

Published once in June, July, and Aug., twice in Jan., March, and Nov., three times in Feb., May, Sept., Oct., and Dec., and 4 times in April by the University of Nebraska-Lincoln, Dept. of Publications Services & Control, 209 Nebraska Hall, Lincoln, NE 68588. Second-class postage paid Lincoln, Nebraska.

Prepared by the Bureau of Business Research
College of Business Administration

NEBRASKA'S CHANGING AGE STRUCTURE

As of September 1981, the U.S. Bureau of the Census listed Nebraska's 1980 census count at 1,569,825 persons.¹ This count results in a percentage growth in population of 5.7 from 1970 to 1980. This compares with an 11.4 percent growth rate for the nation as a whole. An examination of the 1980 population by age reveals, however, that the growth in Nebraska's population did not occur evenly among age groups. Moreover, the pattern of growth differed from that for the United States as a whole. (See Table 1.)

POPULATION BY AGE²

One of the most significant aspects of the changes in the age structure for Nebraska is that the population is getting older. In 1980 the median age for Nebraskans was 29.7 years. This means that nearly half of the population was thirty or older in 1980. The 1980 median age represented an increase of 1.1 years from

the 28.6 figure recorded in 1970. This increase also was the first in several decades. In 1950 the state's median age was 31.0 years; it fell to 30.2 years in 1960 before reaching a low in 1970.

Nationally, a similar pattern can be observed. The median ages for the past four censuses were: 1950, 30.2 years; 1960, 29.5 years; 1970, 28.0 years; and 1980, 30.0 years. It is interesting to note that for the first time in several decades the median age for the United States surpassed that of Nebraska in 1980.

In 1980 the largest five-year age group was composed of persons who were in their early twenties. This group accounted for 9.5 percent of the state's population. When combined with the 25 to 29 age group, the cohort³ of twenty-year-olds comprised 18.1 percent of the population. These persons, born during the decade of the 1950s, are generally called the baby boom cohort. Although the baby boom lasted from 1947 to 1964,⁴ it is more convenient to use the decade of

(continued on page 3)

¹The state's population count was previously listed as 1,570,006. The change is due to errors that were corrected for several areas in the state.

²The revision mentioned previously was made after the age breakdowns were released. Succeeding reports by the Census Bureau will contain the revised counts.

³A cohort consists of those persons born during a specified period of time.

