciences and in engineering. Our enrollments in engineering nationally are drop-

Figure 3
Freshman Enrollment in Engineering
1972-1987



Source: Betty M. Vettor, *Women in Science; Progress and Problems*

Figure 4
Cumulative Shortfall in Natural Science and Engineering
Bachelor's Degrees
(Below the 1984-1986 Production Rate)



Source: NSF

ping (Figure 3). We cannot rely on a ready source of exceptional talent from abroad.

The gap in supply is building as shown in Figure 4. The U.S. National Academy of Sciences recently has urged the U.S. government to double its support for basic research, increase support for fellowships for graduate students in science and engineering, and update academic research facilities. Such investments are crucial to strengthening our scientific and technical capabilities.

In summary, the evidence is conclusive. A global scramble for skilled workers is becoming visible—in all likelihood, this scramble will become increasingly intense. The intensity is particularly notable in the technologically oriented industries.

The U.S. faces a shrinking labor pool for the next decade. The characteristics of this pool indicate that these new workers will be ill-prepared to meet the job re-

quirements needed. Additionally, we will find that the competition for faculty will be intense. Therefore, our businesses and organizations should be alert to their work force needs.

A closing thought from Diogenes, the Greek philosopher, who wrote in about 400 B.C. "The foundation of every state is the education of its youth." These words ring as true today as they did nearly 2400 years ago. The education of our youth is the determining factor for our future. At this point, our youths' education seems to be in jeopardy.

Robert R. Furgason is Vice Chancellor for Academic Affairs and Professor of Chemical Engineering at the University of Nebraska-Lincoln. This article is excerpted from a longer address originally presented at the State of the State Conference session on February 1, 1990. Complete transcripts are available from the Bureau of Business Research.

Check the Date . . . Before It's too Late

The Financial Management Service, U.S. Department of Treasury issued a warning over one year ago to check the date before it's too late. Government checks issued prior to October 1, 1989 must be cashed no later than September 30, 1990.

Government checks issued after October 1, 1989 must be cashed (negotiated) within 12 months from the date of the check. In either case, the check(s) will be cancelled on the deadline.

If you miss the deadline and you are entitled to payment, you then should go to the federal agency that authorized the check.

On August 10, 1987, the President of the United States signed into law Public Law 100-86 (The Competitive Equity Banking Act of 1987). Title X of this law significantly reduces the time for cashing checks, initiating claims, and replacing government checks.

Although the time allowed to cash the check is affected, you do not lose entitlement to payment.

It is a good time to search for any U.S. government checks, such as IRS refunds, Social Security and annuity checks, et cetera, especially those issued prior to October 1, 1989. The U.S. Treasury says that approximately \$2 billion worth of nonnegotiated checks are still out there.

Merlin W. Erickson

We're Overwhelmed!

Thanks to all of you who responded to our request to update our mailing list. At last count there were 1,607 responses. We truly were overwhelmed. It will take us a while to make all corrections to our lists, so please be patient.

John S. Austin

Our College Graduates' Decisions Where to Live & Work: Part II

Randy Eck

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The exodus of college graduates from Nebraska has been a concern for several years. The May issue of *Business in Nebraska* reported that approximately 46 percent of the University of Nebraska-Lincoln's (UNL) graduates between 1971 and 1989 left the state. A 1984 study released by the Nebraska Department of Economic Development (NDED) on migration trends of individuals 20 years or older reported that the highest outmigration rate of persons from Nebraska between 1975 and 1980 was among the unemployed with college degrees. This raises an important question. Why do many of Nebraska's most educated individuals tend to leave the state?

This article reports the results of a recent survey designed to uncover reasons why large numbers of alumni left the state. The survey instrument was a questionnaire mailed to a random sample of individuals who had graduated during the period September 1983 through June 1988 from Nebraska's four year institutions of higher learning.

Equal numbers of out-of-state and in-state alumni were contacted. Of the 1,384 questionnaires that were mailed, 756 usable responses were received, a 54.6 percent overall response rate. Of these, 404 were returned by Nebraska college graduates currently living out-of-state, and 352 were returned by Nebraska college graduates currently living in Nebraska.

