

AGRICULTURAL EXPERIMENT STATION

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Part I

An Analysis of the Impact of Industrialization
On a Small Town Economy. A Case Study
of Ava, Missouri

Part II

The Impact of Industrialization of a Small Town
on Local Government. A Case Study
of Ava, Missouri

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CONTENTS

Part I

An Analysis of the Impact of Industrialization on a Small Town Economy. A Case Study of Ava, Missouri

Introduction	5
Objectives	6
Review of Literature	7
Methodology	8
Characteristics of the Area Studied	12
Characteristics of the Population	17
Labor Force	18
Income Data	22
Agricultural Situation	23
General Economic Situation before New Industry Was Acquired	28
Transportation Facilities	30
Housing Units	31
Industrialization	31
Costs of Industrialization	38
The Impact of New Industrialization on the Local Economy	43
Factors Affecting Economy in Addition to New Industry	44
Change in Position in Economy of the Area	47
Banking and Credit Changes	48
General Economics Situation after Industrialization	53
Population Changes	54
Changes in the Labor Force, Employment	54
Changes in Income	56
Summary and Conclusions	57

Part II

The Impact of Industrialization of a Small Town on Local Government. A Case Study of Ava, Missouri

Objectives	59
Local Units of Government, City of Ava	59
Douglas County	61
Local School Districts	63
Impact of New Industrialization on Local Units of Government	65
Changes in Government in the City of Ava	65
Impact of Industrialization on Douglas County Government	82
Impact of Industrialization in the Ava R-1 School District	86
Summary and Conclusions	97

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Part I

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L. DALE HAGERMAN AND CURTIS H. BRASCHLER*

INTRODUCTION

Many agricultural regions of the United States are undergoing a rapid transition from many small farms with high labor needs and relatively low capital requirements to larger acreages in each farm unit with limited labor and high capital requirements. Few of these regions have had sufficient non-farm employment available to use the manpower released from agriculture. As a result, the size of the population and overall volume of business in the area declines. A large part of the labor force displaced in agriculture must move to urban areas to seek employment. Some of these people remain in the area farming or working at non-agricultural jobs, but are still underemployed, existing at little more than a subsistence level (barely enough to meet their basic needs). Young people find it difficult to find farming space or non-farm employment in the area and must move to urban areas to find employment.

The characteristics of the people who leave the area differ from those of the people who remain. Those remaining are generally older, with less formal education, and will usually have some means of livelihood sufficient to meet their immediate basic needs. Those migrating out of the area are younger and often have experience or skills acquired in college, military service, trade schools, that enable them to secure semi-skilled jobs in an urban area.

Many of the young people who enter the labor force from a rural area would like to farm or find other employment in or near their homes. The process of acquiring a farm is often difficult. When a farm becomes available for rent or sale, established farmers seek to add it to their farming operation. During recent years over 50 percent of land sales have been to individuals who already owned farmland, and 90 percent of these individuals were farm operators at the time of purchase.¹ A young man may have difficulty in acquiring the capital necessary to start an economical operation. In many cases the family of the potential young farmer

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¹*Farm Real Estate Market Development*, CD67 (August, 1965) Economic Research Service, USDA, Washington, D.C.

can give him little assistance in getting started. This is especially true in many of the less productive areas.

A few members of each generation entering the labor market do find satisfactory employment in the area. Partnerships with parents, other relatives or friends may be initiated. An inheritance provides the opportunity in some cases. Some future farmers with the aid of their parents and vocational teacher, while still in school, begin and implement a plan leading toward establishment in farming and acquire sufficient capital and other assets to enter farming on an economic basis by the time they enter the labor market.

Those young people unable to find employment in their home areas are forced to move to urban regions. The experience and training of many rural young people do not prepare them for many types of employment in urban areas. Many times the young person does not actively seek work in an agriculturally oriented business and he must settle for the lower paying jobs. Dissatisfaction with the type of work, pay scales and/or living conditions may cause the migrant to wish that he could return to his old home area to live, work, and raise his family.

THE PROBLEM

Many communities have felt that the acquisition of industry would be the cure-all answer to these problems of adjustment. However, it would seem on second thought, that the characteristics of the industry secured would determine whether a town, county, or region would profit from its arrival. The requirements of the industry for human resources in the form of labor, and other inputs should help determine the desirability of a particular type of plant in a specific community. The factory attracted might be more or less desirable depending upon the ability of the community to provide certain services and utilities for it. If a town had an excess capacity to supply the needs of a new factory for certain utilities the situation would be entirely different from a town which had only enough capacity to supply its present needs for that service.

It is conceivable that an industrial plant could be granted concessions in order to entice it to locate in an area and that the benefits gained from its presence would not repay the costs associated with its presence in the area.² A factory using a small labor force and a large amount of automated equipment, buying inputs from outside the area, and selling its product outside the area, might not bring about enough economic stimulation to raise the tax base evaluation or increase area income appreciably.

²Clarence J. Hein, "Local Government Problems and Issues Raised by Urbanization," *Local Government Problems in Urbanizing Rural Areas*, Southern Land Economics Research Publication No. 4, Department of Agricultural Economics and Agribusiness, Louisiana State University, Baton Rouge, Louisiana, p. 12.

OBJECTIVES

The specific objective of Part I of this study was to:

- Determine appropriate methodology and procedures to be used for identifying, measuring, and analyzing the impacts of important economic developments on a rural economy.

REVIEW OF LITERATURE

A great deal of inquiry has been made into the effects of new industrialization on local business and sociological factors. This study had somewhat different objectives than some of those subsequently reviewed.

A case study analysis of additional industrial development in Howard County, Indiana, revealed that the real per capita costs of providing services and facilities increased in each unit of local government.³ This increase was greatest in the school sector. Much of the impact of the increased employment was not felt in the county under study, however, due to the increased commuting from nearby counties which accounted for nearly one-half the increased employment.⁴ Another important finding was that employment increases were negligible among farmers in the immediate area, although substantial gains were recorded in the surrounding less industrialized counties.⁵ These factors, plus others, led to the conclusion that the "area," rather than the county is the more meaningful unit for planning and initiating policies of economic development. Also, it was recommended that costs of certain municipal and county services might ideally be financed by taxes over the area throughout which the diffusion takes place rather than the single involved county.⁶

A study was conducted in Kansas to determine citizen satisfaction with certain government services and business facilities.⁷ This study used a rating type questionnaire of 34 community services and facilities. They were rated as either adequate or inadequate by the respondents. Those most often rated inadequate were:

1. employment agencies
2. industry
3. employment opportunities
4. recreational facilities
5. continuing education

A direct relationship was found between the size of the town and the degree by

³J. B. Stevens and L. T. Wallace, *Impact of Industrial Development on Howard County, Indiana, 1947-1960*, Research Bulletin 784 (August, 1964) Agricultural Experiment Station, Purdue University.

⁴*Ibid.*, Tables 1 and 3.

⁵*Ibid.*, Table 4.

⁶*Ibid.*, p. 19.

⁷*Area Development, An Interdisciplinary Approach to Research*, Bulletin 440, (October, 1961) Kansas Agriculture Experiment Station, Manhattan, Kansas.

which a service was rated as adequate. As the size of town increased, the proportion of people reporting a service as adequate also increased.

A study of the effects of new industry on farm families in Iowa revealed that the average age of farmers taking jobs with the new plant was nearly eight years younger than full-time farmers.⁸ Employed farm wives averaged five years younger than farm wives with no non-farm employment. No significant difference was observed in years of formal education completed although those farmers taking employment with the factory had more special training for both farming and non-farm jobs than did the farmers with no non-farm employment.

Similar results were found in another study on the impact of industrialization on a rural community.⁹ A portion of the new workers was surveyed to determine their work experience prior to accepting employment in the new industrial plant. Eighty-two percent had worked at some other non-farm work previous to taking their present job. General conclusions drawn as a result of the survey were that:

- a. These people have already lost their place in agriculture and are simply changing jobs for various reasons.
- b. Factory recruiting officers contend that these workers need less training and have less adjustment problems to industrial work.
- c. Rural industrial employers are likely to be selective of younger age groups in their recruitment of labor.
- d. The previous conclusions indicate a strong possibility that the full impact of new industrialization will not reach the large part of low income people in rural areas.

METHODOLOGY

The objectives of this study required that a descriptive analytical approach be adopted as the basic method to arrive at conclusions about the results of industrialization on the selected area. A case study following the general outline of an economic base study was used as the framework of analysis. An economic base, as defined by Tiebout is:

The economic base of a community consists of those activities which provide the basic employment and income on which the rest of the local economy depends.¹⁰

He further defines an economic base study and its objective as:

An economic base study identifies the basic sources of employment and

⁸D. R. Kaldor, W. W. Bauder, and M. W. Trautwein, *Impact of New Industry on an Iowa Rural Community*, Part 1, *Farming and Farm Living*, Special Report No. 37 (April, 1964) Agriculture and Home Economics Experiment Station, Iowa State University, Ames, Iowa.

⁹Alvin L. Bertrand and Harold W. Osborne, *The Impact of Industrialization on a Rural Community*, *Journal of Farm Economics*, (December, 1959) pp. 1127-1134.

¹⁰Charles M. Tiebout, *The Community Economic Base Study* (Supplementary Paper No. 16, New York, Committee for Economic Development) p. 9.

income and provides an understanding of the source and level of all employment and income in a community. The primary objective of an economic base study is to develop information which will help a community solve local problems, make better decisions about matters that will enlarge economic opportunities for its citizens, improve their welfare, and make it possible for them to increase their contributions to national growth.¹¹

In short, this is a method of examining the local economy to bring about an understanding of how the community earns its living. The data collected must be organized into a logical structure that corresponds with the realities of economic life.

Area studied

Douglas County, Missouri, the rural area in which the case study was conducted, has experienced significant new industrialization in a recent period. It was felt that sufficient time has elapsed, however, for the effects from industrialization to have become apparent. Financial records, as well as other relevant data, were collected and analyzed for the local city government, county government, and the Ava R-1 schools. Missouri law requires that financial records of local governments be published periodically. This is done in the local newspapers. Verification of questionable items as well as insight into significant interrelationships was gained by occasional discussions with local officials.

The pre-industrial status of the area was examined with respect to the following items:

1. Position in the economy of the area.
2. Banking and financial structure.
3. General economic situation.
4. Population characteristics.
5. Labor force and employment.
6. Agricultural sector.
7. Personal income.
8. New construction.
9. Vacant houses.

Data

Various United States Government Census Reports were the source of much of these data. Banking data were obtained from annually published reports. State sales tax records yielded information useful in describing the general economic situation. The Missouri Division of Employment Security was the original source of employment and personal income data. Construction data were obtained from a survey conducted by local workers.

¹¹*Ibid.*, p. 9.

The time span covered in the analysis of all facts of this study was from 1953 through 1964 if sufficient data were available. In a few cases it was possible to extend the analysis into 1965.

The use of census reports is not completely satisfactory for the analysis of data in a dynamic setting. Results were still occurring from the stimulus of new industrialization as this report was being written. The impact of changes on the agricultural sector could not be determined at this date due to the time lag between collection of data for the 1964 Census of Agriculture and its availability to researchers. It was determined, however, that census reports were the best source of much information for this study. The cost to obtain data of comparable accuracy would be prohibitive if the necessary amount of detail were obtained.

The use of data from certain commercial sources was considered and rejected due to a wide variation between government reports and some commercial data on the same item and time period. One example of a wide discrepancy occurred in a commercial report which included the volume of retail sales in Douglas County. The estimate of total value of retail sales prepared by the commercial source was nearly 50 percent larger for the fiscal year of 1963, than was the value given for the calendar year 1963, by the United States Census of Business.

Analysis of data

The effects of industrialization on local governmental units were analyzed to determine their influence on ability to pay, needs for new services and the need for expansion of existing services. Intertemporal trends in tax base, rates and revenue collected were obtained by examination of annual fiscal records. The needs for and provision of public utility services were collected and analyzed by personal interviews; collection of rate schedules and records of amount of service provided; and examination of annual fiscal records and results of bond issue elections. Outstanding capital indebtedness was measured by construction of a dynamic schedule of bonded indebtedness. The provision of services other than utilities was measured by analysis of annual financial records, personal conferences with local officials, and review of newspaper accounts.

Each item analyzed in the pre-industrial period was also analyzed for changes after industrialization, if any valid data were available. In keeping with the overall objectives of the study the question of relative gain was always kept in mind. Specifically, this question was considered: Was the area better off after industrialization than it would have been without it? Did the benefits exceed the costs? By how much? From an economist's point of view, could the money spent on industrialization have been allocated more wisely?

A brief but rather complete outline was made of the community's attempts to pull industry into the county and to improve the economic base that was already present. This material is primarily a review of a publication¹² prepared by

¹²O. L. Claxton and Hugh Denney, *The Story of An Ozark Community At Work 1944-1964*, C810 (April, 1964) University of Missouri, Extension Division, Columbia, Missouri.

the local community development agent early in 1964. It was condensed and dated by a review of the county newspaper and conferences with various local officials.

Limitations of results

Several factors prevented a completely satisfactory analysis of the changes which occurred as a result of new industry in Douglas County. As was previously mentioned, data from the 1964 Census of Agriculture had not been released. Some local records were not kept in sufficient detail to allow the extraction of specific expenses of various governmental services provided. Various schemes were devised to arrive at a valid estimate, but were discarded as not being accurate enough to justify their inclusion in the study.

In other cases, a complete set of data could not be obtained. If an adequate portion of the set of data was adjudged to be available, its analysis was continued even though it was realized that the reliability of the results might be slightly diminished.

