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GROWTH WITH ENVIRONMENTAL QUALITY

Is economic growth essential to or in conflict with improvement in the quality of life? Is it even desirable? Can such growth take place without further disturbance of the ecological balance and impairment of the quality of the environment? To what extent should population growth be restrained? How much more population and economic growth will our resources support? Is the energy crisis real or contrived? Is national land-use planning justified? Is it compatible with the economic, social, and political institutions of our society? What other types of planning are needed for intelligent resource use in the future? What should be the respective roles of private business, national, state, and local government in such planning? Are the recent efforts of some communities and states to curtail or stop further growth in their areas appropriate or should efforts to promote growth continue?

These are some of the wide-ranging questions faced by the National Forum on Growth with Environmental Quality, held in Tulsa, Oklahoma, September 23-26. With 37 speakers of national prominence, some 800 participants, and 23 national and regional organizations joining in its deliberations, the Forum was on a scale appropriate to the importance of its theme. It was sponsored by the Midcontinent Environmental Center Association, a recently formed organization made up of leaders in business, government, and higher education, which hopes soon to expand its membership beyond the present limit of the State of Oklahoma. The $80,000 budget for the Forum was supported by private gifts and a substantial grant from the National Science Foundation.

Most such conferences, whatever the theme, are much more successful in stating the issues and problems than in pointing the way toward solutions. Such was the case with this Forum, but it did provide more than is usual in intelligent presentation of the alternatives among which future choices must be made. Billed as an effort to reduce polarization of viewpoints by getting industrialists and other businessmen, environmentalists, and academicians to talk with each other instead of about each other, the Forum was at least partially successful in this regard, but the format, which provided for audience participation only in the form of a limited number of written questions, did not permit give-and-take discussion of specific issues. The program was balanced, however, with the speakers representing a wide range of viewpoints on the issues presented, and most participants probably came away feeling that they had been given the latest facts and authoritative opinion and that they had a much better basis for intelligent appraisal of these issues.

THE GROWTH ISSUE

Russell Train, Administrator of the Environmental Protection Agency, opened the Forum by raising the question "Is more really better?" and urging that we rid ourselves of the traditional idea that growth of population, technology, and affluence is the primary measure of progress. Even when, at some more or less distant future date, technology gives us a source of unlimited energy without pollution, he suggested, this must not be permitted to bring about an era of uncontrolled growth.

But Train saw no fundamental conflict between growth and programs to enhance environmental quality. "It is pollution, not its control, that limits growth," he said. "The real anti-growth forces are those who oppose environmental progress."

Train did see, however, many immediate short-term value conflicts, such as the conflict between universal desire for clean air and the value of personal transportation freedom, which will necessitate rational, orderly, deliberate choices. In order to facilitate such decisions, he pointed out the need for better measures of social progress and the quality of life, more research on economic and other impacts of reduced rates of population growth and of a stable population, a focal point for identification and analysis of long-range trends and their implications as to the quality of life, and for an active dialogue with other nations to assess the global implications of growth issues.

In a forceful and caustic presentation, Carl Madden, Chief Economist for the U.S. Chamber of Commerce, agreed that growth does not necessarily mean an increase in the number of human beings or physical objects. He defined economic growth as an increase in value, which no one wants to stop, and called for development of measures to "maximize total life potential for present and future population," but did not explain this concept concretely. It was clear, however, that he meant to include an abundance of economic goods in the maximizing process.

Production of such goods, Madden insisted, inevitably involves some waste and pollution, and any attempt to eliminate these completely is equivalent to an attempt to invent perpetual motion. Saying that he did not regard technology itself as the answer to human survival, he nevertheless pointed to more and better technology, new knowledge, and more useful energy as the only means of getting the same or additional output with less waste and pollution. Failure to include this possibility in his reasoning, Madden insisted, was a fatal flaw in the 18th century warnings of Malthus

(Continued on page 2)

(Continued from page 1)
concerning the limits to population growth, for such increased productivity could greatly expand these limits. Yet he spoke of this as shifting, not eliminating, such limits, which seemed a bit inconsistent with his characterization of the zero population growth school of thought as "superficial."