The study's research design and the demographic characteristics of the sample were reported in the May issue of *Business In Nebraska*. Results reported in that issue suggest that college graduates were attracted to higher incomes outside the state. The survey showed that approximately 57 percent of the out-of-state respondents annually earned at least \$35,000, compared to only 45 percent for Nebraska respondents.

Perhaps one implication that can be drawn from this finding is that incomes earned from professional jobs in Nebraska are not keeping pace with incomes earned from comparable jobs elsewhere. This

implication, however, is tenuous at best. The study did not include a sample of migrants to Nebraska who received their education elsewhere and who chose to begin their professional careers in Nebraska.

A survey of these individuals might indicate that immigrants who are college graduates of non-Nebraska institutions are satisfied with the state's career opportunities. It is important to keep in mind that the survey conducted by the Bureau was limited, as it only focused on graduates from Nebraska's institutions of higher learning.

Apart from any possible income differential between Nebraska jobs and comparable jobs elsewhere, another thought that has been voiced by some is the possibility that, all other things equal, out-of-state employers are competing better than Nebraska employers for the state's most qualified college graduates. This argument could not be tested on the basis of the survey results. If appropriate data were available to test the argument, however, it is unlikely that the statistical results would support the argument.

The questionnaire used in the Bureau's migration study contained a variety of questions that demographic and migration experts long have stated as reasons why persons move. These factors were incorporated into the questionnaire as attitude measures. Results are given in Table 1.

Thirty-five statements were utilized in the study to determine if significant differences in attitudes exist between Nebraska's college graduates living in-state and out-of-state. Statistically significant differences in opinion were found for 22 of the 35 statements (Table 1).

The presence of an asterisk in the last column of Table 1 indicates that there was a statistically significant difference in attitude between the in-state and the out-of-state groups (at the 0.05 alpha level). Columns one and two report the mean values of responses for in-state residents and out-of-state respondent groups, respectively. The statements were written in

a manner so that the lower the mean, the higher the level of agreement with the statement.

The statistical test used to analyze the survey data showed that current Nebraska residents overall appear to have a more positive attitude toward Nebraska as a place to reside and work than do Nebraska college graduates living elsewhere.

Out-of-state respondents revealed a significant negative attitude in response to the question of sufficient job opportunities in Nebraska. These same respondents also revealed a significant negative preference for living in Nebraska even if sufficient job opportunities existed in the state.

One interesting survey finding was the out-of-state resident response to the quality of Nebraska's education system. Out-of-state respondents rated Nebraska's education system higher than the overall rating given by in-state respondents.

In general, the study results reveal that out-of-state residents, when compared to in-state residents, believe that better career and income opportunities exist outside Nebraska, show a greater desire to live in a more scenic state than Nebraska, believe more strongly that Nebraska's climate is not desirable, and place less importance on living close to relatives. Out-of-state respondents also indicated that Nebraska is deficient in offering cultural events and activities.

In contrast, out-of-state respondents when comparing other areas of the country with Nebraska generally agreed that the cost of living in Nebraska is low and that Nebraska is a relatively safe place to live.

Perhaps the most noteworthy finding from the study was the respondents' image of Nebraska. In general, the out-of-state respondents indicated a higher image of Nebraska than did the in-state respondents.

Keep in mind when reviewing the survey and the information contained in Table 1 that the sample omitted college graduates from other states who now reside in Nebraska.

It generally is believed that college graduates of other states move to Nebraska to take advantage of career opportunities and to take advantage of the qual-

ity of life in Nebraska. Unfortunately, no statistics exist to support this belief.

One important question remains unanswered—Is Nebraska a net importer or

exporter of college graduates? The 1990 census may shed some light on this question. But it will be a long time before that information is processed and published.