The greatest difficulty was probably experienced in attempting to determine how much of the gross changes were a result of industrialization and how much a result of other stimuli. After observing the decline of population, business growth, and other variables as a result of the transition in the agricultural sector it might be decided that stopping the decline and maintaining the "status quo" was evidence of desirable effect from new industry.

Conclusions

The conclusions reached as a result of this study were submitted to three questions before they were accepted. These questions were:

- (1) Is the conclusion consistent with economic theory?
- (2) Is it logically sound?
- (3) Is it relevant to the real world situation being investigated and to which the conclusions may be applied?

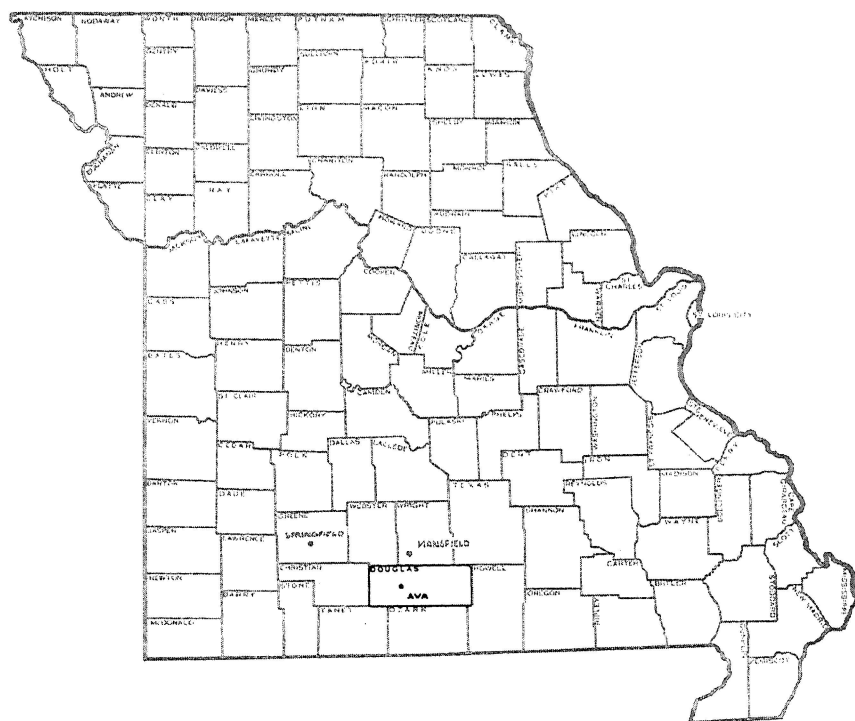


FIGURE 1. LOCATION OF AVA AND DOUGLAS COUNTY IN STATE OF MISSOURI

CHARACTERISTICS OF THE AREA STUDIED

History

Douglas County, Missouri, is located in the Ozarks region in south central Missouri (Figure 1). Agriculture and timber production have been the main source of income in the county since its settlement. The early settlers removed the forests and placed much of this land into crop production. In 1907, a short line railroad was completed connecting Ava, the county seat, with a mainline railroad at Mansfield, a slightly smaller town 12 miles to the north. This opened a market for the timber in the area which was harvested at a rapid rate and more land was placed in agricultural production. By the 1920's, the big trees were gone, the larger mills moved on to other areas, and the railroad ceased operation. Farming in the area gradually evolved into a predominantly grassland type of agriculture with many dairy, livestock, and poultry farms.

With the advent of modern farming methods, during and immediately following World War II, the number of farms in the county started decreasing

while the average size increased. From 1900 to 1940 the number of farms (See Table I) remained relatively stable with 2,738 in 1900 and 2,823 in 1940. A low of 2,468 farms had been reached in 1925. This was probably due to the general economic situation of the period which found much better times in cities than on farms. However, with the coming of the great depression of the 1930's, this migratory trend was reversed and by 1940 there were 2,823 farms in the county.

The average size of farms in the county increased only 17.9 acres from 1910 to 1940 but in the next five years the average size increased from 138.1 to 167.0, an increase of 28.9 acres per farm. Part of this increase may be attributed to the consolidation of farms into more economical-sized units to take advantage of modern technology and equipment. The number of farms decreased during this period from 2,823 to 2,404, a net loss of 419 from 1940 to 1945.

TABLE 1--FARM AND POPULATION CHANGES IN DOUGLAS COUNTY,
1890 to 1964^a

Year	County Population	Ava Population	Number of All Farms	Average Acres Per Farm
1890	14,111	221	----	----
1900	16,802	---	2738	----
1910	16,664	713	2823	121.2
1920	15,436	845	2633	132.9
1925	-----	---	2468	137.6
1930	13,959	1041	2549	140.0
1935	-----	----	----	-----
1940	15,600	1393	2823	138.1
1945	-----	----	2404	167.0
1949	-----	----	2383	171.7
1950	12,638	1611	----	-----
1954	-----	----	2087 ^b	186.8
1959	10,894 (est.)	----	1754 ^b	209.7
1960	9,653	1581 ^c	----	-----
1965	-----	2112 ^d	----	-----

^aUnited States Census of Agriculture and United States Census of Population unless otherwise noted.

^bNinety-two of this decrease due to change in census definition.

^cCensus review after annexation in 1964 changed this to 1872 in old plus new city area, Douglas County Herald, Ava, Missouri, November 18, 1965.

^dIncludes gain from annexation of 400 acres in December, 1964. This number results from a special city census.

In addition to the improvements in farm technology the needs of the nation for members of the military and workers in defense plants in World War II led to many people leaving farms in the county. During this five-year period the total farm population within the state of Missouri decreased by 24.4 percent. This was from 1,125,413 in April 1940 to 855,020 on January 1, 1945.¹³ Total population within the county decreased from 15,600 in 1940 to 12,638 in 1950 and dropped to 9,653 in 1960. The number of farms did not start diminishing rapidly until after 1949. From 1949 to 1959 the number decreased from 2,383 to 1,754 although 92 of this reduction was due to a change in the census definition of a farm. After allowing for this change the net decrease was 537 or a 22.6 percent drop in 10 years. The average size of all farms had increased to 209.7 acres by 1959. The exodus of farmers from the area was increased when a drought, starting during the summer of 1952, persisted for five years.

Ava, the county seat, is the only town in the county. Several villages exist but none has a population in excess of 50. Over 90 percent of all retail sales in the county are made in Ava or its immediate peripheral areas and over 80 percent of all retail business houses in the county are located in Ava.¹⁴

The population of Ava increased gradually from its settlement until the early 1950's (See Table 1). In 1951, a wholesale grocery company moved out of the town. City population then decreased slightly between 1950 and 1960. An increase was recorded between 1960 and 1965.

Position in the economy of the area

While over 90 percent of the retail sales within the county are transacted in Ava, one cannot conclude that all citizens of the county do the majority of their shopping within the county lines. Ava is located about eight miles west and north of the geographic center of the county. The distance to the southeastern corner of the county from Ava, is about 40 miles. The most direct route to this area is via Missouri State Highway 14.

Highway 14 also leads to the town of West Plains which is only 20 miles from the southeastern corner of Douglas County. West Plains, with a population of 5,836 in 1960 is the dominant business center in an area which includes the east end of Douglas County. Other county citizens very likely transact a part of their business in one of a group of towns which extend along U.S. Highway 60. This highway runs generally parallel to the northern edge of the county about eight miles from the county line. A better system of tributary roads exists from some areas of Douglas County to these towns than to Ava. The five major towns in this group contain from 1,000 to just over 3,000 population.

¹³United States Bureau of The Census, *United States Census of Agriculture, 1945*, Vol. I, Counties, Part 17: Missouri, United States Government Printing Office, Washington, D.C.

¹⁴From unpublished material obtained from Sales and Use Tax Division, Department of Revenue, Jefferson City, Missouri.

Springfield is another business area which siphons off some of the purchasing power of Douglas Countians. This city of over 100,000 population has a wide variety of commercial facilities. The northwest corner of Douglas County is only 20 miles from Springfield.

No surveys were made to determine the extent of travel across county lines to obtain services and retail goods. The proportion of county residents' total trade occurring within the county should not change significantly over short spans of time unless radical changes occur in the commercial facilities available to the public. Most of the competing towns were experiencing a degree of industrialization during the same period as did Ava. No appreciable change was noted in the facilities provided in the various towns, and except for Highway 5, highway facilities did not change. The relative proportion of residents' trade going to Douglas County retail merchants should not have changed significantly during the study period.

Ninety-six retail business establishments were in the county in 1958.¹⁵ These establishments had total sales of \$7,801,000. The total personal income for the year was calculated as \$7,453,000.¹⁶ Personal income is defined as the current income receipts of residents from all sources, including government transfer payments.¹⁷ Service establishments in Douglas County had a total receipts volume of \$462,000 in 1958.¹⁸

The combined total receipts of retail stores and service establishments are considerably larger than the calculated personal income. This seeming inconsistency could be explained by either, or both, of two reasons. First, Douglas County businessmen may be getting a greater volume of business from non-residents than they are losing to merchants in the surrounding counties. Second, a portion of the retail sales are not consumption expenditures but are actually inputs in the business of farming. An estimate of the volume of retail purchases used as farm inputs was obtained by adding certain relevant classes of farm expenditures.¹⁹ When this value is deducted from the total combined receipts of retail stores and service organizations, a total personal consumption outlay estimate of \$6,777,853 is obtained. This estimate is 91 percent of the total personal income calculated for the year and leaves only 9 percent for payment of personal taxes and personal savings if it is assumed no net gain or loss occurs in the crossing of the county line by shoppers.

¹⁵United States Bureau of the Census, Census of Business, 1958, *Retail Trade Missouri*.

¹⁶S. Brackston Hinchey, "County Income Data" (Unpublished Ph.D. Thesis) Research Center, School of Business and Public Administration, University of Missouri, Columbia, Missouri, 1964.

¹⁷This definition is the same as that used by the National Income Division of the Department of Commerce.

¹⁸United States Bureau of the Census, Census of Business, 1958, *Selected Services, Missouri*.

¹⁹United States Bureau of the Census, *United States Census of Agriculture 1959*, Vol. I, Counties Part 17, Missouri, County Table 4, p. 146.

TABLE 2--SERVICES AS A PERCENTAGE OF AGGREGATE INCOME OF THE POPULATION OF VARIOUS AREAS

Area	Aggregate Income ^a of the Population (1959) (Thousands)	Selected ^b Services (1958)	Services as a Percentage of Aggregate Income
Douglas county	\$8,000	\$462	5.8
Combined counties ^c	\$83,000	\$4,380	5.3
Greene county	\$210,000	\$21,252	10.1
State of Missouri	\$7,563,000	\$744,677	9.8

^aUnited States Bureau of the Census, *County and City Data Book*, 1962 (A Statistical Abstract Supplement). United States Government Printing Office, Washington, D. C., 1962, pages 203, 213, and 223.

^b*Ibid.*, pages 209, 219, and 229

^cThe combined counties are Douglas, Texas, Howell, Ozark, Webster, and Wright.

Nationally, in 1958, 82.2 percent of personal incomes was spent on personal consumption outlay. Douglas Countians, however, with a low median income (\$2,050 in 1959) would be expected to be well below the national rate in both personal savings and personal taxes paid.

A large part of the services demanded by county residents appear to be performed within the county (See Table 2). The percentage of aggregate income which is spent for services in Douglas County corresponds very closely to the percentage in a combination of six counties in the area. Aggregate income is defined as "the amount received by all income recipients 14 years old and over from all income sources. . ."²⁰ Some services are performed in Springfield, in Greene County, but data were not available to determine the amount.

There were seven wholesale establishments in the county in 1958 and these supplied less than one-half the wholesale needs of the county.²¹ Their combined sales amounted to \$2,914,000. A breakdown of these businesses into classes shows that three were merchant and two were petroleum wholesalers. The other two were not identified. Most wholesale needs not supplied by these seven firms came from Springfield and West Plains establishments.

Banking and credit structure

The only commercial bank located in Douglas County is the Citizens Bank

²⁰United States Bureau of the Census, *County and City Data Book*, 1962 (A Statistical Abstract Supplement). United States Government Printing Office, Washington 25, D.C., 1962, page XXI, Item 25.

²¹United States Bureau of the Census; Census of Business, 1958, *Wholesale Trade*, Missouri, United States Government Printing Office, Washington 25, D.C.

of Ava. While other financial institutions and sources of credit function in the area, data were unavailable concerning their activities or relative position in the financial structure of the area studied.

Sources of agricultural credit, in addition to the bank, are the Federal Land Bank, Farmer's Home Administration, Production Credit Association, insurance companies, private individuals, merchants (on account) and probably others.

Data were not collected to determine the sources of credit to business or individuals. It was observed that many agencies were involved in furnishing the finances necessary for the period of industrialization studied here. Some of these were:

- The local Industrial Development Corporation
- Area Redevelopment Administration
- Farmer's Home Administration
- The local bank
- Small Business Administration
- Rural Electrification Administration
- Local governments through their bonding power.

CHARACTERISTICS OF THE POPULATION

Age distribution

The median age of Douglas County citizens increased from 26.5 years when the 1950 United States Census of Population²² was taken to 33.5 years at the time of the 1960 census. While the total county population was declining by 2,985 to a total of 9,653 in 1960, the number of citizens aged 45 years or older was actually increasing slightly (from 3,502 to 3,597) and in 1960, this segment of the population comprised 37.3 percent of the total as compared to 27.7 percent in 1950.

Mobility

The mobility of county citizens appears to be normal, as 18.9 percent of the county's 1960 population had moved into the county after 1955 as compared to 19.3 percent change of county or residence when computed for all citizens of the state in 1960.