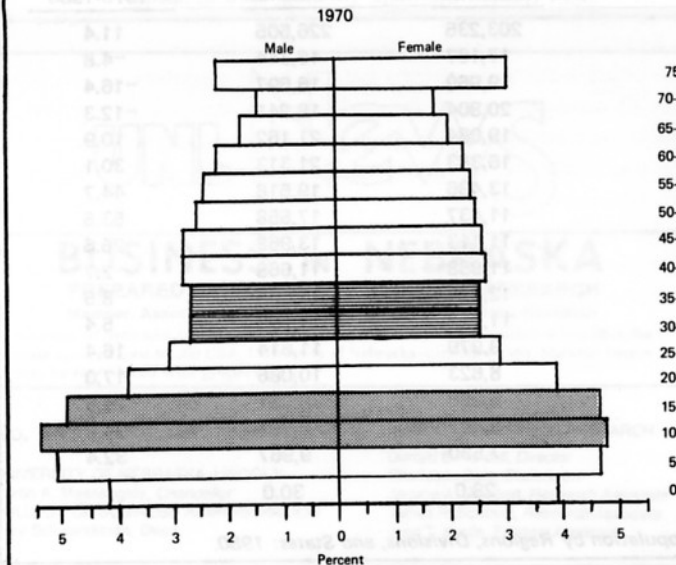
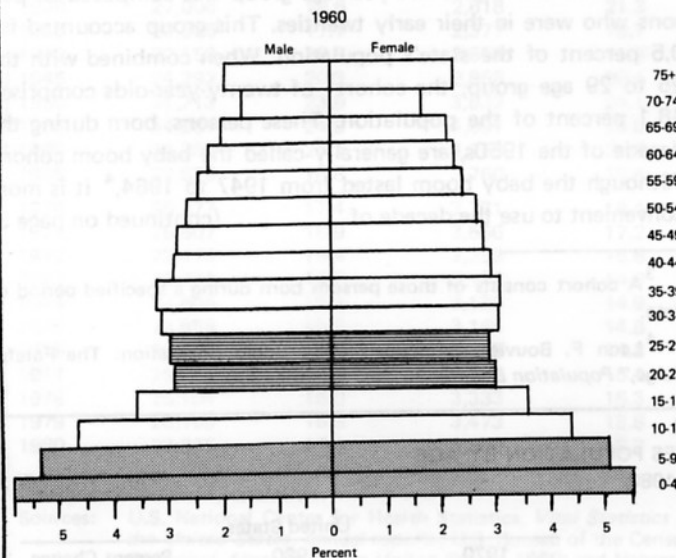
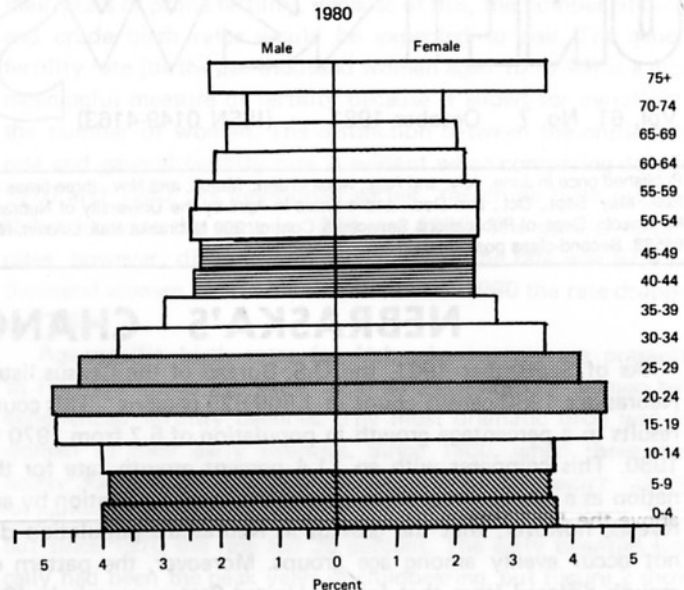
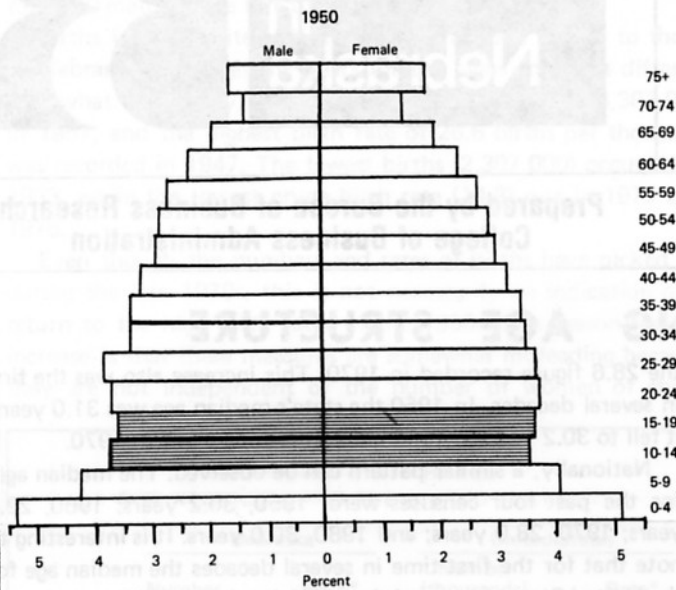
⁴Leon F. Bouvier, "America's Baby Boom Generation: The Fateful Bulge," *Population Bulletin* 35, No. 1, April 1980, p. 7.