Table 1
Differences in Attitudes of Nebraska College Graduates Currently Residing in Nebraska and Those Living Out-of-State Regarding Nebraska as a Place of Residence

Statement	Mean Response Nebraska Residents	Mean Response Out-of-State Residents	Statistically Significant Difference
Nebraska offers sufficient job opportunities in my career area	2.66	3.11	*
I prefer to stay in Nebraska if job opportunities are available	1.99	2.86	*
I plan to continue my education at a Nebraska college, university, or trade school	2.65	3.95	*
I plan to continue my education in another state	3.53	2.72	*
Overall, Nebraska has an excellent educational system	2.15	2.03	-
Nebraska does not offer the recreational pursuits I enjoy	3.34	3.35	-
The only way to get ahead in life is to leave Nebraska	3.93	3.90	-
I would rather live in Nebraska than any other state	2.89	3.42	*
I prefer living in a state that borders Nebraska	3.67	3.36	*
I would like to raise my family in Nebraska	1.97	2.55	*
Nebraska's territory is too flat	3.49	3.42	-
I prefer living in close proximity to the ocean	3.31	3.22	-
The cost of living in Nebraska is too high	3.99	4.23	*
Taxes are too high in Nebraska	2.79	3.58	*
Nebraska is not exciting enough for me	3.48	3.29	*
I prefer living in a rural environment rather than an urban environment	3.08	3.07	-
Close family ties are important me	1.70	1.78	-
I feel safe from crime in Nebraska	2.57	2.14	*
I prefer to live in a different climate than that found in Nebraska	3.06	2.78	*
I desire to live in a more scenic state than Nebraska	3.14	2.88	*
It is important that I live near my family	2.16	2.56	*
The Nebraska park system satisfies my recreational needs	2.60	2.66	-
I can make more money outside Nebraska	2.23	2.03	*
I have traveled extensively in other states	2.32	2.21	-
The Nebraska state government is concerned about my well being	2.94	2.88	-
There are excellent medical facilities in Nebraska	2.03	2.20	*
Nebraska offers a higher quality of life compared to other states	2.26	2.63	*
Nebraska does not have the cultural events and activities I enjoy	3.43	3.21	*
Nebraska meets my entertainment needs	2.47	2.60	-
I enjoy the Nebraska midwestern hospitality	1.81	1.75	-
Nebraska is too conservative	3.13	3.29	*
You are paid what you are worth in Nebraska	3.31	3.33	-
Nebraska needs to diversify from its agricultural base	2.51	2.49	-
Other persons have a poor image of Nebraska	2.03	2.11	-
I have a good image of the State of Nebraska	1.80	1.65	*

The lower the mean responses, the higher the level of agreement with the statement. Statements were scored on a five point scale where 1 = Strongly Agree and 5 = Strongly Disagree

* = Statistically different at the 0.05 alpha level

Review and Outlook

John S. Austin

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National Economy

The current economic situation can be described correctly as that of a plateau economy. Month-to-month changes in economic activity have been minor. On the whole, a picture of slight positive growth emerges. Many economic indicators are virtually flat.

There has been little change in activity in terms of physical output for a year. The Industrial Production Index has hovered around 108 (1987=100) since April of last

year. This year's April figure showed a drop of 0.4 percent, mostly due to cuts in automobile production.

The unemployment rate hit 5.3 percent in April 1989 and has not varied from that figure by more than a tenth of a percent since that time. In May, the unemployment rate returned to 5.3 percent.

Inflation has corrected its run-up of the first quarter and is showing some easing. The Producer Price Index (PPI) has dropped for two months in a row, with the

latest figure showing a decrease of 0.3 percent in April.

The rate of change in the Consumer Price Index (CPI) has not dropped as much as that of the PPI, but the rate of advance slowed to 0.2 percent in April. The CPI in April was 4.7 percent higher than its year ago value, while the PPI for April was only 3.5 percent ahead of last year.

At this point, the alarmism we witnessed in the first quarter over the rising tide of inflation has subsided. Fears of an accelerated inflation were unfounded.

The differences in the changes of the CPI and PPI indicate that we are not receiving the full benefit of wholesale energy price reductions at this time.