Education

The median number of school years completed by citizens 25 years and older was 8.6 in 1960 for Douglas Countians. For the state as a whole a median of 9.6 years had been completed.

²²Missouri Division of Commerce and Industrial Development, *Missouri County Data*, Jefferson City, Missouri.

TABLE 3--CHARACTERISTICS OF THE DOUGLAS COUNTY LABOR FORCE - 1960^a

	Male	Female	Total
Total county population 14 years or over	3584	3446	7050
Total labor force	2446	802	3248
Employed	2332	761	3093
Unemployed	114	41	155
Percent unemployed	4.6	5.1	4.8
Population over 14 not in labor force	1130	2664	3794
In school	325	346	671
Other - under 65 years	304	1828	2132
Other - 65 years and over	501	490	991

^aUnited States Bureau of the Census, United States Census of Population; 1960, Vol. I, Characteristics of the Population - Part 27, Missouri, United States Government Printing Office, Washington, D. C., 1963, Table 83.

LABOR FORCE

The total labor force in Douglas County in 1960 was composed of 2,446 males and 802 females for a total of 3,248 (Table 3).

Unemployment

The rate of unemployment in Douglas County was 4.8 percent of the labor force—whereas the rate of unemployment for the state as a whole was 4.1 percent. These rates were computed as of the time that the census data were collected in April, 1960.

Age distribution

An analysis of the age distribution within the county labor force reveals an interestingly large proportion (48.9 percent) in the age categories of 45 years or over and only 31.3 percent in the age groups from 14 through 34 years old (Table 4). Studies conducted in Iowa²³ and in Louisiana²⁴ both revealed that workers in new rural industries are primarily recruited from the younger part of the labor force. This would imply that, for reason of age alone, about 50 percent of the Douglas County labor force would not be attractive to potential industry.

Employment characteristics

An analysis of data from the United States Census of Population reveals employment characteristics of the people who lived in Douglas County in 1940,

²³D. R. Kaldor, W. W. Bauder, and M. W. Trautwein, *Impact of New Industry on an Iowa Rural Community, Part 1, Farming and Farm Living*, Special Report No. 37 (April, 1964) Agriculture and Home Economics Experiment Station, Iowa State University, Ames, Iowa.

²⁴Alvin L. Bertrand and Harold W. Osborne, *The Impact of Industrialization on a Rural Community*, Journal of Farm Economics (December, 1959) p. 1127-1134.

TABLE 4--AGE DISTRIBUTION OF PERSONS IN THE DOUGLAS COUNTY LABOR FORCE, 1960^a

Age Class	Male	Female	Total
14-17	132	12	144
18-24	287	90	377
25-34	356	139	495
35-44	475	178	653
45-64	1050	342	1392
65 and over	154	41	195

^aUnited States Bureau of the Census, United States Census of Population: 1960, Vol. I, Characteristics of the Population - Part 27, Missouri, United States Government Printing Office, Washington, D. C., 1963, Table 83.

1950, and 1960. The information is broken down by county of residence rather than county of employment so the data of Table 5 and 6 do not necessarily reflect the employment opportunities available within Douglas County during the period of 1940 to 1960. The sources of manufacturing employment in Douglas County were quite limited in 1958 (Table 7). Eight concerns employed only 48 people.

TABLE 5--EMPLOYMENT BY MAJOR INDUSTRY, 1940-1960^a

	1940	1950	1960	Percent Change 1950-1960
Total Employment	4170	4208	3093	-26.5
Agriculture	2995	2705	1282	-52.6
Construction	82	154	167	+ 8.4
Manufacturing	40	256	379	+48.0
Wholesale and retail trade	292	318	545	+71.4
Finance	19	26	35	+34.6
Transportation	66	79	69	-12.6
Communication	5	7	4	-57.1
Services	376	323	331	+ 2.5
No reported	76	241	165	-31.5

^aMissouri Division of Commerce and Industrial Development, Missouri County Data, Jefferson City, Missouri.

TABLE 6--MANUFACTURING EMPLOYMENT OF DOUGLAS COUNTY CITIZENS, BY TYPE OF MANUFACTURING, 1940-1960^a

Manufacturing Employment	1940	1950	1960
Furniture, lumber, and wood products	0	147	137
Primary Metals	1	0	4
Fabricated metals	0	2	0
Machinery, non-electrical	2	2	4
Electrical Machinery	0	1	0
Motor vehicles and equipment	1	0	11
Other transportation equipment	0	1	7
Other durable goods	6	8	28
Food and Kindred products	23	79	63
Textile mill products	0	1	0
Apparel and other	0	0	31
Printing, publishing	7	9	10
Other non-durable	0	5	84

^aMissouri County Data, Missouri Division of Commerce and Industrial Development, Jefferson City, Missouri.

TABLE 7--SOURCES OF MANUFACTURING EMPLOYMENT IN DOUGLAS COUNTY, BY SIZE OF WORK FORCE - 1958^a

Major Industry Group	1-19 Employees	20-99 Employees
Total manufacturers	7	1
Food and kindred products	1	1
Apparel and related products	4	
Printing and publishing	1	
Stone, clay, and glass	1	

^aUnited States Bureau of the Census, United States Census of Manufacturers: 1958, Vol. III, Area Statistics, United States Government Printing Office, Washington, D.C., 1961, page 24-19.

Total employment in the county decreased by 26.5 percent from 1950 to 1960 (Table 5) which was as expected when the 23.6 percent drop in county population during that span of time was considered. Employment was further differentiated by classifying each member of the labor force according to the occupation taking the larger number of hours.²⁵ This revealed a 52.6 percent decrease in the number of people with agriculture as their major source of employment.

Wholesale and retail trades employment increased by a total of 227 and became the second largest employment sector in the county. It is interesting to note that the number employed in services remained relatively stable from 1940 to 1960, even while total employment and population were declining rapidly.

Manufacturing employment showed a significantly large increase of 48 percent from 1950 to 1960 but this was apparently due to an increased rate of commuting to out-of-county manufacturing employment. The Census of Manufacturers revealed an annual average number of employees in Douglas County manufacturing concerns as follows:

	<u>1947</u> ^a	<u>1954</u> ^b	<u>1958</u> ^c
Number of manufacturers	---	9	8
Number of employees, average	100	73	48

^aUnited States Bureau of the Census, *County and City Data Book*, 1956 (A Statistical Abstract Supplement), United States Government Printing Office, Washington 25, D.C., 1957, page 166.

^b*Ibid.*

^cUnited States Bureau of the Census, *United States Census of Manufacturers: 1958*, Vol. III, Area Statistics, United States Government Printing Office, Washington, D.C., 1961, page 24-6.

These observations show the declining industrial employment available in Douglas County in the late 1950's. Some of the towns in counties adjacent to Douglas were achieving some new industrialization and some Douglas Countians were working in these towns. The 1960 Census of Population²⁶ showed that 426 Douglas Countians reported working outside the county with another 203 of the total citizens employed not reporting their place of work.

Labor force surveys

Special surveys of the labor force around Ava were taken in early 1957 and again in May 1959. The 1957 survey was reported in percentages and is difficult to compare with most other data which were recorded in terms of numbers of workers. This survey was taken to determine the availability of labor for an industrial plant in or near Ava. It reported that 34 percent of the men and 20 percent of the women in the county were available for industrial employment.²⁷ It

²⁵This is the procedure used by the Bureau of the Census to determine which major industrial group each member of the labor force is classified in if he holds more than one job.

²⁶United States Bureau of the Census, *United States Census of Population: 1960, Vol I, Characteristics of the Population, Part 27, Missouri*, United States Government Printing Office, Washington, D.C., 1963, page 27-264.

is interesting to note here that a large part of those responding were in the older age categories as is shown here:

	<u>Farm</u> (percent)	<u>Non-farm</u> (percent)
Men Under 30	3	9
30 - 49	27	17
50 - 64	35	21
65 and over	24	52

A comparison of these results to the age distribution of persons in the Douglas County labor force in 1960, as displayed in Table 4 again indicates that most industrial firms would not seriously consider hiring a large part of applicants for jobs as indicated in these data.

The survey of May 1959 collected information concerning degrees of skill, by gender, of prospective industrial employees within a 20 mile radius of Ava.²⁸ In this case, however, age distribution of respondents is not available. The results of the survey were as follows:

	<u>Skilled</u>	<u>Semi-skilled</u>	<u>Unskilled</u>	<u>Total</u>
All Labor	121	164	230	437
Male	68	89	130	270
Female	53	75	100	217

A potential employer would need further information to evaluate these data for his particular purposes. This would include ages of workers and kinds of skills of the local labor force as well as similar information about workers who could be expected to migrate into the area if employment were available. These migrants would probably be from nearby counties, as well as ex-Douglas Countians returning when suitable employment was available.

INCOME DATA

The median family income in Douglas County was \$2,050 in 1959.²⁹ This was only 40 percent of the median income for Missouri families in 1960, which was \$5,127.³⁰ The Douglas County median family income had increased from

²⁸Douglas County Rural Area Development Council, *Overall Economic Development Plan, Douglas County* (1961) Ava, Missouri, p. 7.

²⁹United States Bureau of the Census. *County and City Data Book: 1962*, (A Statistical Abstract Supplement) United States Government Printing Office, Washington 25, D.C., 1962, page 213,

³⁰*Ibid.*, page 203.

\$1,084³¹ in 1949, a gain of 89 percent compared to a gain of 96 percent for the state as a whole from its 1949 family median income of \$2,617.³² This would indicate that, although families in Douglas County had a higher level of living in 1959 than in 1949, they had fallen further behind the rest of the state in a relative sense. This is indicated by the much smaller size of actual increase (\$966) in Douglas County median incomes compared to the state increase (\$2,510), as well as the smaller percentage rate of increase.

Almost two-thirds (64.9 percent)³³ of Douglas County families had an income of less than \$3,000 in 1959 and only 2.7 percent had incomes of \$10,000 or more.

AGRICULTURAL SITUATION

Farm characteristics

As previously discussed, the number of farms in Douglas County had been declining from 1939 to 1959. This was accompanied by a corresponding increase in the average size of farms as was shown in Table 1. The information presented in Table 1 also shows that, even though the size of farms was increasing, non-farm employment was becoming an increasingly important part of the farm family's total income.

A commercial farm in 1959 was defined as one from which the value of all farm sales amounted to \$2,500 or more. Also classified as commercial were farms with a value of sales of \$50 to \$2,499 if the farm operator was under 65 years of age and: (1) if he did not work off the farm 100 or more days during the year and (2) if the income received by the operator and members of his family from nonfarm sources was less than the value of all farm products sold.³⁴

From 1940 to 1959 the number of commercial farms in Douglas County declined more rapidly than the number of all farms. This may be attributed to a combination of factors. They are: (1) low income farmers who (a) continue farming after they reach age 65, or (b) take part-time jobs 100 days or more per year or (c) increase the value of family off-farm income until it exceeds farm sales of less than \$2,500 and (2) farmers who were classified as commercial in the previous census often buy or rent neighboring commercial farms when the neighbor retires, dies, or otherwise ceases to farm in the county.

The increase in off-farm employment of farmers and the decrease in the num-

³¹United States Bureau of the Census, *County and City Data Book: 1956* (A Statistical Abstract Supplement), United States Government Printing Office, Washington 25, D.C., 1957, page 162.

³²*Ibid.*

³³*Op. Cit.* 1962, page 213.

³⁴United States Bureau of the Census, *United States Census of Agriculture: 1959*, Vol. I, Counties, Part 17, Missouri. United States Government Printing Office, Washington, D.C., 1961, page XXIV.

ber of farmers spending over \$1,000 for hired labor (Table 8) indicates that notable changes were occurring. Increased efficiency through the use of improved farm technology undoubtedly released many farmers from the need of spending full time on their farms. The total dollar value of all farm products sold had steadily increased in actual dollar values, as shown in Table 9 and their purchasing power as measured by deflated values had more than doubled from 1939 to 1959.

Agricultural production

Agricultural production in the county shifted away from the production of cultivated crops prior to 1959. While production of cash crops was never practiced extensively in the county, Table 10 shows that the production of cultivated crops had declined steadily from 1939. Leading the decline were wheat and oats acreages. By 1959, wheat prices had declined about 20 percent and wheat production became negligible in Douglas County. As tractors replaced horses as the source of mobile farm power the value of oats diminished. Oats, at best, are a low profit crop in this area and when they were no longer produced to feed horses, land was released for other uses.

Corn acreage had remained relatively stable compared to other grains, and may be expected to remain at 5,000 acres or more, unless prices and crop production technology change a great deal in the future.

Cattle numbers were relatively stable from 1945 to 1959, as shown in Table 11, while swine numbers fluctuated widely and the number of sheep decreased greatly. A slight shift from dairy cattle to beef cattle occurred between 1954 and 1959. Some factors responsible for this change probably include the more aged farmers, part-time farmers, and less efficient dairy farmers switching from dairying, which is a labor intensive enterprise, to beef production which still utilizes the pasture and hay from their land.

Improved technology

During the period of analysis agencies in the county had been active in trying to help farmers improve their situation. Technical agencies conducted educational programs to disseminate technological knowledge to farmers. Marketing for some livestock producers was improved when feeder cattle and feeder pig sales were started in the county. Other activities, such as a dairy council, were organized to improve the quality of cattle and promote efficient operating units.³⁵

The results of these activities combined with the increasing size of farms helped Douglas County farmers increase the average value of all products sold per farm to a new high in 1959 (Table 9). Thus, improved technology (broadly defined) offset part of the problems brought about by the increasing price-cost squeeze in agriculture. The larger acreages in each farm allowed a slightly smaller profit per acre and yet the level of family living could increase above previous levels.