On the same theme, Joseph Williams, General Chairman of the Forum, pointed out the impossibility of exponential growth in a finite world, the lack of any necessary correlation between population growth and growth in human welfare, and the fact that in the human drama technology cannot be cast exclusively in the role of either hero or villain.

Stanley Greenfield, Assistant Administrator of the Environmental Protection Agency, reiterated the view that a high level of growth does not necessarily cause environmental degradation, but that unbalanced and excessive growth can bring real environmental problems. He expressed strong reservations to the chilling predictions in the book *Limits to Growth*, which provided the mathematical basis for recent anti-growth sentiment. Characterizing the book as largely a mathematical exercise which departed from the real-world situation, he pointed out that it assumes continuation of exponential growth rates and a single variable for pollution increasing proportionately with growth, thus denying any possibility of technological progress in pollution control. Many examples of such progress were noted by other speakers.

Citing the fact that there are three times as many 14-year-old as 39-year-old women in the present U.S. population, Joan Flint, a housewife member of the President's Commission on Population Growth and the American Future, emphasized that even if a birth rate equivalent to zero population growth is achieved and maintained, substantial population growth will nevertheless continue at least for a generation or two, and Richard Carpenter, Executive Secretary of the Commission on Natural Resources, pointed out the great difficulties in providing the energy and other resources for the equivalent amount of economic growth needed just to make possible the present level of living for this increasing population.

In an eloquent and concise presentation, Jules Bergman, ABC News Science Editor, emphasized the necessity for growth just to rebuild the cities we have. He regarded the building of new cities and development of better means of transportation for our growing population as two of the most important challenges for the rest of the century. In the latter area he mentioned Deep Tunnel Transportation, with a present cost of $7 million per mile (which he thought could be substantially reduced through improved technology) as compared with $4 million per mile for surface transportation, as an important new program. Pointing to the loss of two-thirds of our electrical energy in transmission, the efficiency of only 10 percent to 12 percent for the internal combustion engine, failure to pioneer cleaner and more efficient engines long ago, and continued construction of glass buildings in spite of the energy shortage, Bergman castigated both government and private industry for poor planning in the past. With regard to better performance in the future he expressed great optimism as to the possibilities but strong pessimism as to the probabilities.

THE ENERGY QUESTION

Bergman raised the question of why industry and government surprised the nation with an energy crisis so suddenly and why the experts didn't warn us sooner. John McKetta, Professor of Chemical Engineering at the University of Texas, replied that the experts did provide the warnings, but the public wouldn't listen.

Pointing out that the United States wastes more energy at night in decorative lighting and unattractive advertising than Europe uses in the daytime, Bergman presented the viewpoint that we have enough energy if we would use it properly. McKetta estimated that less than 5 percent of present energy use would be saved by voluntary restraint, however, and predicted that compulsory control of energy usage would soon have to be instituted. He emphasized that we are in a real energy crisis and that there is no technologically feasible way to increase the domestic supply of energy by 1985 to the level we are using today.

On the other hand, Gene Morrell, Vice President of the Lone Star Gas Company, presented the viewpoint that the United States has enough energy resources if private enterprise were allowed to develop them and given incentives to do so. He did not regard environmental concerns as in conflict with energy development, pointing out that energy is needed to clean up the environment.

In line with the idea of providing incentive for private development of energy resources, John Whitaker, Under Secretary of the Interior, advocated deregulation of natural gas at the wellhead. He reported that a flat gasoline tax or a horsepower tax on cars is under active consideration in Washington as a short-term conservation incentive and suggested development of geo-thermal steam as an attractive long-term means of expanding energy resources to permit future growth. There is a direct correlation, he said, between growth of GNP and of energy consumption.

This was denied by Laurence Moss, President of the Sierra Club, who cited figures showing higher per capita GNP in West Germany and Sweden than in the United States with only one-third of the U.S. energy consumption per capita. He advocated reduction of present unreasonably high lighting standards for buildings, an ending of subsidies to the energy industry, and transfer of social costs of environmental damage to users, particularly through a system of emission charges on industry, which would be incorporated into the prices of their products. This was one point on which the Sierra Club and the U.S. Chamber of Commerce agreed, for Madden had previously pointed out that inclusion of such costs in prices would make possible substitution of judgments by the market system for human judgments in determination of cost-benefit ratios for environmental improvement projects.