In particular, gasoline prices have tended to stay where they were before the drop in wholesale prices of recent weeks. Major oil companies claim that dealers and wholesalers are in charge of the ultimate retail prices at the pump. It is anticipated that there will not be a near-term drop in gasoline prices, as the summer driving season is now upon us.

Monetary policy has been on a plateau of sorts as well. The federal funds rate—the interest rate most closely controlled by the Federal Reserve—has remained virtually locked at 8.25 percent since mid-January of this year. Longer-term rates have crept higher. Current mortgage rates are in the 11 percent range, versus the 10 percent range at the start of this year.

An exception to the plateau phenomenon is the construction area, where a decline continues. In April, the value of contracts set a four year low, according to F.W. Dodge.

There are regional aspects to the change in construction spending: the Northeast showed a drop of 27 percent on a year-to-date basis through April, while the South showed a drop of 11 percent. The West was characterized as holding steady, while the North Central region showed an increase of 5 percent.

With the rise in mortgage rates, there is little hope that we will see a major rebound in the residential part of the construction market. Commercial and industrial in-

Per Capita Personal Income Growth in the Metropolitan Areas of the Plains States

Metro Area	Per Capita Income 1988	Growth In Per Capita Income 1983-1988
Bismark, ND	\$13,797	16.9%
Cedar Rapids, IA	\$16,372	33.6%
Cheyenne, WY	\$14,340	15.7%
Colorado Springs, CO	\$15,464	29.2%
Columbia, MO	\$15,556	39.3%
Davenport, IA-IL	\$15,208	30.7%
Denver, CO	\$18,155	22.4%
Des Moines, IA	\$17,156	31.2%
Dubuque, IA	\$13,500	32.7%
Duluth, MN-WI	\$13,253	31.3%
Fargo, ND-MN	\$14,219	22.7%
Fort Collins-Loveland, CO	\$14,839	28.8%
Iowa City, IA	\$16,561	37.8%
Joplin, MO	\$12,548	32.2%
Kansas City, MO-KS	\$17,078	32.1%
Lawrence, KS	\$12,980	31.1%
Lincoln, NE	\$15,078	28.4%
Minneapolis-St. Paul, MN	\$19,371	37.7%
Omaha, NE-IA	\$15,873	28.9%
Rapid City, SD	\$13,176	20.9%
St. Joseph, MO	\$14,080	29.3%
St. Louis, MO-IL	\$17,806	35.4%
Sioux City, IA-NE	\$14,341	28.5%
Sioux Falls, SD	\$15,285	27.9%
Springfield, MO	\$14,400	32.1%
Topeka, KS	\$16,824	26.6%
Waterloo-Cedar Falls, IA	\$14,181	27.4%
Wichita, KS	\$16,467	25.6%
UNITED STATES	\$16,490	36.3%

Source: U.S. Bureau of Economic Analysis

vestment are concentrated in equipment purchases rather than in structures.

There is ample room for public investment in the nation's infrastructure, but a major effort is still in the debate stage. It is probable that major spending will begin only after the federal budget deficit problem is resolved.

Our characterization of the economy as a plateau economy is supported by recent forecasts released by the National Association of Business Economists. Their forecast is that the economy will expand 2.0 percent in 1990. That forecast matches our expectations. Their forecast for 1991 calls for Gross National Product (GNP) growth of a moderate 2.4 percent.

The picture that emerges shows little or no increase in the goods-producing area, a

decrease in construction sector, a return to 4.5 to 5.0 percent inflation, and a steady monetary policy. With goods production virtually flat and construction sliding, the economy will have to rely on the services sector to provide an overall economic advance. The term plateau is justified.

Recent data show the extent of the influence of the automobile industry on our economy. The weakness in the fourth quarter was due to a severe drop in auto sales. That drop in turn led to a substantially weak GNP.

First quarter auto sales rebounded from fourth quarter levels. GNP showed a small recovery. But in April and May, automobile sales were below year previous levels. Second quarter GNP growth may be limited by slack automobile sales.

Leaks of a major producer's plans to offer extensive rebates at the end of the model year may chill summer automobile sales. Consumers simply may postpone their purchases of 1990 models until clearance time comes.