Table 1
NEBRASKA AND UNITED STATES POPULATION BY AGE
1970 AND 1980

	Nebraska			United States		
	1970	1980	Percent Change 1970-1980	1970 (thousands)	1980 (thousands)	Percent Change 1970-1980
Total Population	1,485,333	1,570,006	5.7	203,235	226,505	11.4
Under 5	120,482	122,927	2.0	17,167	16,344	-4.8
5 to 9	147,622	118,039	-20.0	19,969	16,697	-16.4
10 to 14	153,355	120,983	-21.1	20,804	18,241	-12.3
15 to 19	143,442	147,308	2.7	19,084	21,162	10.9
20 to 24	114,943	148,823	29.5	16,383	21,313	30.1
25 to 29	89,262	134,788	51.0	13,486	19,518	44.7
30 to 34	78,149	114,446	46.4	11,437	17,558	53.5
35 to 39	77,998	88,446	13.4	11,113	13,963	25.6
40 to 44	81,458	75,361	-7.5	11,988	11,668	-2.7
45 to 49	81,122	73,814	-9.0	12,124	11,088	-8.5
50 to 54	76,040	76,834	1.0	11,111	11,709	5.4
55 to 59	71,837	75,143	4.6	9,979	11,614	16.4
60 to 64	66,917	67,518	0.9	8,623	10,086	17.0
65 to 69	56,386	61,482	9.0	6,996	8,781	25.5
70 to 74	48,843	52,534	7.6	5,447	6,797	24.8
75 and over	77,477	91,560	18.2	7,530	9,967	32.4
Median Age	28.6	29.7		28.0	30.0	

Source: U.S. Bureau of the Census, *Age, Sex, Race, and Spanish Origin of the Population by Regions, Divisions, and States: 1980*.

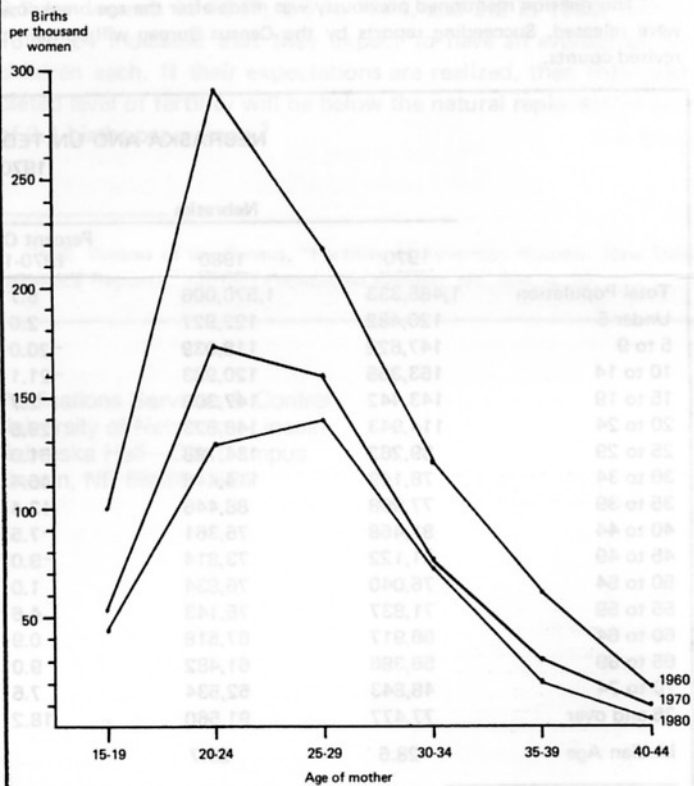
Figure 1
DISTRIBUTION OF NEBRASKA'S POPULATION BY AGE AND SEX



 Depression cohort.
 Baby boom cohort.
 Baby bust cohort.

Source: U.S. Bureau of the Census.

Figure 2
AGE-SPECIFIC BIRTH RATE FOR NEBRASKA, 1960, 1970, 1980



Source: Nebraska Bureau of Vital Statistics, *Statistical Report, 1980*.

(continued from page 1) the 1950s when referring to the baby boom. If allowance was made for the spillover before and after the decade by adding persons in their late teens and early thirties, however, the twenty-year span would contain 34.7 percent of the population in the state in the 1980s. In other words, more than one-third of all persons who were living in Nebraska at the time of the 1980 census were born between 1945 and 1964.

Not surprisingly, the largest age groups were also the fastest growing. The 25 to 29-year-old age group grew by 51.0 percent; the 30 to 34-year-old age group grew by 45.4 percent; and the 20 to 24-year-old age group grew by 29.5 percent. The aging of the baby boom population will continue to cause relatively rapid expansion of the number of persons in successively older age categories and contraction in the size of age categories the baby boom population outgrows.

Other age groups which grew faster than the state average were those over 65, with the number of persons 75 and over increasing at a rate of 18.2 percent. The 65 to 69 bracket increased by 9.0 percent, and the 70 to 74 bracket increased by 7.6 percent. As Figure 1 (p. 2) shows, this trend has occurred for the past several decades. When added together, the age groups 65 and over account for 13.1 percent of all Nebraskans, an increase from the 12.3 percent recorded in 1970.