³⁵*Douglas County Herald*, December 5, 1957.

TABLE 8--CHANGES IN DOUGLAS COUNTY FARM OPERATORS OFF-FARM LABOR, FAMILY INCOME
AND HIRED FARM LABOR, 1940-1959^a

Year	<u>Number of Farms</u>		Farm Operators Working Off-Farm 100 Days or More	Farm Operators With Other Income Greater Than Value of Farm Products Sold	Farmers Spending over \$1,000 for Hired Labor
	All Farms	Commercial Farms			
1939	2,823	n/a	296 ^b	n/a	n/a
1949	2,383	1671	431	610	12
1954	2,087	1488	597	739	7
1959	1,754 ^c	934	575	782	5

^aUnited States Bureau of the Census, Census of Agriculture, Missouri, for each of the years: 1939, 1944, 1949, 1954, and 1959. United States Government Printing Office, Washington, D. C.

^bFor year of 1944.

^cNinety-two of the decrease from 1954 due to a change in the census definition of a farm.

TABLE 9--CHANGES IN VALUE OF FARM PRODUCTS SOLD IN DOUGLAS COUNTY, 1929-1959^a,
IN CONSTANT DOLLARS^b

Year	Total Value of All Farm Products Sold		Average Value Sold Per Farm	Value of Crops Sold	Value of All Animal Products Sold
	Actual Dollars (thousands)	1957-59 Avg. =100 (thousands)	1957-59 Avg. =100	1957-59 Avg. =100	1957-59 Avg. =100 (thousands)
1929	\$2,114	\$3,644	\$1,433	\$214,503	N/A
1939	1,014	2,083	793	143,634	\$1,904
1944	2,750	4,407	2,011	85,165	4,273
1949	3,416	4,115	1,728	108,847	4,255
1954	3,615	3,863	1,823	170,864	3,602
1959	4,881	4,809	2,837	87,959	4,650

^aUnited States Bureau of the Census, Census of Agriculture, for each of the years: 1929, 1939, 1944, 1949, 1954, and 1959. United States Government Printing Office, Washington, D. C.

^bAdjusted by consumer price index.

TABLE 10--CHANGES IN ACREAGE OF VARIOUS CROPS
IN DOUGLAS COUNTY, 1939, 1959^a

(Acres)

Year	Wheat	Oats	All Small Grains ^b	Corn	All Grains ^b	All Cultivated Crops ^c
1939	3,258	5,015	8,932	13,093	22,025	28,377
1944	2,442	10,033	12,859	8,369	21,228	25,399
1949	2,973	8,627	11,925	7,136	19,061	21,333
1954	3,004	3,281	7,687	5,066	12,753	16,362
1959	769	643	1,784	4,943	6,727	9,996

^aUnited States Bureau of the Census, Census of Agriculture, Missouri, for years of 1939, 1944, 1949, 1954, and 1959.

^bIncludes barley.

^cIncludes barley and sorghum for forage.

TABLE 11--CHANGES IN TYPES OF LIVESTOCK IN
DOUGLAS COUNTY, 1910-1959^a

Year	Dairy Cattle	Beef Cattle	Swine	Sheep
1910	6,764	1,948	19,852	20,628
1925	3,667	7,429	13,146	2,279
1940	14,120	17,676	8,343	6,873
1945	15,560	33,502	5,054	5,209
1949	16,711	36,058	10,996	3,045
1954	16,298	35,208	5,172	1,662
1959	15,206	38,202	12,373	1,958

^aUnited States Bureau of the Census, Census of Agriculture, Missouri, for years of 1939, 1944, 1949, 1954 and 1959.

GENERAL ECONOMIC SITUATION BEFORE NEW INDUSTRY WAS ACQUIRED

County economy dependent on agriculture

Prior to 1960 the economy of the county, as reflected through the volume of retail sales of items subject to sales tax, was very closely tied to relative prosperity of the agricultural sector. As shown in Table 12, retail sales decreased in 1954. Three factors in the farming sector can be associated with this decrease in sales. First, the volume of agricultural products sold decreased as a result of drought. Next, agricultural prices, especially livestock and dairy products, had decreased almost 8 percent during the previous year. Last, the ratio of prices received to prices paid by farmers (parity) was becoming more unfavorable to farmers. All of these factors combined to cause a decrease in the disposable income of county residents.

Another result of these adverse conditions would be an expected psychological impact on consumption spending. The year 1951 had been a very favorable year to the farming sector. From 1951 to 1954 the parity ratio decreased from 107 to 89 and the livestock products price index decreased 25 percent.³⁶ Under these conditions of decreasing income, farmers will usually reduce spending to the bare essentials.

By 1955, farmers had learned how to adjust their cropping systems to include more crops which were productive under the drought conditions as well as normal seasons. Dairy prices remained at about the same level while livestock prices and the price cost ratio continued to decline. The 1954 loss of sales was recovered and a further slight increase was gained. This rate of increase was maintained during 1956 and 1957 as livestock and dairy prices improved slightly. A dampening effect was the continued price-cost "squeeze" as shown by another decrease in the parity ratio.

In 1958, a large increase (14 percent) occurred in the retail sales of taxed items. Farm conditions were quite favorable that year with relatively high prices for livestock products and a more favorable price-cost ratio than in any other year since 1954.

The level of sales of 1958 was maintained and a slight increase was obtained in 1959 even though livestock prices decreased about 6 percent and the ratio of farm prices received to prices paid dropped from 85 to 81 percent. Several factors contributed to this increase in retail sales. The price index of dairy products increased slightly.

A small wood-treating plant started operations in May employing 10 to 12 men and buying timber from local cutters. A highway was being constructed from Mansfield at Ava at a cost of nearly \$2,000,000. An annual feeder pig sale was

³⁶ *Agricultural Statistics 1964*, USDA, United States Government Printing Office, Washington, D.C., Table 680, page 470.

TABLE 12--RETAIL SALES IN DOUGLAS COUNTY OF ITEMS SUBJECT TO MISSOURI RETAIL SALES TAX
 COMPARED TO VARIOUS INDICATORS OF AGRICULTURAL PROSPERITY

Year	Retail Sales of Taxed Items in Constant Dollars ^a 1957-59 Avg.=100 (thousands)	Annual Percentage Change	Price Index of All Farm Products ^b 1910-14 Avg.=100	Ratio of Farm Prices Received to Prices Paid ^b (Parity)	Index of Livestock and Products Prices 1910-14 Avg.=100	Index of Dairy Products Prices 1910-14 Avg.=100
1951	N/A	-	302	107	336	286
1952	N/A	-	288	100	306	303
1953	\$2,955	-	255	92	268	267
1954	2,838	-4.0	246	89	249	246
1955	3,015	6.3	232	84	234	247
1956	3,097	2.7	230	83	226	255
1957	3,179	2.6	235	82	244	259
1958	3,630	14.2	250	85	273	254
1959	3,720 ^c	2.5	240	81	256	257
1960	3,982 ^c	7.1	238	80	253	259
1961	4,109 ^c	3.2	240	79	251	260
1962	4,011 ^c	-2.4	244	79	255	253 ^d
1963	3,970 ^c	-1.0	242 ^d	78 ^d	245 ^d	253 ^d
1964	4,277 ^c	7.7	236 ^d	76 ^d	235 ^d	256 ^d
1965			244 ^d	76 ^d	247 ^d	252 ^d

^aAdjusted by consumer price index.

^bAgricultural Statistics, 1964, USDA, (United States Government Printing Office, Washington, D. C.)
 Table 680, page 470.

^cSales tax reports are on fiscal year basis (July 1 - June 30) from July 1, 1959.

^dUnited States Department of Commerce, Survey of Current Business (August, 1965) Vol. 45, No. 8
 (Washington, United States Government Printing Office) page s-7.

started in April and grossed almost \$20,000. The number of cattle in the feeder cattle sale increased 32 percent over the previous year (from 809 to 1,068).

Retail sales compared to rate of increase of selected items from national personal consumption expenditures

Data were not available to make a direct comparison of growth rates in retail sales of Douglas County and the nation. This was due to the retail sales of the county being computed from Missouri retail sales tax data, a type of tax which does not have a counterpart on the national level. However, if one assumes that the items covered by the Missouri retail sales tax are the same as a group of selected types of items from national personal consumption expenditures³⁷ then a comparison may be made. This seems to be a valid assumption as each group contains very nearly the same items. The rate of increase of retail sales of taxed items in Douglas County was 23.4 percent from 1955 to 1959 in constant dollars.

Nationally the rate of increase was considerably less for the same period—only 11.1 percent on the selected items. The rate of increase in Douglas County had slowed to only 2.5 percent from 1958 to 1959 while nationally the rate of increase was 5.5 percent that year. This indicated that while the county was far behind the nation in purchasing power in 1955, it had improved its relative position by 1958, but was again dropping behind in 1959. This is quite consistent with the facts of the case when the county's economic dependence on its agricultural base and the very favorable agricultural situation in 1958 and its decline in 1959 are considered.

A comparison of data from Table 1 and Table 12 reveals an interesting relationship. While the number of farmers decreased 12 percent from 1954 to 1959 the deflated value of retail sales within the county was increasing about 32 percent. A part of this increase in sales, no doubt, reflects increased farm expenditures for factor inputs in the farm business. The size of the sales increase, however, indicated that those individuals who did remain in the area increased their consumption expenditures during the 1954-59 period and had achieved a relatively higher level of living.

TRANSPORTATION FACILITIES

Highways provide the only means of transportation in Douglas County. Two commercial truck lines and one bus line had regular routes in the county in 1959. State routes 5, 14, and 76 provide connections to areas outside the county.

Highway 5 was rebuilt from Ava, north to Mansfield and U.S. 60, during

³⁷United States Department of Commerce, *Survey of Current Business*, (August, 1965) Vol. 45, No. 8 (Washington, D.C., Government Printing Office) Table 13, pages 46-47. The selected items used were durable goods excluding automobiles and parts and non-durable goods excluding gasoline and oil. Automobile and gasoline sales taxes are reported separately from other taxed items in Missouri.

1958 and 1959. This improved Highway 5 has been described as "a key that helped open Douglas County to the world."³⁸ A railroad is located at Mansfield and Highway 60 extends west from its junction with Route 5 to Springfield and its multiplicity of transportation facilities—highways, railroads, and air lines—leading to all parts of the United States. Highway 60 extends east from Mansfield to the southeastern corner of the state and the Mississippi River, and from there to the southern states. Highway 5 continues north from Mansfield to United States Interstate 44 at Lebanon. From there one can travel to St. Louis and the eastern United States or continue north to central and north Missouri.

HOUSING UNITS

The number of dwellings available within Douglas County showed less decrease from 1940 to 1960 than did the number of people. The following results show the changes in dwellings and occupancy from 1940 to 1960.³⁹

	<u>1940</u>	<u>1950</u>	<u>1960</u>
Number of Dwellings	3,930	3,831	3,546
Occupied units	3,780	3,504	2,945
Renter occupied	1,284	795	617
Vacant units	150	325	601

These data indicate that several renters became owners between 1940 and 1950, and also that the majority of out-migrants had been house renters. The large increase of vacant units from 1950 to 1960 is a further reflection of the out-migration from the county. The quality of these houses was not examined but it is probable that many of these were outmoded.

INDUSTRIALIZATION

An analysis of Ava's path to its present stage of industrialization reveals a road which was often filled with disappointments.

As early as 1947, the Chamber of Commerce had established "securing industries for the town" as a goal.⁴⁰ In 1950, a furniture factory considered locating in Ava but did not do so. Shortly after this the Chamber of Commerce named an Industrial Committee to work specifically toward industrialization.

³⁸O. L. Claxton and Hugh Denney, *The Story of An Ozark Community At Work, 1949-1964*, C810, (April, 1964), University of Missouri, Extension Division, Columbia, Missouri.

³⁹*Missouri County Data*. Missouri Division of Commerce and Industrial Development, Jefferson City, Missouri.

⁴⁰*The Story of An Ozark Community At work 1944-1964*, (C810—University of Missouri) page 3.

Early attempts

The next decade saw a similar pattern of events repeated time after time. Various interested citizens or groups would woo an industry but eventually the proceedings would fall through. The community's interest and faith in eventual success rose and fell during these years.

The community, however, made progress toward its goal by persistence and learning from its failures. In 1954, an industrial fund was started to raise money, potentially to aid industrial plants to locate in Ava. In 1955, an Industrial Development Corporation (referred to as IDC) was organized. The IDC purchased a 35 acre tract as an industrial site in 1956.⁴¹

Pilot county

The county was designated as a pilot county in an experimental program of the Federal Extension Service to test a Farm Aid Plan.⁴² This designation provided a professionally trained development agent for the county. Assistance from other Resources and Development Specialists was also available. Most community leaders agree that aid secured through participation in this pilot program was the additional factor needed to secure approval for the reconstruction of Highway 5 from U.S. 60 at Mansfield to Ava.⁴³ A labor survey was completed in the county in 1957.

Success

Success of a lasting nature finally came in late 1958, when the Sentinel Wood Treating Plant announced plans to locate on the IDC tract.⁴⁴ This plant was expected to employ only 10 to 15 workers initially and no more than 30 at full operation. "(The) plant was completed at a cost of \$50,000, financed by the Ava Industrial Committee in Cooperation with the Citizens Bank and the Small Business Administration."⁴⁵ (By 1963, this business was estimated to provide employment for 50 families who cut wood for it, hauled, and worked in the plant. Its capacity was doubled during 1963 and 1964.)⁴⁶

The March, 1959, meeting of the Chamber of Commerce was not held. It had been unable to obtain leadership for the coming year. Lack of support by businessmen was cited as the reason.⁴⁷ It seems probable that they were disappointed over the "small" size of the plant attracted after so many years of effort. Within a few days, however, two civic clubs (Lions and Kiwanis) sponsored a

⁴¹*Ibid.*, page 5.