The drop of industrial production that we mentioned for April also was ascribed to the auto industry's cutbacks in production. Last, auto sales and auto inventory changes have influenced the GNP figures strongly in the last two quarters.

Overall, growth in GNP for the first quarter indicated a deceptively slow growth in the economy. To understand what is going on, we need to take a quick look at some basics of GNP accounting.

GNP first is announced at the end of the month following the end of a quarter. That

Table I
National Indicators

	Annual		Quarterly (SAAR)			
	1988	1989	1989:II	1989:III	1989:IV	1990:I
Real GNP (percent change)	4.4	3.0	2.5	3.0	1.1	1.3
Real Consumption (percent change)	3.4	2.7	1.9	5.6	0.5	2.4
Housing Starts (millions)	1.5	1.3	1.4	1.3	1.3	1.4
Auto Sales (millions)	10.6	9.9	10.3	10.8	8.7	9.7
Interest Rate (90 day T-bill)	6.7	8.1	8.4	7.8	7.6	7.8
Unemployment Rate (percentage)	5.5	5.3	5.3	5.3	5.3	5.3
Industrial Production Index (1987=100)	105.4	108.1	108.4	108.1	108.1	108.0
Money Supply, M2 (percent change)	5.1	4.0	1.6	6.9	7.0	6.2

NOTE: SAAR—Seasonally Adjusted at Annual Rates
Source: Bureau of Economic Analysis

Table II
Employment in Nebraska

	Revised March 1990	Preliminary April 1990	April % Change vs. Year Ago
Place of Work			
Nonfarm	716,395	722,868	2.5
Manufacturing	95,446	95,775	1.9
Durables	46,725	46,891	1.3
Nondurables	48,721	48,884	2.5
Mining	1,441	1,642	7.1
Construction	23,231	25,091	4.3
TCU*	46,323	46,478	2.1
Trade	183,779	185,913	1.2
Wholesale	54,218	55,205	2.9
Retail	129,561	130,708	0.5
FIRE**	48,376	48,477	0.4
Services	172,230	173,910	4.1
Government	145,569	145,582	2.9
Place of Residence			
Civilian Labor Force	837,513	837,821	3.45
Unemployment Rate	2.8%	2.4%	

*Transportation, Communication, and Utilities

**Finance, Insurance, and Real Estate

Source: Nebraska Department of Labor

Table III
Price Indices

	April 1990	% Change vs. Year Ago	YTD % Change vs. Year Ago
Consumer Price Index - U*			
(1982-84 = 100)			
All Items	128.9	4.7	5.1
Commodities	121.4	4.0	5.0
Services	137.1	5.3	5.2
Producer Price Index			
(1982 = 100)			
Finished Goods	117.0	3.5	4.7
Intermediate Materials	112.8	0.4	1.3
Crude Materials	102.6	-1.4	3.1
Ag Prices Received			
(1977 = 100)			
Nebraska	166	4.4	2.0
Crops	132	-6.4	-8.7
Livestock	188	10.6	7.2
United States	151	2.7	2.4
Crops	132	-5.7	-4.5
Livestock	169	9.7	7.9

U* = All urban consumers

Sources: U.S. Bureau of Labor Statistics and the Nebraska Department of Agriculture

advance report is subject to substantial revisions. Major components of the revisions tend to be in two areas: changes in inventories and net exports. In both cases, only fragmentary data are available at the time the initial report on GNP is made.

For the first quarter of this year, the first revision of GNP lowered the initially reported growth rate from 2.1 percent to 1.3 percent. A large part of that revision was due to a change in the inventories data.

The inventory component of GNP is technical. The total change in the gain of inventory accumulation adds to GNP growth. In the fourth quarter of 1989, \$22.2 billion worth of GNP was due to an accumulation of business inventories. In the first quarter of 1990, the accumulation decreased \$5.9 billion.

Consequently, the total change from the fourth quarter to the first quarter in inventory accumulation was a minus \$28.1 billion. That figure is more than double the total increase in GNP for the quarter. Interestingly enough, the total change in automobile inventory accumulations alone more than exceeded the total \$28.1 billion total recorded. That change in accumulation was due to an increase in auto sales.