The age groups which contained middle-aged Nebraskans (the categories between 40 and 64) declined during the 1970s. There were 7.5 percent fewer 40 to 44-year-olds and 9.0 percent fewer 45 to 49-year-olds. These were persons born during the Depression, a period of understandably low birth rates. The remaining groups exhibited some growth, but the growth was less than the state average.

Young persons under the age of fifteen comprise a declining share of the total population of the state, having fallen from 38 percent of the total in 1970 to 32 percent in 1980. Not only have all the five-year age groups under fifteen lost in relative terms, the 5 to 9 age group and the 10 to 14 age group also declined in absolute terms. In 1980 there were 20.0 percent fewer 5 to 9-year-olds and 21.1 percent fewer 10 to 14-year-olds than there were in 1970. Part of the reason for this decline results from the movement of the baby boom population out of these age groups, but an additional reason can be found in the declining birth rates during the late 1960s and early 1970s.

The national age structure was quite similar to that of Nebraska. The rates of change for the various age groups may have differed somewhat, but overall the pattern compared closely. There were, however, several exceptions. The number of persons aged 60 and over grew much faster for the United States than for Nebraska. As the comparison of median ages indicated, Nebraska has generally had an older population than the nation. This characteristic changed in 1980, with much of the change occurring in the older age groups. In 1970, 16.8 percent of Nebraska's population was 60 and over, while the comparable figure for the nation was 14.1 percent. The state continued to have relatively more older persons in 1980, but the gap narrowed the respective positions to 17.4 percent for Nebraska and 15.7 percent for the nation.

AGE-SEX DISTRIBUTION

The demographic importance of the various cohorts can best be seen through the series of age-sex pyramids. These pyramids present data for each five-year age group for both females and

males. Those in Figure 1 express populations of each age-sex group as percents of the state total. They are called pyramids because the general shape has been in the form of a pyramid. That is, the largest age group was 0 to 4 and the smallest was 75+. Figure 1 traces the changing shape (age structure) of these pyramids for the years 1950 through 1980.

In 1950 the children born during the Depression were 10 to 19 years old, and the effect of the baby boom was just beginning to be felt. If the Depression cohort is followed through the years, it is always smaller than the ones immediately preceding and immediately following it.

The baby boom cohort forms the base of the age-sex pyramid in 1960. This generation stands out as the largest during each of the succeeding years. Because of the pronounced bulge which moves upward through the years, demographers often refer to the baby boom cohort as a "pig in a python." The bulge stands out even more since it is preceded by the relatively small Depression cohort and followed by another small cohort.

The low birth rates of the 1970s resulted in the narrow base of the 1980 pyramid and produced a cohort that has become known as the "baby bust" cohort. Throughout its lifetime, the baby bust of the 1970s will fall in the shadows of the baby boom cohort.

Besides showing the effect of changing birth rates, the age-sex pyramids also reflect the increasing longevity of Nebraskans, especially among women. In 1950 the numbers of people 75 and over exceed only the 70 to 74 group. Thirty years later, however, there were more persons in the 75 and over bracket than in any of the eight preceding age groups. Both sexes didn't share equally in the increase in longevity, as the disparity between males and females widens. In fact, the reason for change in relative size of the 75-and-over age group was due primarily to the sizable expansion in the number of older women.

BIRTHS AND BIRTH RATES

As suggested earlier, changing birth rates can have a marked effect on the age structure of a population, but they are not the only reasons behind a changing age structure. Changes in survival rates will have some effect, especially in the older age categories. In addition, migration rates may differ by age. The primary reason for the variation in age structure from decade to decade, however, has been the variation in the rates and numbers of births.

Table 2 (p. 6) presents data relating to births and birth rates for Nebraska and the United States. The birth rates in Table 2 are the crude birth rates (births per thousand population). The data can be used to explain the variations in the size of age groups mentioned earlier. For example, the small number of births during the 1930s and late 1960s and 1970s means that in 1980 there are relatively few persons in the forties and under fifteen. Similarly, the large number of births in the 1950s led to the large number of 20-year-olds in 1980. As the age pyramids in Figure 1 indicate, the variations in births in any given decade will have an impact on the age distribution for many succeeding decades.