⁴²*Ibid.*, page 6.

⁴³See Chapter II, Section IX, *Transportation Facilities*, page 42.

⁴⁴C810, Op. Cit. page 8.

⁴⁵*Ibid.*, page 37.

⁴⁶*Ibid.*, page 37.

⁴⁷*Ibid.*, page 34.

special "mass meeting" of the business community to determine their "interest and willingness—to continue a program which many feel is mandatory for a successful community."⁴⁸ This meeting was evidently quite successful as the Chamber of Commerce met in April under new leadership and was quite active in the developments during the rest of the year.

The big break came at last in August, 1959, when the Rawlings Sporting Goods Company announced plans to build a plant in Ava which would employ 250 to 300 workers. The community, through the IDC, was required to furnish the factory building and lease it to Rawlings. The estimated cost of this building was to be from \$200,000 to \$250,000 (contracts were let at a total cost of \$263,-643).⁴⁹ In addition the company had an option to ask for more space within one year after operations started. (This was requested and loans of \$125,000 were secured from the Area Redevelopment Administration and a joint loan from the local bank and a correspondent bank in St. Louis.) Also, in order to meet the needs of the plant for water, fire protection, and waste treatment an expansion and up-dating of the city's water and sewage facilities was needed. The new systems were designed to meet the needs of a city of 3,800 by 1980 (more than a doubling of 1959 size). These utility improvements cost \$225,000 and were financed by the issuance of general property bonds which were approved by the citizens in November of 1959. The vote was:

Waterworks	529 for	-	5 against
Sewers	543 for	-	4 against

The passage of these bonds was the last major item needed to assure the location of the Rawlings Plant in Ava.⁵⁰

Previously, stock in the IDC had been sold to raise sufficient funds to build the factory building. About 1,400 individuals had purchased the stock.⁵¹

The newly reconstructed State Highway 5 was opened in the fall of 1959 shortening the distance from Ava to U.S. 60 from 14.6 to 11.2 miles. The new highway was nearly straight and relatively level. The old highway had been extremely hilly with many sharp curves. In 1956, Rawlings had considered locating a plant in Ava, but had decided instead to place it in Willow Springs, a town 40 miles east, with a railroad and located on a better highway. One of the main reasons given for this action was the extremely crooked highway between Ava and Mansfield.⁵²

During August, 1963, the A. G. Spalding and Brothers Sporting Goods Company started negotiations with the IDC for construction of a factory building for

⁴⁸*Ibid.*

⁴⁹*Ibid.*, page 37.

⁵⁰*Ibid.*, page 36.

⁵¹*Ibid.*, page 10.

⁵²*Ibid.*, page 29.

manufacturing golf bags. Local interests attempted to secure a loan to finance the construction of this building, but after about two months, Spalding announced that it would construct its own building. The IDC gave the site for this plant to the Spalding Company.

Except for labor and the local utilities used by each plant, the wood treating plant is the only industry using a local resource. Wooden poles, grown in the area, are purchased and, if necessary, converted into marketable form then treated with wood preservative to increase their useful life and marketed.

Community activities to secure industry

Claxton and Denney prepared a publication, primarily from local newspaper accounts, of the development of Douglas County from 1944 to 1964.⁵³

This publication was reviewed and items pertaining directly to industrialization of Douglas County were extracted. These specific items have been put in two lists. List I shows the success elements or activities judged to have contributed to the industrialization of the area. List II contains failure elements—activities which may have looked good at the time but did not contribute, directly at least, to the securing of industry.

The first set of numbers entered for each item is the data as it appeared in the Douglas County Herald. Comments concerning the item or a rephrasing of the item to clarify or shorten it are included in parentheses.

Some activities of the community were considered normal progress for most communities in the region and were not included. These were such items as blacktopping of state and county roads, school consolidation, and livestock marketing improvements. Numerous other industries and activities were discussed by the community but only those with some conceivable chance of success were included in these lists.

LIST I

ACTIVITIES CONTRIBUTING TO SUCCESS OF THE INDUSTRIALIZATION PROCESS IN DOUGLAS COUNTY, MISSOURI, 1944-1964^a

- | | |
|-----------------------|---|
| 6/6/46
(1947-1948) | Industrial Survey of Douglas County completed . . . (Industrialization talked and some preliminary activities attempted.) |
| 9/7/50 | Chamber of Commerce names Industrial Committee. |
| 3/20/51 | Twentieth Century (company) installs \$50,000 whey-drying plant (A cheese plant already was operating in Ava.) |
| 3/12/53 | Industrial fund started. |
| 4/1/54 | Chamber (of Commerce) slogan, "Get a factory this year." |
| 4/1/55 | (Industrial Development Corporation authorized with a goal of \$100,000 financing) |

⁵³*Ibid.*, 64 pages total.

- 5/12/55 Industrial Development Corporation (IDC) organized.
- 2/2/56 IDC obtains 35 acre industrial site for \$20,380.
- 8/30/56 "*Douglas and Taney Counties included in Farm Aid Plant. Designated as pilot counties in Federal Experimental Program.*"
- 4/25/57 (Labor survey results made public)^b
- 6/6/57 (Highway 5 to be relocated—Finished October 1, 1959. Three miles shorter).
- 12/18/58 *Sentinel Wood Treating Plant announces plans to locate on IDC tract.*
- 4/2/59 First meeting of Chamber of Commerce under new regime, fast moving program planned.
- 4/9/59 Wood treating firm to begin operation within two weeks
- 9/17/59 *Rawlings to locate factory in Ava* (to employ 250-300). Editorial—"Industrial Success Within Our Grasp." . . . will require \$200,000 to \$250,000.
- 10/15/59 Factory fund needs help
- 10/22/59 Stock Sales reach \$138,150
Stores will close October 30 to sell stock.
- 10/29/59 Sales now at \$183,025
- 11/5/59 Stock sales now at \$230,975. Purchases by 1018 individuals.
- 11/12/59 Factory stock sales within \$17,000 of goals, building specifications go to bidders.
- 11/19/59 Stock Sales at \$237,425.
- 11/26/59 Water and Sewer Bonds pass (529 - 5 and 543 - 4). Last major hurdle to locating Rawlings Company.
- 12/3/59 Factory bids higher than expected.
Stock sales now at \$239,050.
- 12/17/59 More non-residents buy stock.
- 12/31/59 Contracts let for 56,000 square feet of floor space. . . Total (cost) \$263,000.
- 4/7/60 Water and sewer construction bids, 20 percent below estimates.
- 7/28/60 Rawlings to start hiring on August 3 and 4.
- 8/4/60 440 apply for work.
- 8/14/60 Production starts at factory.
- 5/11/61 160 now working at Rawlings
- 7/12/61 Rawlings asks for more space—need additional 34,000 square feet.
- 7/27/61 Area Redevelopment Program extended to Douglas County.
(\$125,000 loans secured to expand Rawlings Plant.)
- 1/4/62 Kraft plant has been in Ava 22 years. Twenty-five contract haulers, eight employees.
- 3/7/63
- 8/29/63 Bulk fertilizer mixing plant being built in Ava.
- 9/26/63 *Plans under way for a new A. G. Spalding Plant Sporting goods in Ava.*

- 11/28/63 *Spalding Company to construct their own building.*
 1/9/64 Work starts on \$281,000 Spalding factory building.

LIST II

FAILURE ELEMENTS OR DEAD END ACTIVITIES DURING THE DRIVE
 TO INDUSTRIALIZATION OF DOUGLAS COUNTY 1944-1964^a

- 7/20/50 Possibility of a furniture factory.
 2/15/51 Interest on part of a handle factory reported, needs \$2,000 to get started. (later decided to stay in Arkansas.) (Wholesale grocer company moved out of community.)
 4/19/51 Industrial Committee is corresponding with a St. Louis Garment Manufacturer—would require 15,000 square feet floor space.
 8/16/51 Two more firms interested in Hickory Handle operations.
 2/7/52 Shoe Factory is available, Chamber meets to discuss \$20,000 loan at 3 percent, to employ 40-50 persons.
 3/6/52 Surface mining of iron ore started on two farms.
 8/13/53 Plans complete for Hickory Handle plant in Ava. (The plans fell through.)
 2/7/54 Iron ore washer installed seven miles north of Ava.
 10/14/54 Six employees left at Kraft Ava Plant after cheese making ends. Milk being transported to Springfield by truck.
 1/13/55 (Electrical Receptacle plant purchased in nearby town in March of 1954, and equipment moved to Ava. Production started temporarily, then ceased.)
 12/1/55 Industry to employ 50-100 men interested in Ava.
 2/21/57 Lime quarry being opened. \$150,000 equipment to be installed.
 7/18/57 Iron mine in operation.
 10/3/57 (New iron mine started; \$125,000 in equipment) (Neither iron mine continued operations very long.)
 4/17/58 Manufacture of minnow traps to begin here.
 3/12/59 (Lack of leadership in Chamber of Commerce.)

Description of industrial concerns in Douglas County

Prior to the coming of new industry to Douglas County in 1959, a few businesses defined as manufacturers by the United States Census Bureau⁵⁴ existed in the county. In 1958, a total of eight concerns employed 48 persons. Only one of these concerns had a payroll of 20 or more.⁵⁵

Sentinel

Construction on the first of the new plants (Sentinel Wood Treating, Incorporated) started in December, 1958, and the company was in operation by May, 1959.⁵⁶ Initial employment at the plant was six people. This gradually increased until by the end of 1965, 13 persons were employed—eight working in the processing operations and five as truck drivers delivering the finished product to markets.⁵⁷

In addition to direct employment the plant has generated additional jobs in the area for persons cutting and hauling timber to the plant. The plant was estimated to provide jobs for about 50 families and to have a gross income of over \$500,000 in 1963.⁵⁸

Rawlings

Contracts for construction of the Rawlings Manufacturing Company branch plant at Ava were let in December, 1959. Their total value was \$263,000.⁵⁹ The building was completed and production started in August, 1960. Employment at various dates was as follows:

<u>Dec.</u> <u>1960</u>	<u>May</u> <u>1961</u>	<u>June</u> <u>1962</u>	<u>Sept.</u> <u>1963</u>	<u>March</u> <u>1964</u>	<u>Oct.</u> <u>1964</u>	<u>Aug.</u> <u>1965</u>
121	160	200*	220	240	115	160

*Approximately

This plant manufactured golf bags as its primary product from the start of operations until the summer, 1964, when production was changed to protective athletic equipment, particularly protective equipment for football players.

At the time that Rawlings came to Ava, the company was owned by the A. G. Spalding and Brothers Sporting Goods Company. Subsequently, government action was taken to separate these two companies, both of whom produced sport-

⁵⁴United States Bureau of the Census, *United States Census of Manufacturers: 1958*. Vol. III, Area Statistics. United States Government Printing Office, Washington, D.C., 1961.

⁵⁵*Ibid.*, page 24-6.

⁵⁶Claxton and Denney, C810—pages 34 and 35.

⁵⁷Statement by Don Farris in telephone conversation, January 4, 1965.

⁵⁸Claxton and Denney, *op. cit.* page 37.

⁵⁹*Ibid.*

ing goods of a similar nature, and in March, 1962, a United States Court of Appeals upheld this order forcing Spalding to sell their Rawlings holdings.⁶⁰ Terms of the dissolution gave A. G. Spalding and Brothers Company the right to manufacture golf bags in Ava.⁶¹ When the new Spalding plant was completed in July, 1964, Rawlings ceased production of golf bags and related items and the Rawlings workers on that line were offered employment at the Spalding plant. This is the principal explanation of the drop in employment at Rawlings between March and October, 1964. Also contributing to this employment decrease was the seasonality of demand for equipment such as that manufactured in the Rawlings plant. Orders for football protective equipment are normally received during the summer months and deliveries are made by September. A slack production season then ensues before inventories are again built up in anticipation of the next summer's needs.

Spalding

Work started on the \$281,000 Spalding factory building in January, 1964,⁶² and its first production was in July of that year. Employment was 93 persons in August, 1964, 99 by August, 1965, and 150 in December, 1965.⁶³

Summary of the industrialization period

After many attempts to bring an industrial employment sector into the local economy, success was achieved in 1959 and 1960, and an additional factory was secured in 1964.

The local IDC furnished the tract of land on which the factories located. The IDC also constructed the building used by the first major employer and rented it to the concern. The second major plant financed the costs of its own building.

Improvements were necessary in the water and sewage systems of the city to meet the needs of the new industrial facilities.

COSTS OF INDUSTRIALIZATION

An analysis of the costs associated with industrialization can serve as a guide to the community considering development of an industrial base employment sector. It is the purpose of this chapter to derive standards of investment per new worker in Douglas County.

Investment in industrial facilities

An estimate of the total direct cost of the facilities provided for the three

⁶⁰*Ibid.*, page 45.

⁶¹*Douglas County Herald*, Ava, Missouri, September 26, 1963.

⁶²Claxton and Denney. *Op. cit.* page 51.

⁶³*Douglas County Herald*, Ava, Missouri, August 1964, August 1965, and December 30, 1965.

new industrial plants in Ava is shown in Table 13. The definition of public costs, for the purposes of this table, includes the activities of the IDC, a quasi-public agency, in raising money for the new factories. Methods used included the sale of stock in the IDC and securing of loans from private and governmental sources.