Harry Walker, Vice President of Shell Oil Company, and other speakers assessed the potentials of the newer forms of energy: In the case of unconventional fossil raw materials such as oil shale, available resources are not a limitation, and only improvement in existing technology, rather than new technology, is needed. But in order for this to become an important energy source some means must be found to overcome the problems created by the vast quantities of solid waste produced. No such problems exist, of course, in utilization of solar radiation, the energy source is unlimited, and no new technology is needed to capture the thermal part of solar energy. Some 150,000 homes in the United States are now heated from this source, and Walker predicts general installation of this method of heating and cooling homes within a decade and use of solar energy to provide up to 10 percent of the nation's usage of electricity by the year 2000. He also predicts solution of the problems of nuclear power production and generation of 60 percent of electrical power from this source by 1990.

Windmills, now in use for electrical power generation in Iowa and Montana and in other parts of the world, and geo-thermal steam also are attractive future possibilities if transmission problems can be solved.

The consensus was that all these potential sources of energy should be pursued vigorously through research and development efforts. But with the demand for energy doubling every fifteen years none of the experts saw any possibility of increasing future supply fast enough to permit this rate of growth in energy use to continue for the rest of the present century. Lester Lees of the California Institute of Technology summed the matter up by saying that there is no shortage of potential energy resources or of technology, but that the problem we face is one of time. In order to buy this time, he said, we need a "new technology of energy conservation." Numerous speakers warned that people must prepare themselves for restrictions on energy usage—particularly the use of private automobiles, which are estimated to account for 15 percent of our use of energy in fuel alone and perhaps a fourth of energy use overall.

LAND USE

The land-use panel was enlivened by the vigorous and humorous presentation of E. P. Harvey, representing the National Cattlemen's Association, who strongly objected to all land-use legislation. Pointing out that uniform Federal regulations, drawn up primarily with large cities in mind, are totally inappropriate for agricultural areas, "where belching cows produce more pollution than cars," he took the viewpoint that localities can't be forced to zone if they don't want to. Even with regard to cities, he pointed to Houston, which has no planning or zoning, yet has developed in a more orderly way than Dallas—an appraisal not shared by all those present who were familiar with the two cities.

Most of the speakers who dealt with the subject, however, representing private business as well as universities and governmental agencies, recognized the necessity for some type of long-range planning of land use and expressed concern only that this planning have appropriate goals and be properly executed, with adequate citizen participation and sources of information.

Chet Huntley, formerly of NBC-TV and now Chairman of the Board of Big Sky of Montana, pointed to strip mining legislation in Montana as a model of this type of land-use regulation, and insisted that some means must be found to change the living pattern of the nation, in which we find nearly three-fourths of the people occupying only one percent of the land. He urged industry to join with scientists and engineers in a vigorous campaign to make rural towns more attractive.

Peter Morrison of the Rand Corporation expressed the viewpoint that people do not really want to live in small towns or rural areas even though they say that they do. Along with Huntley, he felt that incentives, or even compulsion, to decentralize population must come. Another speaker presented results of a recent poll showing that three-fourths of the people queried felt that no further growth or development in their communities was desirable. Bernard Orell, Vice President of the Weyerhaeuser Company, replied that antagonism toward growth is based on the false premise that growth necessarily involves destruction, whereas with proper planning by both industry and government growth can actually mean, and indeed is essential to, refinement of environmental quality.

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James H. Zumberge, *Chancellor*
Ronald L. Smith, *Dean*
College of Business Administration

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BUREAU OF BUSINESS RESEARCH
Member, Association for University Business and Economic Research

200 CBA, City Campus
Lincoln 68508; Phone (402) 472-2334

E. S. Wallace, *Director*
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Mrs. Marilyn Mertens, *Research Analyst*

TECHNOLOGY

Many hopeful signs for the future, involving contributions of technology to solution of both growth and environmental problems, were reported by various speakers at the Forum. Some of these were the experiment under way in St. Louis indicating that a city can produce 10 percent of its energy needs from its own garbage, the L.S.U. experiment in using computer waste to produce energy, and development of a package sewer system, which is now available, making septic tanks obsolete.