The peak year for births in Nebraska was 1961, with 34,544 births. The lowest number of births occurred near the end of the Depression in 1940 as 22,153 children were born. The crude birth rates for 1951 and 1955 were the highest (24.9 births per thousand). Following the 1955 peak, the birth rate fell gradually and then plummeted downward

(continued on page 6)

Review and Outlook

The level of economic activity in Nebraska increased slightly in June 1980 as a majority of the state's sectors recorded increases in output over the previous month. The physical volume index for the state rose 0.7% from its May level, which puts the index at nearly the same level as it was one year ago. The index is down approximately 5% from the June 1979 level.

Much of the increase in the state's economy was concentrated in the agriculture sector. The agriculture physical volume index increased 14% over the May to June interval. While the index was up in June, it remains below June 1980 levels by approximately 20%. Cash farm marketing receipts were down 1% on a seasonally adjusted basis to \$472 million. Nationally, cash farm receipts

were up 12.6% on a seasonally adjusted basis to \$12.8 billion.

The index of agriculture prices received increased 3.9% for Nebraska farmers, compared with 1.6% for the United States, on a seasonally adjusted basis May-June. Over the interval June 1980-June 1981, agriculture prices received by Nebraska farmers were up 14%, while prices received by U.S. farmers were up 12.2%. Prices paid over the same interval were up 11.8%.

The nonagriculture sector of Nebraska's economy declined 0.5% May-June. Declines in construction and distributing trade offset gains in the manufacturing and government sectors.

The index of physical output in Nebraska's construction sector fell 8.6% on a month-to-month basis. The construction index in June was above that recorded a year ago, (continued on page 5)

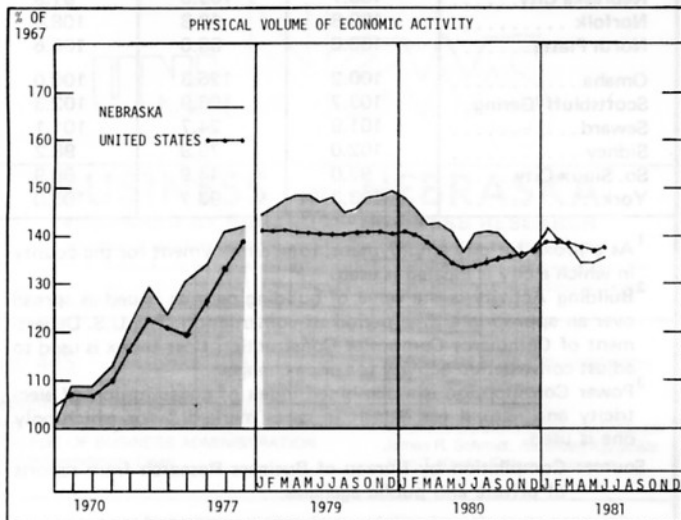
Notes for Tables 1 and 2: (1) The "distributive" indicator represents a composite of wholesale and retail trade; transportation, communication and utilities; finance, insurance, and real estate; and selected services. (2) The "physical volume" indicator and its components represent the dollar volume 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				
June 1981	Current Month as Percent of Same Month Previous Year		1981 Year to Date as Percent of 1980 Year to Date	
	Nebraska	U.S.	Nebraska	U.S.
Indicator	Nebraska	U.S.	Nebraska	U.S.
Dollar Volume	110.0	112.5	107.0	110.3
Agricultural	95.7	113.4	93.6	105.6
Nonagricultural	111.9	112.5	108.8	110.4
Construction	137.2	108.1	134.4	105.2
Manufacturing	114.5	115.2	107.6	109.2
Distributive	110.8	112.4	108.3	111.9
Government	107.0	109.0	105.6	108.7
Physical Volume	100.4	102.4	97.2	100.0
Agricultural	83.9	101.0	84.4	93.7
Nonagricultural	102.6	102.5	98.8	100.2
Construction	130.7	103.0	125.7	98.5
Manufacturing	104.3	104.4	97.6	98.6
Distributive	101.1	102.6	98.0	101.2
Government	100.7	98.2	98.8	99.7