On the whole, the change in inventories must be viewed as healthy, as inventories were too large in the fourth quarter.

Perhaps a better way to look at the data would be to look at the final sales figure, a figure that omits the inventory adjustment. In the first quarter of 1990, real final sales increased 4.1 percent, a rate that is quite acceptable. Final sales in the fourth quarter 1989, advanced only 1.1 percent, an amount matching the total gain in GNP.

Thus, stripping away the impact of the inventory adjustment to the GNP figures tends to make us feel somewhat better about the advance of the economy in the first quarter of this year and provides a positive exception to the plateau economy characterization.

Nebraska Economy

Perhaps the biggest story to impact Nebraska is in agriculture. Rains throughout the spring have begun to correct the subsoil moisture shortages. The most recent reports indicate that we are 37 percent short, as compared to the 95 percent short figures we saw at the end of last year.

Certainly there are differences across the state and, in fact, there are recent an-

Table IV
City Business Indicators
February 1990 Percent Change from Year Ago

The State and Its Trading Centers	Employment (1)	Building Activity (2)
NEBRASKA	4.4	18.5
Alliance	2.5	-60.3
Beatrice	1.5	111.9
Bellevue	2.2	36.8
Blair	2.2	-88.1
Broken Bow	3.2	-90.0
Chadron	7.3	-19.5
Columbus	6.5	-21.1
Fairbury	2.5	14.9
Falls City	8.8	-0.8
Fremont	8.1	5.1
Grand Island	5.3	-8.3
Hastings	5.5	111.2
Holdrege	2.1	222.6
Kearney	4.7	71.8
Lexington	7.9	62.3
Lincoln	3.6	16.7
McCook	0.9	178.9
Nebraska City	-2.1	247.4
Norfolk	9.7	57.9
North Platte	9.5	11.9
Ogallala	7.7	-15.9
Omaha	2.2	30.3
Scottsbluff/Gering	1.2	324.7
Seward	6.4	78.0
Sidney	4.0	-46.3
South Sioux City	3.2	-59.6
York	9.8	-5.9