Another was vividly illustrated by Frank Sebastian, Senior Vice President of Envirotech Corporation, who produced a flask and induced his fellow panel members reluctantly to join him in drinking a "cocktail." The flask contained reclaimed sewage, which he called the drinking water of the future and claimed was of higher quality than the drinking water now available in most cities. Two plants to treat sewage in this way are now in operation—one at Lake Tahoe and the other in Africa. Sebastian reported the cost at Lake Tahoe as 40 cents per thousand gallons as compared with 38 cents for tap water in Colorado Springs. Answering a criticism of the process that has been made, he stated that if all waste water in the United States were treated in this way there would be a one-time increase of only three percent in electricity demands.

Perhaps the most hopeful news of all was the report by several speakers that in numerous cases industrial enterprises forced by environmental legislation to clean up their wastes had found that instead of costing them money this actually resulted in reclamation of valuable materials and saved money. An example of this is Dow Chemical Company, whose retired president had previously reported the finding in a speech at Doane College several years ago. As a result he is now heading an enterprise which is pumping valuable materials dumped by numerous industries into Lake Erie and is cleaning up the lake in the process.

SOURCE OF FURTHER INFORMATION

Space does not permit even naming the many other speakers who appeared at the Forum, but perhaps enough has been said to interest some readers in studying the subject further. The complete proceedings will be available soon in printed form and may be ordered at a cost of $18 from the Midcontinent Environmental Association, P.O. Box 201, Tulsa, Oklahoma, 74102.

The proceedings are also being made available in a set of eight cassette tapes, which can be purchased for $60 from National Forum Headquarters, 616 South Boston, Tulsa, Oklahoma 74119. Tapes can also be purchased singly at a cost of $8.50 each. Tapes No. 8, containing the technology panel discussion, and No. 4, the land-use panel discussion, are particularly recommended.

E. S. WALLACE

Review and Outlook

The Nebraska dollar-volume index made one of its largest one-month jumps on record from July to August, increasing by more than ten percentage points to a level of 186.8 percent of the 1967 average. The entire July-to-August increase, however, can be attributed to rising prices, and most of the rise was the result of an increase to record levels in agricultural prices received. Agricultural prices received for Nebraska rose by more than 30 percent from July to August and were at a level nearly 80 percent above the August, 1972, level. Since agricultural prices have subsequently fallen from their August record, some leveling off or decline in the Nebraska dollar-volume index may be expected.

Each of the five sector indexes included in the overall Nebraska dollar-volume index increased from July to August. The importance of price changes in these increases, however, is reflected in the fact that only one of the corresponding physical-volume indexes (construction) increased over the period. The overall physical-volume index dropped from 123.4 in July to 122 in August.

The national dollar- and physical-volume indexes generally followed the same pattern of rising dollar volumes accompanied by falling physical volumes from July to August. The changes in the national indexes, however, were generally smaller than the corresponding changes in the state indexes. The July-to-August increase in the overall national dollar-volume index, for example,