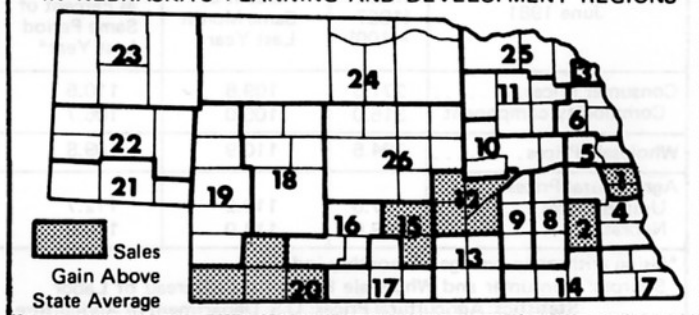
2. CHANGE FROM 1967		
Indicator	Percent of 1967 Average	
	Nebraska	U.S.
Dollar Volume	355.4	353.7
Agricultural	269.7	365.1
Nonagricultural	368.2	353.3
Construction	274.2	314.5
Manufacturing	392.3	321.1
Distributive	373.3	379.9
Government	367.2	332.6
Physical Volume	135.6	137.5
Agricultural	100.6	142.1
Nonagricultural	140.8	137.3
Construction	87.0	99.8
Manufacturing	167.3	133.6
Distributive	137.6	140.0
Government	146.0	149.0

3. NET TAXABLE RETAIL SALES OF NEBRASKA REGIONS AND CITIES (Adjusted for Price Changes)			
Region Number and City	City Sales *	Sales in Region*	
	June 1981 as percent of June 1980	June 1981 as percent of June 1980	Year to date '81 as percent of Year to date '80
<i>The State</i>	113.2	112.9	101.5
1 Omaha	118.7	121.6	106.5
Bellevue	161.9		
2 Lincoln	116.5	115.9	103.4
3 So. Sioux City	110.0	109.6	98.3
4 Nebraska City	105.9	103.4	97.8
5 Fremont	110.0	106.7	101.1
Blair	107.6		
6 West Point	102.8	102.4	94.1
7 Falls City	104.1	108.1	97.1
8 Seward	115.0	104.8	99.4
9 York	103.8	100.8	94.3
10 Columbus	118.2	111.7	99.6
11 Norfolk	109.9	113.2	101.2
Wayne	105.4		
12 Grand Island	105.4	103.5	102.1
13 Hastings	114.5	107.2	99.6
14 Beatrice	103.6	100.1	98.7
Fairbury	95.7		
15 Kearney	111.0	107.9	102.4
16 Lexington	102.1	106.7	94.8
17 Holdrege	125.3	112.0	99.7
18 North Platte	107.4	105.2	96.0
19 Ogallala	109.4	107.0	99.6
20 McCook	109.8	105.2	104.5
21 Sidney	103.5	110.1	100.3
Kimball	116.0		
22 Scottsbluff/Gering	92.5	95.2	100.3
23 Alliance	110.0	106.4	99.9
Chadron	124.9		
24 O'Neill	107.6	104.4	99.2
25 Hartington	112.9	107.2	94.8
26 Broken Bow	117.0	105.4	93.7

*State totals include sales not allocated to cities or regions. The year-to-year ratios for city and region sales may be misleading because of changes in the portion of unallocated sales. Region totals include, and city totals exclude, motor vehicle sales. Sales are those on which sales taxes are collected by retailers located in the state. Compiled from data provided by Nebraska Department of Revenue.



1981 YEAR TO DATE AS PERCENT OF 1980 YEAR TO DATE IN NEBRASKA'S PLANNING AND DEVELOPMENT REGIONS



(continued from page 4) but well below that recorded in June 1979 when the index stood at 116.0

Activity in the construction sector has dropped after a modest recovery. June 1980 was the low point in the Nebraska construction index, 66.7. There was a gradual movement upward in activity until March of 1981 when the index peaked at 106.3. Since March, activity in Nebraska's construction sector, as measured by this index, has declined steadily, the index now standing at 87.0.

The index of physical output in Nebraska's manufacturing sector recorded an increase of 0.9% in June. The index is more than 4% higher than June 1980, but about 1% lower than the level recorded in June 1979. Output in Nebraska's manufacturing sector has moved erratically upward over the past year. Most moves have been relatively small and the June increase is no exception.

Output in Nebraska's distributive trade sector declined 1% May-June. The index of physical output stood at 137.6, somewhat above the June 1980 level.

Output in Nebraska's government sector was up 1.2% in June from May levels. The index was one point above that recorded a year ago, but slightly below the level for June 1979.