The material presented in Table 13 cannot be considered the total costs of the industrialization process. A water and sewer system improvement and expansion was necessary. The system and installation cost \$225,000 which was raised by an issue of general property obligation bonds. The IDC industrial tract had cost \$20,380 in 1956, only \$6,000 of which is credited in Table 13. The rebuilding of Highway 5 from Ava to Mansfield cost \$2,278,400.⁶⁴

The salaries and expenses of various personnel who worked to achieve industrialization in Douglas County were not considered in computing the total costs of industrialization. Neither was the value of time and expenses of interested county citizens evaluated.

The total cost of the utility system improvement and reconstruction of the highway cannot equitably be charged to industrialization. All citizens in the area have received some benefits from the new facilities but the primary reason these improvements were provided was to draw industrial plants into the community.

⁶⁴*Douglas County Herald*, Ava, Missouri, July 24, 1958.

TABLE 13--DIRECT COSTS OF INDUSTRIALIZATION FACILITIES
PROVIDED IN DOUGLAS COUNTY, 1959-1964

Year	Item	Cost	
		Public	Private
1959	Loan for Sentinel, Inc.	\$ 50,000 ^a	
1959	Sentinel expansion (estimated cost)		\$ 50,000
1959	Rawlings Building	263,643	
1962	Loan for Rawlings expansion	81,250	43,750
1964	Spalding building and land	6,000	281,000
1964	Spalding expansion (estimated cost)		200,000
	Total	\$400,893	\$574,750

^aFinancing for Sentinel was through IDC in cooperation with local bank and SBA.

Table 14 contains a listing of diverse investments in the area from 1959 through 1965. An attempt was made in constructing Table 14 to include all investments, for which data were available, which increased industrial employment directly. Also included were investments by governmental or public units which could be considered to have been, at least in part, necessary to achieve industrialization or a result of industrialization. This table cannot be considered complete by any means. Many values reported in it are only the amounts of loans secured for the purpose entered and do not necessarily reflect owner's equity in the form of land, equipment, and/or savings or other income invested in the item.

Estimates of the expansion costs of Sentinel and Spalding were made as was an estimate of the value of equipment in the Rawlings and Spalding factories.

Sentinel was reported to have doubled its capacity in 1963. This cost was estimated to be \$50,000, since the original loan in 1959 was for that amount. However, this value is probably a low estimate.

The Spalding expansion program was estimated to cost \$200,000. This was based upon a comparison of the per square foot cost of floor space of the Rawlings expansion (the cost of which was published) to the cost of the original Rawlings building. The Rawlings plant cost \$4.70 per square foot for the original 56,000 square feet of floor space. Their additional 34,000 square feet cost \$3.70 per square foot, a decrease of \$1.00. It was assumed that various items of supporting equipment such as the master unit of the heating system, electrical service entrance, etc., were installed in the original buildings with enough surplus capacity to meet the needs of possible expansion per unit of floor area. The original portion of the Spalding building had cost \$5.62 per square foot of floor space. Subtracting the \$1.00 per square foot decreased cost (cost of expansion at Rawlings) until a cost of \$4.62 per square foot was obtained. This was rounded to \$4.50 per square foot of floor area and used to estimate the total cost of the 44,000 square foot Spalding addition.

The cost of equipment in the sporting goods factories was estimated to be 65 percent of the total cost of plant and equipment. An estimate of the plant cost alone for toy and sporting goods factories in New England had been estimated at 39 percent.⁶⁵ Lower labor costs in the Ozarks should lower this percentage to 35; hence the 65 percent equipment cost estimate. The combined cost of the original Rawlings and Spalding factories was \$544,643. If this is 35 percent of the total cost of plant and equipment, the total cost would be \$1,556,114. Subtracting the cost of plant the calculated value of equipment is \$1,011,471. This was rounded to \$1,000,000 which was used as the estimate of equipment cost in the sporting goods factories. The factory additions were for storage space and very little additional equipment was assumed to be needed.

Expenditures of the following types were not included in Table 14. Supplementary road improvements in the county were not included because all counties

⁶⁵Cross, R. N., *Capital Requirements for the Expansion of Industrial Capacity*, Interindustry Division of the Bureau of the Budget, Washington, 1953, cited by Walter Isard and R. E. Coughlin, *Municipal Costs and Revenues Resulting From Community Growth* (Wellesley, Mass.: Chandler-Davis Publishing Company, 1957) page 109.

TABLE 14--INVESTMENTS IN IMPROVEMENTS OF INDUSTRIAL AND PUBLIC FACILITIES IN DOUGLAS COUNTY, MISSOURI, 1959-1965^a

For industrial employment		Total: \$1,990,023
Plant:		
IDC industrial park ^b	\$ 20,380	
Sentinel Wood Products	50,000	
Sentinel expansion	50,000 ^c	
Rawlings Sporting Goods	263,643	
Rawlings expansion (for storage)	125,000	
Spalding Sporting Goods	281,000	
Spalding expansion (for storage)	200,000 ^c	
Total Plant Cost	\$ 990,023	
Equipment:		
Equipment for Rawlings and Spalding plants (estimated)	\$1,000,000 ^c	
City owned facilities		Total: \$ 316,625
Increased cash value, electric system	\$ 85,165	
Fairgrounds building	5,000	
Sewer and water system improvement	225,000	
Whiteway and Welcome signs	1,500	
School Buildings and equipment		Total: \$ 427,000
New high school	\$ 350,000	
Elementary building addition	77,000	
County		Total: \$ 49,000
New jail (one-half cost - County)	\$ 49,000	
State and Federal expenses		Total: \$4,923,948
Highway 5 reconstruction		
Ava to Mansfield	\$2,778,400	
Extension five miles south	750,000 (approximately)	
Further extension 5.625 miles	946,548	
Extension to Ozark county line	900,000 ^c	
Total Highway 5 cost	\$4,874,948	
County jail grant (one-half cost)	49,000	
Community		Total: \$ 92,000
Country club property	\$ 10,000	
Country club facilities	82,000	
Private utilities		Total: \$ 100,000
Telephone System Improvement	\$ 100,000	
GRAND TOTAL ALL REPORTED INVESTMENT:		\$7,898,596

^aThis table is incomplete, as the amount reported for many items is only the amount of a loan, bonds, or a building cost, and does not necessarily include land or equipment value. Some items were, no doubt, overlooked. Data sources are Claxton and Denney, op. cit. and the Douglas County Herald, op. cit., except for estimates.

^bExpenditure in 1956.

^cAuthor's estimate. See text for procedure used.

of the state improved their supplementary roads during the period analyzed. Two new church buildings were constructed at a combined cost of \$120,000 or more. Additions were made to the elementary school building in 1957 and 1958 at costs of \$88,833 and \$45,359. Telephone companies operating in several counties in the area and portions of Douglas County received REA loans in 1957 of \$858,000 and \$838,000. The telephone system improvement cost of \$100,000 in Table 14 was included because it was specifically intended for the Ava area. No commercial expenditures in retail or service businesses were included in this table.

Investment per new employee

The total investment required to increase industrial employment may be used to help evaluate an area's degree of success in achieving industrialization. This measure may be computed using only the amount of investment in factories or the total investment factor may be extended to include other combinations of various investment items related to the industrialization process.

Six different values for investment cost per new employee were computed in this analysis. The number of employees used was 315 in each case. This represents the December, 1965, employment force in the three plants (13 at Sentinel, 150 at Spalding, and 152 at Rawlings).

The first value was arrived at by dividing the total plant investment for industrial employment (Table 15). This gave an average investment of \$3,143 per new worker for building costs. (An interesting comparative value was obtained

TABLE 15--TOTAL INVESTMENT PER NEW EMPLOYEE (FOR 315 EMPLOYEES)
BY SIX COMPUTATIONAL METHODS, DOUGLAS COUNTY,
MISSOURI, 1959-1965^a

Investment Items	Combined Total Costs	Average Cost Per New Worker
I. Factory building costs	\$ 990,023	\$ 3,143
II. Factory buildings and equipment	1,990,023	6,318
III. Factory buildings, water and sewer improvements and Highway 5 improvement - (Ava to Mansfield)	3,993,423	12,678
IV. All items in III plus factory equipment	4,993,423	15,853
V. Grand total all reported investments in improvements of industrial and public facilities except factory equipment	6,898,596	21,900
VI. All items in V plus factory equipment	7,898,596	25,075

^aAll investment items from Table

by computing the expected investment per employee in a new 82 patient nursing home constructed in Ava during 1965. Built at a cost of \$520,000, it is expected to provide employment for about 30 persons⁶⁶ or an average investment of over \$17,000 per employee.)

The second value added the cost of equipment in the two larger factories to the plant cost. This measurement is computed separately because many industrial plants have in recent years been located in areas where the community finances the building and the company supplies equipment. The average cost per new employee for plant and equipment was \$6,318.

The third value combined the factors necessary to draw the first large plant into the community with the plant cost. These factors were the Highway 5 improvement from Ava to Mansfield and the water and sewer system improvement. The cost with this combination of investments averaged \$12,678 per new employee.

The fourth value added equipment cost to all items used in obtaining the third. Here the investment per new employee averaged \$15,853.

The fifth value included all new investments of a public or industrial nature (from Table 15) between 1959 and 1962 except the equipment costs. This combination yielded an average cost of \$21,900 per new employee.

The sixth value added equipment cost to those investments included in 15 and yields an average cost of \$25,075 per new industrial employee.

A summary of these six values is presented in Table 15. The new investment of \$520,000 in a nursing home during 1965 was not included in this analysis because no results had become apparent. The impact from its construction would be expected to influence the economic situation of the business community in 1965.

THE IMPACT OF NEW INDUSTRIALIZATION ON THE LOCAL ECONOMY

While a primary purpose of this overall study was to measure the impact of new industrialization on local governments, an understanding of the impact on local economy was also needed to fully evaluate governmental changes. The purpose of this chapter is to explore changes in the local economy and possible causes of these changes.

The industrialization of this area is considered to be one of the prime examples of success in a rural community's industrialization. Certainly optimism was present in Ava during the field work of this investigation. Investigations noted a great deal of business activity in the area during early spring and midsummer of 1965.

⁶⁶*Douglas County Herald, op. cit.*, December 30, 1965.

FACTORS AFFECTING ECONOMY IN ADDITION TO NEW INDUSTRY

While much of the business activity observed can be considered a result of industrial employment, other business sectors were also in evidence. Noticeable were farmers and construction workers. A detailed analysis of these sectors was not attempted because, first, it was not the focal point of this study, and secondly, data were not readily available. However, some information was available and is presented to keep a proper perspective on sources of economic activity in the community.

Construction

Table 16 presents a listing of major construction activity in Douglas County from 1959 to 1965. Not included are construction and remodeling of either private homes or business buildings, state highway or supplementary county road maintenance, or construction activities. Data were not judged complete concerning home and business construction. County and state highway construction and maintenance were considered to have proceeded at a normal pace for a rural county.

It seems that a significant portion of the construction work detailed in Table 16 is unique to the particular year when it was done. The impact from employment in building Highway 5, the school, utility system, country club, and jail might be expected to be a "one-shot multiplier." These projects, when completed, would not add nearly so many permanent employees to the economic base of the area as those employed in constructing them. Construction of the factories and factory additions were probably quite different in impact. The factories would be expected to have the result of concentrating more employees in the new facility than were necessary to build the buildings. An additional benefit would also be expected from the multiplier effect of added industrial base employment in the form of increased demand for goods and service. This new demand would create new jobs in stores, home building and other retail and service related jobs. Some new industrial workers, even at the lower rates of pay (compared to urban areas), would be expected to build new homes or remodel old ones, thus employing some construction workers. The construction sector (in total) of the local economy should decrease, however, once the initial impetus from industrialization has taken place.

Agriculture

A fairly detailed analysis of the agricultural sector in the pre-industrial period was made in a previous section. Very little additional information was available to extend this analysis. The Census of Agriculture, used as the source of basic data for the pre-industrial analysis, had not been released for 1964 when this study was completed.

TABLE 16--MAJOR CONSTRUCTION ACTIVITY IN DOUGLAS COUNTY,
MISSOURI 1959-1965

Year	Construction Activity	Recorded Cost	Annual Total Cost
1959:	Highway 5 reconstruction	\$2,278,400	\$2,278,400
1960:	Sewer and water system improvement	225,000	
	Rawlings factory	263,643	488,643
1961:	Highway 5 improvement	750,000	750,000
1962:	Rawlings expansion	125,000	125,000
1962 & 1963:	New High School	350,000	350,000
1963:	Highway 5 improvement	946,548	
	New county jail	98,000	1,044,548
1964:	Spalding factory	281,000	281,000
1965:	Spalding expansion ^a	200,000 ^b	
	Nursing home	520,000	
	Country club	82,000	
	Highway 5	900,000	
	School addition	77,000	1,799,000

^aThe December 30, 1965, issue of the Douglas County Herald states that construction during 1965 included the Spalding expansion, nursing home, country club facilities, school expansion, completion of Highway 5 construction, and city permits issued for 20 new homes, 4 new business buildings, and remodeling of 6 businesses plus other homes and businesses built or remodeled without permits.