(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

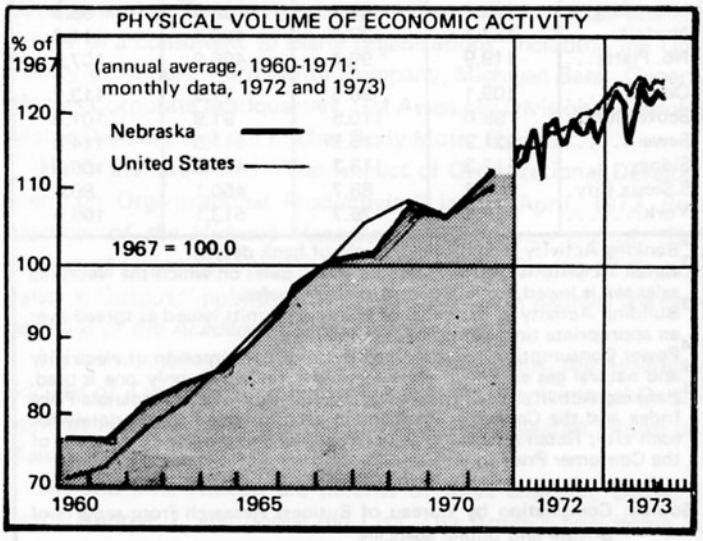
1. CHANGE FROM PREVIOUS YEAR

August 1973	Current Month as Percent of Same Month Previous Year		1973 Year to Date as Percent of 1972 Year to Date	
Indicator	Nebraska	U.S.	Nebraska	U.S.
Dollar Volume	122.7	114.7	116.1	113.4
Agricultural	181.0	155.2	143.7	134.5
Nonagricultural	112.6	113.4	111.4	112.7
Construction	111.4	112.0	118.3	112.1
Manufacturing	117.1	122.4	114.1	118.9
Distributive	112.5	110.6	111.3	110.9
Government	108.4	108.2	106.3	108.1
Physical Volume	102.7	104.0	104.4	105.8
Agricultural	101.2	95.8	103.0	99.4
Nonagricultural	103.0	104.3	104.6	106.0
Construction	101.2	101.7	108.6	102.9
Manufacturing	99.5	108.3	102.1	109.2
Distributive	104.6	102.9	105.7	105.4
Government	101.3	103.1	101.6	103.0

2. CHANGE FROM 1967

	Percent of 1967 Average	
Indicator	Nebraska	U.S.
Dollar Volume	186.8	170.5
Agricultural	247.0	215.3
Nonagricultural	174.9	168.9
Construction	234.1	179.8
Manufacturing	164.2	158.3
Distributive	171.6	172.3
Government	182.3	173.6
Physical Volume	122.0	123.2
Agricultural	105.8	103.4
Nonagricultural	125.3	123.9
Construction	153.0	117.5
Manufacturing	117.1	118.1
Distributive	127.0	127.5
Government	118.7	123.5

PHYSICAL VOLUME OF ECONOMIC ACTIVITY



3. NET TAXABLE RETAIL SALES[1] OF NEBRASKA REGIONS
(Unadjusted for Price Changes)

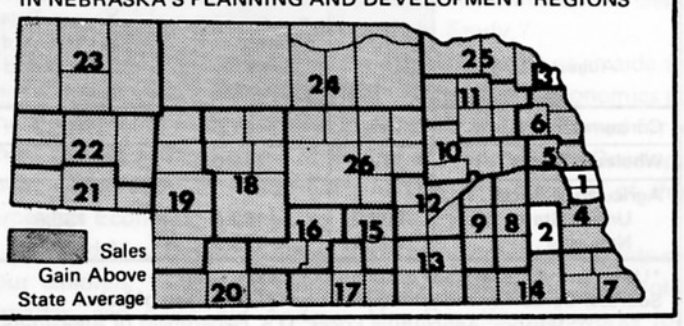
Region[2] and Principal Retail Trade Center	August, 1973 as percent of August, 1972	1973 Year to Date as percent of 1972 Year to Date
The State	118.8	115.8
1 (Omaha)	109.1	110.2
2 (Lincoln)	116.0	115.1
3 (So. Sioux City)	104.2	100.0
4 (Nebraska City)	129.5	120.5
5 (Fremont)	123.4	116.2
6 (West Point)	131.2	123.1
7 (Falls City)	130.5	117.5
8 (Seward)	128.0	122.3
9 (York)	139.6	124.2
10 (Columbus)	133.5	123.6
11 (Norfolk)	136.8	124.2
12 (Grand Island	120.4	118.4
13 (Hastings)	117.4	116.4
14 (Beatrice)	128.7	119.6
15 (Kearney)	112.0	116.1
16 (Lexington)	127.7	122.0
17 (Holdrege)	129.9	120.4
18 (North Platte)	112.2	119.7
19 (Ogallala)	132.3	122.1
20 (McCook)	124.8	120.0
21 (Sidney, Kimball)	132.6	117.8
22 (Scottsbluff)	123.1	119.7
23 (Alliance, Chadron)	126.6	118.5
24 (O'Neill)	133.4	124.1
25 (Hartington)	138.1	129.2
26 (Broken Bow)	126.3	120.7

[1] Sales on which sales taxes are collected by retailers located in the state, *including motor vehicle sales.*

[2] "Planning and development" regions as established by the Nebraska Office of Planning and Programming and shown in the map below.

Source: Compilations by Bureau of Business Research from data provided by the Nebraska Tax Commissioner.