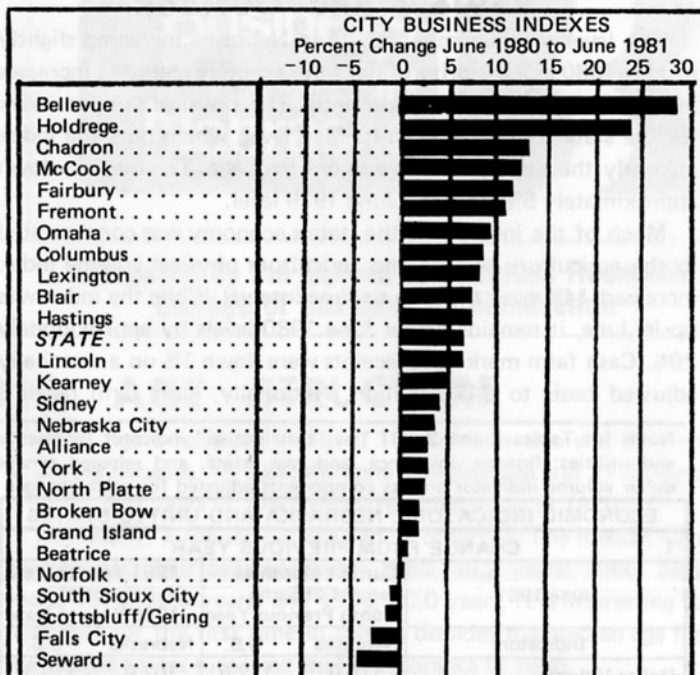
Nebraska's net taxable retail sales recorded a substantial 22.6% gain in June 1981 compared with earlier sales. When adjustments are made for price changes, net taxable retail sales were up 12.9% over the June 1980 level, a respectable gain.

Non-motor vehicle sales were up 23.1% on an unadjusted basis to \$758 million, while motor vehicle sales were up 19.2% on an unadjusted basis to \$73 million. Motor vehicle and non-motor vehicle sales were adjusted by the commodity component of the consumer price index to make allowances for the impact of rising prices on sales. The price index increased 8.8% over the interval June 1980-June 1981. The rate of inflation is gradually easing.

Nebraska cities recording substantial increases in retail sales included Bellevue, Holdrege, and Chadron (see Table 3). Several other Nebraska cities recorded substantial gains in retail sales over the interval June 1980-June 1981.

Increases in the city business indices also reflect in the retail sales component. Bellevue, Holdrege, and Chadron top the city business indices list, followed by McCook, Fairbury, and Fremont. The index for Omaha was up near the top, which gives the state a boost since this is a large portion of the Nebraska economy.

D. E. P.



Source: Table 3 (page 4) and Table 4 below.

The State and Its Trading Centers	Percent of Same Month a Year Ago		
	Employment ¹	Building Activity ²	Power Consumption ³
<i>The State</i>	101.5	101.4	103.2
Alliance	98.1	85.5	90.4
Beatrice	95.7	122.5	93.5
Bellevue	101.9	101.8	106.5
Blair	104.0	153.2	95.7
Broken Bow	101.6	28.6	96.6
Chadron	104.4	82.2	107.1
Columbus	102.8	78.4	98.2
Fairbury	101.8	1225.1	98.3
Falls City	101.8	31.9	105.1
Fremont	106.1	198.7	99.9*
Grand Island	101.2	86.2	122.1
Hastings	101.7	99.9	105.3
Holdrege	102.6	926.7	159.9
Kearney	101.8	85.7	113.3
Lexington	103.2	313.8	100.8
Lincoln	101.1	75.8	98.0
McCook	102.2	358.2	198.2
Nebraska City	100.7	109.6	91.9
Norfolk	100.8	40.8	108.0
North Platte	100.0	88.0	106.6
Omaha	100.2	126.3	100.0
Scottsbluff/Gering ..	103.7	106.9	102.3
Seward	101.9	24.7	101.1
Sidney	102.0	79.9	98.2
So. Sioux City	97.0	44.9	98.9
York	103.3	93.7	103.0

¹ As a proxy for city employment, total employment for the county in which a city is located is used.

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

³ Power Consumption is a combined index of consumption of electricity and natural gas except in cases marked * for which only one is used.

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

June 1981	Index (1967 = 100)	Percent of Same Month Last Year	Year to Date as Percent of Same Period Last Year*
Consumer Prices	271.3	109.6	110.5
Commodity component	315.0	105.0	106.7
Wholesale Prices	294.5	110.9	109.8
Agricultural Prices			
United States	257.0	112.2	112.7
Nebraska	268.0	114.0	110.9

*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) to a low of 14.8 in 1973. Since this low, the birth rate has inched its way upward until the rate for 1980 matched the rate of 17.4 for 1970.