(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

Figure I
City Business Index
February 1990 Percent Change from Year Ago

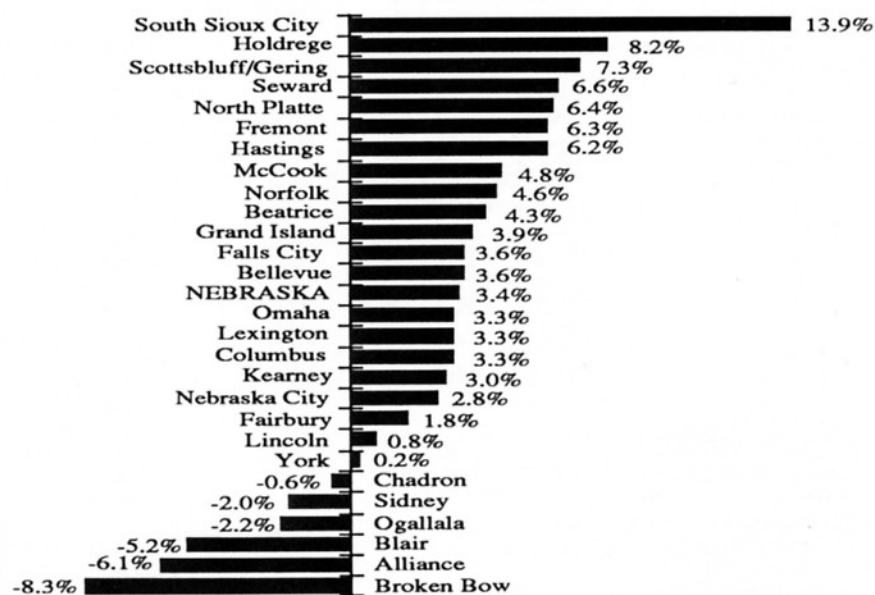


Table V
Net Taxable Retail Sales of Nebraska Regions and Cities

Region Number and City (1)	City Sales (2)		Region Sales (2)		YTD % Change vs. Year Ago
	February 1990 (000s)	% Change vs. Year Ago	February 1990 (000s)	% Change vs. Year Ago	
NEBRASKA	\$758,064	7.0	\$866,760	7.6	10.1
1 Omaha	273,883	8.1	334,773	9.2	11.9
Bellevue	10,713	8.0	*	*	*
Blair	4,364	15.3	*	*	*
2 Lincoln	95,364	1.9	110,205	2.9	7.0
3 South Sioux City	5,405	45.6	6,905	32.9	31.0
4 Nebraska City	3,162	0	15,251	6.3	8.6
6 Fremont	14,067	11.3	25,655	11.6	12.2
West Point	2,532	15.2	*	*	*
7 Falls City	1,661	4.9	7,536	3.7	7.0
8 Seward	3,588	7.9	12,162	4.0	10.4
9 York	5,082	-3.6	12,667	1.3	0.1
10 Columbus	13,314	9.2	24,273	7.4	9.2
11 Norfolk	15,494	1.0	29,116	2.9	4.2
Wayne	2,386	0.3	*	*	*
12 Grand Island	30,159	10.2	42,339	9.7	7.7
13 Hastings	13,675	5.9	21,783	3.4	-1.4
14 Beatrice	6,728	5.7	15,403	6.0	11.2
Fairbury	2,298	5.6	*	*	*
15 Kearney	16,009	1.5	22,698	2.7	-1.1
16 Lexington	5,259	-0.6	14,186	4.4	2.3
17 Holdrege	3,809	9.3	6,773	4.4	5.8
18 North Platte	12,895	9.4	16,736	11.9	12.2
19 Ogallala	4,348	-5.8	10,354	1.8	-1.6
20 McCook	6,455	4.1	8,854	-0.6	-0.8
21 Sidney	3,272	3.7	6,829	6.1	1.6
Kimball	1,490	8.2	*	*	*
22 Scottsbluff/Gering	14,921	5.1	21,756	7.5	4.0
23 Alliance	4,494	-1.0	11,340	-0.4	2.9
Chadron	2,196	-1.1	*	*	*
24 O'Neill	3,431	9.9	11,508	7.8	3.6
Valentine	2,017	6.0	*	*	*
25 Hartington	1,236	10.7	6,845	2.4	2.2
26 Broken Bow	3,001	8.7	10,140	7.9	4.9

(1) See region map

(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

Figure II
Nebraska Net Taxable Retail Sales
(Seasonally Adjusted, \$ Millions)

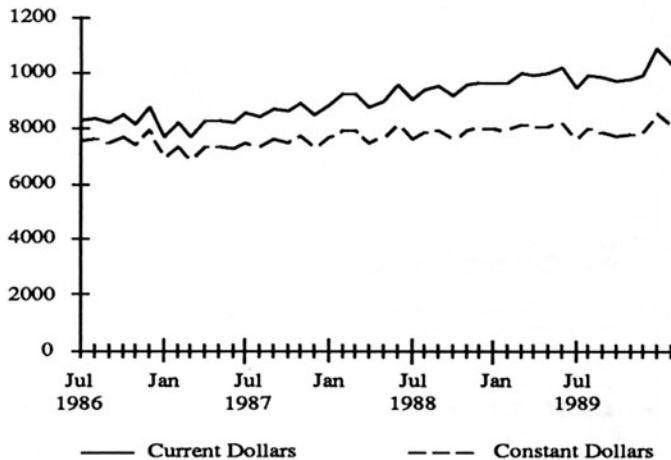
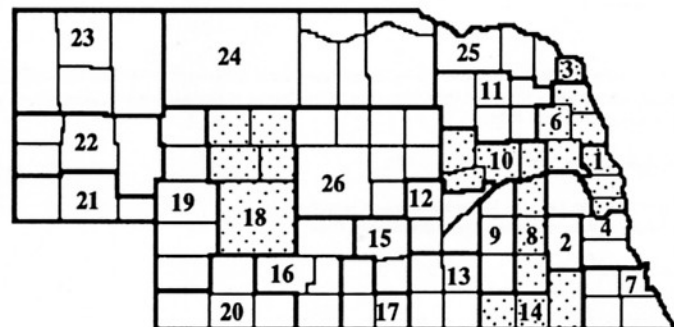