1973 YEAR TO DATE AS PERCENT OF 1972 YEAR TO DATE IN NEBRASKA'S PLANNING AND DEVELOPMENT REGIONS



(Continued from page 4)

was only about a third of the increase in the Nebraska index.

In contrast to a drop in the Nebraska manufacturing physical-volume index from July to August, there was an increase in the national manufacturing physical-volume index. The continuing strong performance in manufacturing nationally was not matched in Nebraska because of curtailed operations in beef processing in the state during the August price freeze.

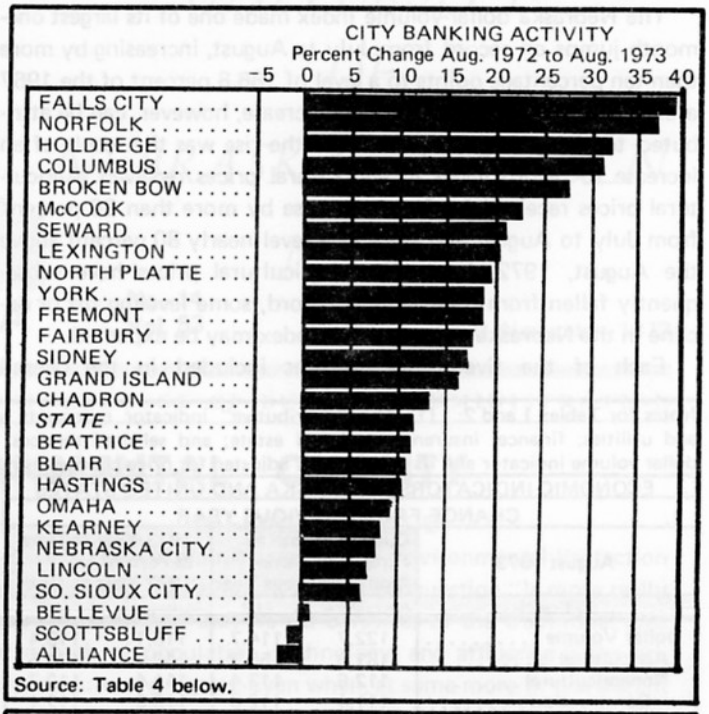
As in earlier months of the year, the dollar volume of business activity in August was well above 1972 levels. The increase in the overall dollar-volume index from August, 1972, to August, 1973, was 22.7 percent for Nebraska and 14.7 percent for the nation. As would be expected on the basis of the rapid price increases, the agricultural sector led the dollar-volume growth with an increase of 81 percent in Nebraska and 55.2 percent nationally during the August-to-August period. All the sector indexes with the exception of government had increases exceeding 10 percent over this period in both Nebraska and the nation.

Because of the rapid inflation throughout 1973, the increases of the physical-volume indexes from 1972 to 1973 have been quite small relative to the increases of the dollar-volume indexes. In addition to the agricultural price index for Nebraska mentioned earlier there were increases of 62 percent in national agricultural prices, 19 percent in national wholesale prices, and 7.5 percent in national consumer prices from August, 1972, to August, 1973. In the face of such price increases the overall national physical-volume index increased by only 4 percent compared with the 14.7 percent dollar-volume increase for the August-to-August period. In Nebraska the contrast between physical-volume and dollar-volume growth is even stronger over this period, with only a 2.7 percent overall physical-volume increase compared with the 22.7 percent increase in the overall dollar-volume index. This contrast is due largely to rising farm prices.

One noticeable effect of rising farm prices and income has been a rapid growth of retail trade activity. In Table 3 it can be seen that total net taxable retail sales for the state increased 18.8 percent from August, 1972, to August, 1973. In the Omaha region, however, the growth was less than 10 percent, while in the rest of the state there were nine regions with increases exceeding 30 percent and eleven additional regions with increases between 20 and 30 percent. For the year 1973 through August the increase has been below the state average in all three metropolitan regions and above the state average in all the other regions.

The likely effects of a strong agricultural sector on the general economy of the state can also be seen in the banking activity data in Table 4. Even after adjustment for price increases, banking activity rose 12 percent for the state from August, 1972, to August, 1973.

V. R.



Source: Table 4 below.