^bAuthor's estimate

An analysis of government transfer payments to Douglas County farmers (Table 17) indicates that a further reduction in grain crops production had occurred. The feed grain program payment of \$113,700 in 1964, was for diverting 4,370 acres of cropland from the production of feed grain crops (corn, barley, and grain sorghums). It was shown in Table 10 that only 6,727 acres of all grain were harvested in 1959. The normal practice of farmers participating in government programs of this nature has been to withdraw their most unproductive cropland from production and increase soil fertility on the remaining cropland thus increasing per acre yields. The net effect on county business from this program was

TABLE 17--GOVERNMENT TRANSFER PAYMENTS
TO DOUGLAS COUNTY FARMERS, 1950-1964^a

Year	Program				Total Payments
	ACP ^b	Soil Bank	Feed Grain	Misc.	
1950	\$74,957	\$ 0	\$ 0	-	\$ 74,957
1954	59,632	0	0	\$199,227 ^c	258,859
1958	58,542	45,879	0	2,236	106,657
1964	65,505	17,233	113,700	25,300 ^d	221,738

^aMissouri State Agricultural Stabilization and Conservation Service Office, Columbia, Missouri, unpublished records.

^bAgricultural Conservation Practice.

^cEmergency feed program for drought stricken farmers.

^d\$24,753 of this total was an emergency conservation measure to aid farmers in re-establishing soil plant cover lost during drought.

that participating farmers spent part of their diversion payments to purchase additional feed for their livestock and most of the rest was used for consumption expenditures.

Another item of interest in Table 17 is the trend in Agricultural Conservation Practice (ACP) payments. The amount of these payments made during a year depends upon the weather conditions in the county, the rules by which they are administered, and the funds available for ACP payments.

The number of farms in the county is assumed to continue decreasing between 1959 and 1964. The previous rate of decrease (computed from Table I) was as follows:

	<u>1939-1949</u>	<u>1949-1959</u>
Decreased number of farms	440	537
Percentage decrease	15.6	22.6

If one assumes a 10 percent decrease (from 1959 to 1964) in the 1,754 farms in 1959, then a net decrease of 175 farms may be estimated. No analysis was made of the number of ex-farmers or part-time farmers employed at the factories. It seems logical that a large part of factory employees were farmers (regardless of the farm's size or profitability) before accepting employment in the plants. If this is so then the number of farms may have decreased more than was estimated.

If a farmer accepted employment at the plant and retained control of his farm he would be expected to switch to a less intensive farming system such as pasture and beef cattle, participating in the government feed grain program or forest establishment.

The influence of these activities on his retail business expenditures would be a lessening of his purchases of farm enterprise factor inputs, but this might be offset by the family's increase of personal consumption goods from the increased net income of farm plus off-farm (factory) income.

If the ex-farmer who took employment in the factory quit farming then his economic alternatives would be to rent his land or sell it. The change in his personal consumption expenditures would depend upon the previous net farm income relative to the factory income. The expenditures for farm enterprise inputs on his farm land would depend upon the relative intensity of the new farming system compared to the old.

The overall expected changes in the agricultural sector (both from the effects of industrialization and those changes occurring in the agricultural sector regardless of external influences) in Douglas County are as follows:

1. fewer farms
2. more part-time farmers
3. changed farm organization
4. more use of modern technology
5. more input factors purchased
6. higher average age of farmers
7. increased farm size in acres
8. increased net farm income (especially in 1965) in spite of increasing price-cost squeeze

Further research is needed after the 1964 Census of Agriculture, the 1968 Census of Business, and 1969 Census of Agriculture become available to substantiate or reject the arguments presented.

CHANGE IN POSITION IN ECONOMY OF THE AREA

Improvements in Highway 5 allow easier access to the Ava trade area. Analysis of data from the United States Census of Business indicated that Ava's share of retail and wholesale trade had dropped quite significantly from 1958 to 1963 (Table 18). Retail sales data in Table 12 and bank deposits data in Table 19 indicate that the volume of retail sales was substantially increased by 1965. It is assumed that the firms which went out of business between 1958 and 1963 were smaller and less efficient than those continuing operations.

The number of employees in service businesses decreased from 1958 to 1963, although total receipts increased slightly as did the payroll value.

The decrease in wholesale business activity should be considered as permanent. Factors causing this shift are the economies of scale which can be realized by cen-

TABLE 18--COMMERCIAL BUSINESS ACTIVITY IN DOUGLAS COUNTY,
MISSOURI, 1954-1963^a

	1954	1958	1963
Number of retailers	87	96	81
Total volume sales	\$5,897,000	\$7,801,000	\$6,335,000
Total employees	180	217	180
Total annual payroll	\$ 330,000	\$ 427,000	\$ 432,000
Number of service firms	32	36	34
Total volume of all receipts	\$ 217,000	\$ 462,000	\$ 469,000
Total employees	19	30	23
Total annual payroll	\$ 36,000	\$ 58,000	\$ 60,000
Number of wholesalers	2	7	4
Total volume sales	(D)	\$2,914,000	\$1,037,000
Total employees	-	45	20
Total annual payroll	-	\$ 131,000	\$ 53,000

^aUnited States Bureau of the Census, Census of Business, (Retail Trade, Selected Services, and Wholesale Trade), Volumes of 1954, 1958 and 1963 for Missouri.

(D)Information withheld to avoid disclosure.

tralization of many wholesale operations. Improvements in transportation technology open up an ever-widening trade area to central wholesalers.

BANKING AND CREDIT CHANGES

Careful examination of the trend of all deposits in the Citizens Bank of Ava (Table 19) reveals changes which may be directly related to industry, agriculture, and certain classes of construction. Other factors also influence the actual changes in deposits but the three mentioned seem most important.

Influence of construction activity

Construction may be considered a direct result of the industrialization process and in some cases a part of it. To influence the local economy a construction project must use resources from the community or add resources to it. The influential resources involved in the Ava construction were primarily labor and capital as building materials and equipment were obtained from outside sources. A formal analysis was not conducted to determine the various mixes of inputs used on the local construction projects but several general observations were noted.

Highway construction (using little local labor) appeared to have very little direct impact on the volume of bank deposits.

TABLE 19--DEPOSITS, LOANS AND DISCOUNTS, AND TOTAL ASSETS FOR CITIZENS BANK OF AVA,
AS OF JUNE 30 EACH YEAR^a
(Thousands)

Year	All Deposits	Loans and Discounts	Total Assets	Total Assets Deflated ^b
1956	\$2,602	\$1,350	\$2,860	\$3,069
1954	2,545	1,575	2,804	2,996
1955	2,556	1,347	2,809	3,011
1956	2,486	1,437	2,756	2,910
1957	2,690	1,486	2,963	3,024
1958	2,874	1,332	3,150	3,128
1959	3,014	1,440	3,290	3,241
1960	3,069	1,483	3,359	3,258
1961	2,936	1,470	3,225	3,095
1962	3,286	1,625	3,592	3,408
1963	3,853	1,792	4,189	3,926
1964	4,018	2,225	4,377	4,049
1965	4,599	2,722	4,986	4,562

^aThis data is published in the Douglas County Herald soon after the end of each calendar quarter of the year.

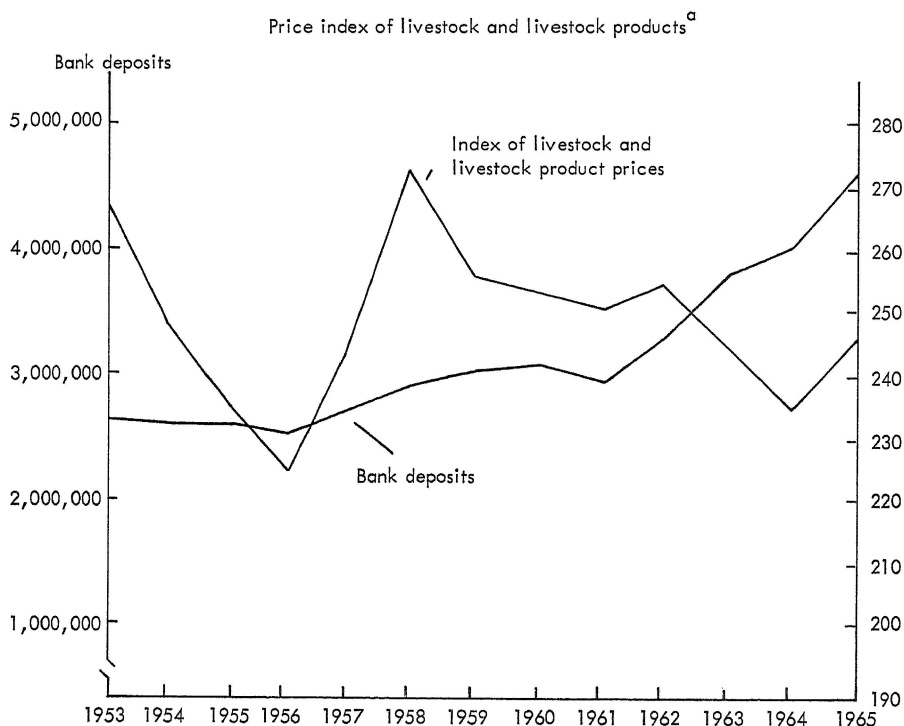
^bAdjusted by consumer price index, 1957-59 average=100.

Influence of "new money"

Projects financed with "new money" to the local system, appeared to have a profound impact on the level of bank deposits. This "new money" consisted of bond issues, loans from outside sources, and money brought in by new firms. Bank deposits in Table 19 are listed as of June 30 each year so the listing of construction projects (List III) involving "new money" is also on a July 1 to June 30 basis.

Influence of livestock prices

A comparison of bank deposits to the index of livestock and livestock prices for the United States (Figure 2) shows a general relationship. This particular index was chosen because of the importance of livestock in the economy of Douglas County. Other relevant agricultural indexes reveal the same general pattern of relationships. In all instances where the price index climbed during the period



^aFrom Table 12.

Figure 2. Comparison of Bank Deposits in Citizens Bank of Ava to the index of Livestock and Livestock Products Prices for the United States, 1953-1964

analyzed bank deposits increased substantially. In each instance of a decrease in total bank deposits or even a decrease in the rate of increase of bank deposits, the second or third year of a decline in the livestock price index was observed. The high index of livestock prices in 1958 is associated with a net reduction of over \$150,000 of loans and discounts (Table 19) in the Ava bank. Had this money been added to all deposits a very substantial gain would have been recorded, further substantiating the importance of agriculture in the economy of the area, as of that date.

Deposit changes

When the factors of construction labor, new money, and agricultural prices are pulled together and the effects of new industrialization are added, the trend in bank deposits from 1959 to 1965 may be explained. Data from Table 19, List III, and Figure 2 are used. Population was assumed to have remained constant in the county with the city's gain offsetting the rural loss.

LIST III

CONSTRUCTION PROJECTS IN DOUGLAS COUNTY USING "NEW MONEY", 1959-1965 (FROM JULY 1 TO JUNE 30 EACH PERIOD)

- 1959-1960: Water and sewer system expansion and improvement financed with \$225,000 bond issue.
- 1960-1961: None
- 1961-1962: Rawlings expansion program financed with \$81,250 ARA loan and \$43,750 loan from Citizens Bank of Ava and a correspondent St. Louis bank.
- 1962-1963: New High School financed with a \$350,000 bond issue.
- 1963-1964: High School completed in November. Spalding building started in January with \$281,000 financed privately (not locally) by Spalding.
- 1964-1965: Considerable construction occurred during the calendar year of 1965. Data were unavailable, however, to determine in which half of the year various items were built. Over \$900,000 (mostly new money) were spent on major projects.

From 1959 to 1960, bank deposits increased slightly as a result of the "new money" involved in building the water and sewer improvements and construction wages on the Rawlings factory. Depressing factors were declining livestock prices and the flow out of the community of IDC funds (subscribed by the local people) for factory materials.

The decrease in total bank deposits from 1960 to 1961 cannot be satisfactorily explained with the factors considered up to this point. The payroll at the Rawl-

ings plant was well over 100 during most of this period and should have given the economy and bank deposits a lift. Livestock prices were depressed somewhat further and little construction involving "new money" was occurring. Possibly, a large portion of the IDC money, presumably deposited in the Ava bank, was not paid to the contractor until the Rawlings plant was completed after July 1, 1960. If interactions of the above factors were not sufficient to explain the decline of deposits the following theory might explain it. The new employees of Rawlings and the Ava business community held less bank deposits as a "reserve against a rainy day." The probability of steady employment and steady income would make this line of reasoning possible.

Deposits increased from 1961 to 1962. This was in spite of lower livestock prices. (Most beef animals are sold in late summer or fall, so the previous years prices affect deposits as of June 30 more than the prices of the present year). The Rawlings expansion program was using "new money." The continued effects of employment in the Rawlings factory also contributed to the increase.

A sharp increase in deposits occurred from 1962 to 1963. Livestock prices were up the previous fall, a new high school was under construction (financed with new money of \$350,000 from bonds), and employment continued to increase at Rawlings and Sentinel. Sentinel also doubled its production capacity in 1963.

The increase in bank deposits was continued at a slower rate from 1963 to 1964. Livestock prices dropped severely, offsetting some of the effects of the high school building construction and the "new money" effect of the Spalding construction which started in January, 1964.

The year 1965 showed another sharp rate of increase. Livestock prices probably had a rather indeterminant effect as they had reached the bottom of a cycle and were starting up again. Definite positive factors were new employment at Spalding and much construction in the area.

Loans

Bank loans were observed to have increased sharply during 1964 and 1965 as deposits increased rapidly and private construction activity increased.

Total assets

Total assets of the bank on a deflated basis (1957-59 average=100) increased in all years after new industry was acquired, except in 1961. This was probably a direct result of the decrease in deposits and was caused by the same forces causing the deposits change.

The same non-bank sources of credit existed after industry was obtained as before. Possibly more money from governmental sources was used than had previously been the case. An indication of increasing use of other sources of credit came when the Farmer's Home Administration hired an assistant to their office manager during the summer of 1965.⁶⁷

⁶⁷*Douglas County Herald*, Ava, Missouri, August 19, 1965.