Figure III
Region Sales Pattern
YTD as Percent Change from Year Ago



(1) The Consumer Price Index (1982-84 = 100) is used to deflate current dollars into constant dollars

Shaded areas are those with sales gains above the state average. See Table V for corresponding regions and cities

nouncements of dangerous rangeland fire conditions in parts of the state. But all crop reporting regions indicate that they have received at least 80 percent of normal rainfall from April 1 through May 25. Thus, it looks as if Nebraska may have broken out of its two year string of drought conditions.

The USDA recently released a forecast for the national winter wheat crop. That crop is now forecast to be 44 percent ahead of last year's weather damaged levels. The corn crop is forecast to be 8 percent ahead of last year's levels.

The unemployment rate in Nebraska in April was a remarkably low 2.4 percent. That figure is less than half the U.S. level.

The unemployment rate was shared by both the metro and nonmetro areas of the state. Nebraska continues to have one of the lowest unemployment rates in the nation.

Retail sales recently passed the high points set in May and June 1989 (Figure 2). February net taxable retail sales levels advanced 7.6 percent ahead of year ago figures (Table V).

Nebraska's construction activity continues to run counter to that of the nation. According to F.W. Dodge, year-to-date residential square footage contracts through April were running 31.0 percent ahead of last year, while nonresidential building square footage was running 45.6 percent ahead of last year.

The total value of construction contracts through April ran 47.0 percent ahead of last year. Although gains were virtually across the board, the bulk of the increase in the value of construction came from nonbuilding construction and commercial construction. According to Dodge, 1989 was a good year for construction in Nebraska—therefore, it appears that 1990 will be an extraordinary year for Nebraska construction.

Nebraska Data Users

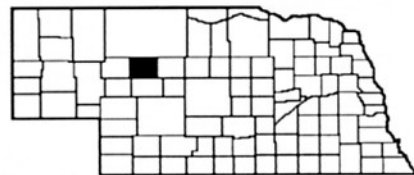
Because some of our data were not available at press time, we were forced to suspend printing of all or parts of several tables in last month's issue. Fortunately, we are back to a full set of tables this month. If you want to see any of the missing tables for last month, please write us. Our address is at the top of page one.

John S. Austin

County of the Month

Hooker

Mullen--County Seat



License plate prefix number: 93

Size of county: 723 square miles, ranks 33rd in the state

Population: 1,000 (estimated) in 1988, a change of +2.8 percent from 1980

Median age: 36.5 years in Hooker County, 29.7 years in Nebraska in 1980

Per capita personal income: \$10,852 in 1988, ranks 91st in the state

Net taxable retail sales (\$000): \$3,245 in 1989, a change of -0.1 percent from 1988

Number of business and service establishments: 25 in 1987; 76 percent had less than five employees

Unemployment rate: 2.6 percent in Hooker County, 3.1 percent in Nebraska for 1989

Nonfarm employment (1989):

	State	Hooker County
Wage & salary workers	705,672	220
	(percent of total)	
Manufacturing	13.4%	*
Construction and Mining	3.6	*
TCU	6.5	4.1%
Retail Trade	18.5	21.4
Wholesale Trade	7.6	1.4
FIRE	6.8	*
Services	23.7	*
Government	19.9	39.5
Total	100.0%	100.0%

Agriculture:

Number of farms: 78 in 1987, 59 in 1982

Average farm size: 4,273 acres in 1987

Market value of farm products sold: \$5.6 million in 1987 (\$72,041 average per farm)

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

*Data not available due to federal disclosure law suppression

Merlin W. Erickson

Business
in
Nebraska

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June 1990, Volume 45 No. 549

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