4. AUGUST CITY BUSINESS INDICATORS

The State and Its Trading Centers	Percent of Same Month a Year Ago			
	Banking Activity[1] (Adjusted for Price Change)[5]	Retail Activity[2] (Adjusted for Price Change)[5]	Building Activity[3]	Power Consumption[4]
The State	112.0	107.7	119.1	109.2
Alliance	97.8	120.3	163.6	102.0
Beatrice	111.7	115.4	93.2	110.7
Bellevue	100.5	95.3	493.7	112.6
Blair	110.4	112.2	208.2	92.1
Broken Bow	127.9	113.5	1456.8	95.9
Chadron	114.0	125.3	185.9	104.7
Columbus	131.3	112.8	146.3	111.8
Fairbury	118.0	109.7	216.9	120.1
Falls City	139.9	123.4	14.6	111.2
Fremont	119.3	110.4	163.7	120.2
Grand Island	116.3	106.2	132.2	113.2
Hastings	110.3	104.6	76.0	117.9
Holdrege	132.8	114.7	237.9	99.2
Kearney	107.7	96.0	105.7	98.0
Lexington	120.1	110.7	149.5	115.2
Lincoln	106.5	106.3	82.8	95.2
McCook	123.3	109.1	70.1	101.1
Nebr. City	107.3	107.8	36.5	95.5
Norfolk	137.1	128.0	100.5	111.8
No. Platte	119.9	99.4	495.5	107.6
Omaha	109.1	99.5	71.5	113.2
Scottsbluff	99.0	110.5	91.9	101.0
Seward	121.2	115.5	111.5	114.0
Sidney	117.3	113.3	494.6	106.3
S.Sioux City	106.2	88.7	450.1	80.6
York	119.4	126.7	513.1	106.5

[1] Banking Activity is the dollar volume of bank debits.
[2] Retail Activity is the Net Taxable Retail Sales on which the Nebraska sales tax is levied, *excluding motor vehicle sales.*
[3] Building Activity is the value of building permits issued as spread over an appropriate time period of construction.
[4] Power Consumption is a combined index of consumption of electricity and natural gas except in cases marked * for which only one is used.
[5] Banking Activity is adjusted by a combination of the Wholesale Price Index and the Consumer Price Index, each weighted appropriately for each city; Retail Activity is adjusted by the commodity component of the Consumer Price Index.

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

5. PRICE INDEXES

August, 1973	Index* (1967 = 100)	Percent of Same Month Last Year	Year to Date as Percent of Same Period Last Year*
Consumer Prices	135.1	107.5	105.2
Wholesale Prices	142.7	119.0	112.1
Agricultural Prices			
United States	208.2	162.0	135.6
Nebraska	233.4	178.9	139.5

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

New Members of College Faculty

Five new faculty members have joined the College of Business Administration for this academic year.

Dr. Robert A. Mittelstaedt has been appointed as the first Nathan Gold Distinguished Professor of Marketing. This position has been created through a bequest from Mrs. Evelyn B. Gold, widow of the Lincoln retailer and community leader Nathan Gold, in order to support research and teaching in the field of consumer behavior.

Dr. Mittelstaedt received his bachelor's degree from the University of South Dakota, a master's degree in economics from the University of Arizona, and a Ph.D. in marketing from the University of Minnesota. He served on the faculty of the University of South Dakota from 1959 to 1968 and on the faculty of the University of Missouri from 1968 to 1973, and has been a consultant to several wholesalers, retailers, and public utilities. His teaching and research have emphasized the application of behavioral theories to marketing concepts and consumer behavior. He will develop new courses in consumer behavior here along these lines.

Dr. Mittelstaedt has published articles in a wide variety of journals, including the *Journal of Marketing Research,* the *Southern Journal of Business,* the *South Dakota Business Review,* and the *Mississippi Valley Journal of Business and Economics.* He is a coauthor of *Consumer Behavior: Contemporary Research in Action,* a textbook published in 1971, and of a forthcoming book, *Principles of Marketing.* His professional memberships include the American Marketing Association and the Association for Consumer Research.

Dr. and Mrs. Mittelstaedt, with their two children, Mary, age 12, and John, age 10, reside at 1610 Circle Drive.