Births for the United States followed a trend similar to those of Nebraska, although the years for the highs and lows differed somewhat. Nationally, the largest number of births was 4,307,000 in 1957, and the highest birth rate of 26.6 births per thousand was recorded in 1947. The fewest births (2,307,000) occurred in 1933, while the lowest crude birth rate (14.8) was in 1975 and 1976.

Even though the numbers and rates of births have picked up during the late 1970s, this is not necessarily an indication of a return to the high birth rates of the 1950s. One reason for the increase is that these measures are somewhat misleading because they are not independent of the number of women of child-

bearing ages. Numbers of women aged 15 to 44 have increased rapidly as the girls born during the baby boom years pass through their years of prime fertility. Because of this, the number of births and crude birth rates would be expected to rise. The general fertility rate (births per thousand women aged 15 to 44) is a more meaningful measure of fertility because it allows for variation in the number of women. The distinction between the crude birth rate and general fertility rate is evident when comparing data for 1970 and 1980. As mentioned earlier, the crude birth rates for Nebraska were the same in 1970 and 1980. The general fertility rates, however, differ markedly. In 1970, the rate was 87.4 per thousand women 15 to 44 years old, but in 1980 the rate dropped to 77.3.

Age-specific birth rates for Nebraska women are presented in Figure 2 (page 2). Since 1960 all age groups of women have experienced fertility declines. The most dramatic drop was for women in their early twenties. Since 1960, when there were nearly 300 births per thousand women, their age-specific rate fell 56 percent. Most of the decline occurred between 1960 and 1970, but since 1970 the rate fell 26 percent. The early twenties typically had been the peak years of childbearing, but Figure 2 shows that in 1980 the late twenties became the peak years. This shift is an indication of the trend toward postponement of births. Further evidence can be seen by looking at the fertility rates of women in their early thirties. Between 1970 and 1980 there was almost no change in the rates for this group.

Because women apparently have postponed their childbearing to later years, the number of births should continue to rise during the 1980s, but the average family size may decline. National survey data on lifetime birth expectations of American women indicate a trend toward lower levels of anticipated childbearing. Among married women 18 to 34, birth expectations averaged 3.1 per woman in 1967, 2.6 in 1971, and 2.2 in 1980. Women 18 to 24 indicated that they expect to have an average of two children each. If their expectations are realized, then their completed level of fertility will be below the natural replacement level of 2.1 births per woman.⁵

J. A. D.

Table 2
BIRTHS AND BIRTH RATES
FOR NEBRASKA AND THE UNITED STATES

	Nebraska		United States	
	Number	Rate*	Number (thousands)	Rate*
1925	29,179	21.5	2,909	25.1
1930	27,006	19.6	2,618	21.3
1935	23,326	17.1	2,377	18.7
1940	22,153	16.8	2,559	19.4
1945	24,292	20.3	2,858	20.4
1950	31,713	23.9	3,632	24.1
1955	34,087	24.9	4,097	25.0
1960	34,257	24.3	4,258	23.7
1965	27,829	18.8	3,760	19.4
1970	25,877	17.4	3,731	18.4
1971	25,507	16.9	3,556	17.2
1972	23,473	15.4	3,258	15.6
1973	22,771	14.8	3,137	14.9
1974	23,695	15.4	3,160	14.9
1975	23,658	15.3	3,144	14.8
1976	23,767	15.3	3,168	14.8
1977	25,158	16.1	3,327	15.4
1978	25,104	16.0	3,333	15.3
1979	26,199	16.6	3,473	15.8
1980	27,335	17.4	3,598	16.2

*Births per thousand population.

Sources: U.S. National Center for Health Statistics, *Vital Statistics of the United States*, annual reports; U.S. Bureau of the Census, *Statistical Abstract of the United States: 1980*; and Nebraska Bureau of Vital Statistics, *Statistical Report: 1980*.

⁵U.S. Bureau of the Census, "Fertility of American Women: June 1980 (Advance Report)," *Current Population Reports*, No. 364, p. 20.

UNL NEWS

BUSINESS IN NEBRASKA

PREPARED BY BUREAU OF BUSINESS RESEARCH

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No. 445 October 1981

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