Dr. Warren R. Nielsen has joined the Department of Management as an assistant professor. He holds a B.S. from the University of Utah and an M.A. in industrial and labor relations and a Ph.D. in organizational behavior from the University of Illinois.

Dr. Nielsen was the manager of personnel and organization development at Ford Motor Company from 1964 to 1969 and has served as a consultant to many organizations, including the University of Illinois, Ford Motor Company, Michigan Bank, General Motors Corporate headquarters, GM Assembly Division, Chevrolet Motor Division, and the Fischer Body Motor Division.

He is the author of "The Impact of Organizational Development on Organizational Productivity" in the April, 1973, *Proceedings of the Midwest Management Conference* and of "The Impact of Organizational Development on the Quality of Organizational Output," published in the August, 1973, issue of the *Proceedings of the Academy of Management.*

He is a member of the Academy of Management, the American Society of Training Directors, the National Organizational Development Network, and the North American Research Group on Management.

Dr. and Mrs. Nielsen are parents of three children, David, 8 years, Andrea, 7, and 3-year-old Lisa. The family's new home in Lincoln is at 3821 Loveland Drive.

Kung H. Chen is an Assistant Professor of Accounting, specializing in managerial accounting. He is a graduate of National Taiwan University in Taipei, holds a master's degree in business administration from West Virginia University, and is completing requirements for a Ph.D. at the University of Texas at Austin. His dissertation topic is "Removing the Appearance of Certainty from Accounting Information: A Behavioral Experiment."

Mr. Chen received a Humble Oil Accounting Fellowship, a National Accounting and Statistics Fellowship, and a dissertation grant-in-aid from the American Institute of Certified Public Accountants. Professional memberships include the American Accounting Association and the Institute of Management Science.

Mr. and Mrs. Chen live at 3332 Starr Street. They are parents of a five-year-old son, Robert, who is in kindergarten.

New to the Department of Economics are Roger F. Riefler, Associate Professor, and A. E. Day, Assistant Professor.

Dr. Riefler, a native of New York, holds a bachelor's degree from Bowdoin College and an M.A. and a Ph.D. from the University of Washington. His area of special interest is regional economics. Since 1968 he has been a member of the economics department at the University of Pittsburgh and has served as a consultant to the Medical Systems Division of Westinghouse Corporation, Westmoreland County, Pa., Carson Engineering Company, LTV, Inc., and Jack Faucett Associates. Between 1966 and 1968 he served in the Office of the Assistant Secretary of Defense (Systems Analysis), Economics Division. During that time he was also a member of the U.S. Joint Task Force to Thailand to review the impact of U.S. aid on the Thai economy.

Dr. Riefler is coauthor of articles in the *Monthly Labor Review,* the *1967 Proceedings of the American Statistical Association,* and the *Journal of Regional Science.* He has also written articles for the *Northeast Regional Science Review* and *Studies in Economic Planning Over Space and Time.* In addition, Dr. Riefler has delivered papers at meetings of the Western Economic Association, the Dallas Economists Club, and the Northeastern Regional Science Association. He has been a guest lecturer at the Rural Development Institute (Oak Ridge, Tenn.), an International Development Symposium sponsored by the Agency for International Development, Wheaton (Mass.) College, and Chatham College (Pittsburgh).

Dr. Riefler is a member of the American Economic Association, the Western Economic Association, the Economic History Association, and the Regional Science Association.

Dr. and Mrs. Riefler reside at 2739 So. 40th Street.

Mr. Day received a B.A. and an M.A. in economics from the University of Maryland, and an M.S. in economics from Purdue University. He is completing his requirements for a Ph.D. at Purdue and expects to receive his degree in June, 1974. His dissertation is entitled "The Financial Impact of Open Market and Debt Management Operations: An Econometric Study."

Mr. Day worked for five years in the U.S. Senate as an aide to Sen. Thomas Dodd. From 1968 to 1970 he taught economics at the University of North Carolina at Asheville and also served for a short time as acting director of the Upper French Broad Development Corporation in North Carolina. He is a member of the American Economic Association.

Mr. and Mrs. Day, who live at 920 Cottonwood, are parents of four children, 13-year-old twins Shannon and Shawn, 8-year-old Jennifer, and 4-year-old Andrew. Mrs. Day (Nancy) works for the Lincoln Learning Center as a readers' aide.