GENERAL ECONOMIC SITUATION AFTER INDUSTRIALIZATION

This section presents information concerning the level of business activity as measured by new business formations and retail sales of items covered by the Missouri retail sales tax. The rest of the section will consider other items influencing the level of economic activity.

New businesses

The establishment of new retail and service businesses is an indication of the growth of an economy. The following listing was gleaned from published reports of new business establishments and is fairly complete.⁶⁸

In 1961 a complex of restaurant, service station, and motel with swimming pool was constructed at the edge of town. Three new businesses were established during 1962. These were a barber shop, a dental office, and a real estate and insurance office.

During 1963, a shoe store started operation, a bulk fertilizer mixing plant was installed by a feed company, and a plumbing and electrical shop was opened.

By early 1964 all business buildings were in use and five new ones had been constructed since 1959. During 1965 four new business buildings were constructed, four were extensively remodeled and two had improvements made in their appearance.⁶⁹

Retail sales

A decrease was observed in the absolute value of retail sales of items subject to the Missouri retail sales tax (Table 12) from July 1962 to June 1963, and a further decrease occurred into 1964, before the volume of sales started increasing again. It is interesting to note that these decreases occurred during years when the agricultural price indexes and parity ratio were declining. This would indicate that agriculture was still a very strong influence on the strength of the local economy, even after some industrial jobs had been provided. The amount of "new money" used in local construction (List III) did not influence the volume of sales significantly.

The economy showed a large growth in 1965 when measured by several criteria. Retail sales were up, industrial employment increased, bank deposits gained 13.7 percent over the previous year, and home and business construction appeared to be booming. It will be interesting to see the results on growth when farm receipts again decline and when construction activity diminishes.

⁶⁸Claxton and Denney, (C810) *op. cit.*, page 43-55.

⁶⁹*Douglas County Herald, op. cit.* December 30, 1965.

POPULATION CHANGES

A special census was taken during June 1965 to determine the population of Ava. The final count was 2,112. This included areas annexed to the city since the regular census was taken in 1960. In 1960, the official population count was 1,581 but a special review of the city area revealed that in 1960, a total of 1,872 people resided in the territory which made up the Ava of 1965.⁷⁰ This indicated an increase of 240 in the overall Ava city area from 1960 to 1965. The annexations had included practically all the inhabited areas around town.

It was estimated in an earlier part of this report that the number of farms in the county decreased by a total of 175 from 1959 to 1964. If this is so and if each farm family lost contained an average of three members then a net decrease in county population would have continued through 1965. The Missouri Division of Commerce and Industrial Development estimated that the county population declined 13 percent from 1960 to December of 1964.⁷¹

CHANGES IN THE LABOR FORCE, EMPLOYMENT

Industrial employment

The number of employees in the new factories at Ava are in Table 20. These members reflect the general trend in manufacturing employment in the county.

The Rawlings plant showed a steady rate of growth until it reached a peak of about 240 employees in early 1964. In July, 1964, the golf bag manufacturing equipment was moved to the new Spalding factory (in accord with the terms of the dissolution agreement) and about 100 Rawlings golfbag manufacturing employees were hired by Spalding. The reported employment at Rawlings of 115, 160, and 152 in October, 1964, August, 1965, and December, 1965, is an indication of the seasonality of demand for sports protective equipment and especially football gear, the primary product of Rawlings factory.

In early 1964, 44 Rawlings employees (13 men and 31 women) received three-year employment certificates. They were among the first people employed at the plant.⁷²

In 1963, Spalding had planned to increase employment to a range of 185-210 workers within three of four years as their business developed.⁷³

Sentinel Wood Products increased its production capacity during 1963 and since then its employment level has remained fairly constant. As previously stated, this concern is estimated to provide employment for about 50 area families who cut and haul raw materials of posts and logs to the plant.

⁷⁰*Ibid.*, November 18, 1965.

⁷¹Missouri Division of Commerce and Industrial Development map prepared from basic data supplied by June, 1965, *Sales Management*, "Survey of Buying Power".

⁷²*Douglas County Herald*, Ava, Missouri, April 16, 1964.

⁷³*Ibid.*, September 26, 1963.

TABLE 20--EMPLOYMENT IN NEW INDUSTRIES IN DOUGLAS COUNTY,
MISSOURI, 1960-1965

Date	Sentinel	Rawlings	Spalding
December 9, 1960	6	121	
May 11, 1961	b	160	
July 13, 1961	b	169	
June 30, 1962	b	200 ^a	
September 26, 1963	b	220 ^a	
March, 1964	b	240	
August, 1964	b	b	93
October, 1964	b	115	b
August, 1965	b	160	99
December, 1965	13	152	150 ^a

^aApproximate employment.

^bNot available.

Business employment

Employment changes in the business sector from 1958 to 1963 were shown in Table 18. The term "employees" as used in Table 18 does not include the proprietors of businesses. Paid employees decreased from 292 in 1958 to 223 in 1963, a total of 69. Active proprietors dropped from 168 to 137 during the same period.⁷⁴ The total employment decrease in business activity was 100 from 1958 to 1963. However, the increased rate of sales tax collections during 1965 and the initiation of new businesses would suggest that business employment was increasing by 1965.

Miscellaneous sectors

Small employment increases occurred in other sectors of the economy. The number of teachers in the Ava school system increased from 53 during the 1959-1960 school year to 65 for 1965-1966. The staff of the county welfare office was increased from six to eleven during 1965. Some increase was gradually made in the number of city laborers.

Employment changes

The total county civilian labor force in 1960 was compiled as being 3,248 with 4.8 percent considered unemployed. These data were collected during April.

⁷⁴Census of Business, *op. cit.*

The civilian labor force during April, 1964 was 3,280. A comparison of the employment situation in April, 1960, and April, 1964, is as follows:

<u>Year</u>	<u>Civilian Work Force</u>	<u>Total Employment</u>	<u>Agricultural Employment</u>	<u>Total Percent Employment</u>
1960 ^a	3,248	3,093	1,282 ^b	4.8
1964 ^c	3,280	3,130	1,550	4.6

^a County and City Data Book, 1962, *op. cit.* page 214.

^b This number appears to result from a more narrow definition of agricultural employment than was used by Employment Security in 1964. See text for further explanation.

^c Unpublished material from Missouri Department of Employment Security, Jefferson City, Missouri.

The comparison of the same month each year revealed a slight but not conclusive increase in work force and total employment with a very small decrease in rate of unemployment. An increase in agricultural employment is indicated but it seems likely that the 1,282 value for agricultural employment in 1959 is based on a different definition of agricultural employment than was used by the Division of Employment Security in 1964. The 1959 Census of Agriculture reported a total of 2,580 workers employed in agriculture in 1959. This was broken down into 1,538 farm operators, 970 unpaid family laborers, and 72 hired employees.⁷⁵ Thus a total of 1,282 employed in agriculture in 1960 seems to be an unrealistically low measure.

CHANGES IN INCOME

Payrolls

Detailed payroll information was not available, but limited information was found. The payroll at Rawlings exceeded \$11,000 per week for the first time during May 7-11, 1962.⁷⁶ This was at a time when plant employment was at just under 200 workers. By December, 1962, the payroll at Rawlings and Sentinel combined was over \$13,500 per week,⁷⁷ averaging more than \$55 per week per worker. The Spalding payroll in December, 1965, was reported as just over \$10,000 for a total employment of 150 workers.⁷⁸ This averaged to \$66.67 per worker per week but included the higher wage rates of supervisory personnel.

⁷⁵ *Douglas County Herald*, May 17, 1962.

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*, December 6, 1962.

⁷⁸ *Ibid.*, December 30, 1965.

SUMMARY AND CONCLUSIONS

Development of an industrialization program has been viewed as a possible panacea for the economic ills of small towns whose fortunes have been adversely affected by declining farm population and numbers. This study was developed to trace a case history of a small town in southern Missouri which had experienced a significant amount of new industrial development within a relatively recent time period.

Ava, Missouri, in Douglas County was a small town possessing the attributes for a case study within the framework of this description. The study was originally conceived to determine the impact of industrialization on local government. Later the study was expanded to include an analysis of the industrialization's impact on the whole economy of Ava and the surrounding area. This is a report of the major conclusions and recommendations relative to the second objective.

Conclusions

1. The costs of industrialization were calculated including various types of costs ranging from the bare building alone to values including all investments related to the acquisition of new industry.
2. Factory building construction costs only required an investment of \$3,143 per new worker.
3. Factory building construction costs and estimated equipment costs required an investment of \$6,318 per new worker.
4. Factory building costs plus cost of absolutely essential public improvements (required by management of the new industry) required an investment of \$12,678 per new worker.
5. Factory building costs, equipment, and essential public improvements required an investment of \$15,853 per new worker.
6. All public and reported group investments required for industrialization or occurring after and as a result of industrialization required an investment of \$25,075 per new worker.
7. New industrial employment was associated with an increase in retail sales of taxed items during the period of initial employment but sales of those items declined during the third and fourth years after the first factories started operations.
8. Factors which were determined to be very important in inducing retail sales charges in addition to industrialization were the level of agricultural prices, construction activity and "new money" used in construction activity.
9. New businesses were formed and old businesses remodeled as industrialization progressed.

10. Further declines in agricultural population will require corresponding increases in non-agricultural base employment to maintain the status quo.

Recommendations

Towns considering increasing their efforts to obtain new industry should evaluate their activity in these terms:

1. The new industry should be considered primarily on the basis of its use of local resources, particularly local labor.
2. The community should have adequate efficiently managed public utilities. Excess capacity to meet the needs of new plant is desirable.
3. Industrialization should be the best alternative use of capital invested.
4. A serious evaluation of the costs required in industrialization may lead many small towns to consider other means of maintaining their economic viability. These might include more intensive efforts to increase efficiency of farmers, businessmen and present industrial plants. Some town very likely will find it impossible in the future to meet the challenge of competition established by the projected economic and technological forces operative in the latter part of the 20th century. Those towns probably should be allowed to die gracefully as old capital is depreciated.

Further research is needed to determine the relative importance of agricultural employment as compared to industrial employment in maintaining a small town economy. The impact of construction activity on a local economy appeared to be a "one shot effect." This possibility needs to be investigated in more detail.

Further study needs to be done to determine the amount of industrial employment necessary to offset a given decline in farm employment. There is some indication of significant differences in the multiplier employment effects associated with the two major base sectors in a local economy.

Complete data were not available to determine the cause of increased county government expenses. This should be investigated thoroughly in all rural counties to determine the potential gain from reorganization.

A non-economic question seems to be especially pertinent. Is it desirable that rural areas be industrialized? Impartial analysis should be conducted to determine the relative costs of industrialization plus required allied social facilities in rural areas as compared to costs in urban areas of varying population. This study, if possible, should include a measure of the environmental values associated with rural living as compared to urban living conditions.

PART II

The Impact of Industrialization of a Small Town on Local Government. A Case Study of Ava, Missouri

L. DALE HAGERMAN AND CURTIS H. BRASCHLER

OBJECTIVES

The specific objectives of Part II of this study were to:

- Determine appropriate methodology and procedures to be used for identifying, measuring, and analyzing the impacts of important economic developments on the governmental service and fiscal functions of a rural small town.
- Identify, measure, and analyze the effects of new industry in the selected town on local governmental services provided, on expenditures, on the revenue base, and on revenue.
- Summarize and generalize the findings to develop (1) recommendations and suggestions that public officials, farm and business organizations, promotional groups and others need to bear in mind when considering the establishment of new industries in their communities; (2) significant relationships and hypotheses to guide future research studies in the field.

LOCAL UNITS OF GOVERNMENT CITY OF AVA

The city government of Ava is the mayor-council form. A city council of four members is elected to carry out legislative responsibilities—the passing of ordinances (city laws). The mayor, also an elected official, administers the ordinances and is responsible for the operation of city-owned utilities and other city services.

Aids to the mayor in these duties are the city clerk, city collector, police chief, superintendent of the electrical distribution system, superintendent of the water and sewer system, superintendent of the street department, and laborers for these various departments.

The police judge, an elected official, is the only judicial official in the city government.

Sources of city revenue

City income is received from a variety of sources. The electrical, water and sewer utilities are operated to recover their full costs. These three utilities account for a large part of total city receipts. State gasoline tax receipts help pay the city's street and alley maintenance costs.

A large part of the normal operating costs of the city government in addition to the previous items, are paid by revenues from various types of property taxes.

A listing of all the sources of city revenue includes the following:

- real property tax
- tangible personal property tax
- intangible property tax
- merchants' ad valorem tax
- railroad tax
- gasoline sales tax collected and refunded by the state
- receipts from electrical, water and sewer utilities
- receipts from custom operations for citizens by city employees
- utility pole rent from telephone company
- rent on city-owned property
- deposits on utility meters
- police court fines
- business licenses
- building permits
- vehicle stickers
- interest from U.S. Treasury bills
- discounts on U.S. Treasury bills

Services provided by the city of Ava include the following:

- distribution of electrical energy
- provision and distribution of water
- sewage disposal
- police protection
- fire protection
- a city park
- a city fairground and facilities
- street and alley construction and maintenance
- cemetery care
- custom work for citizens using city-owned equipment.

Indebtedness

The city, as well as the county and school districts, has the power to borrow money by issuing bonds. These bonds may be either general property obligation or revenue bonds.

General property bonds are repaid from tax assessments made on all taxable private property within the political boundaries of the governmental unit issuing the bonds.

Revenue bonds are repaid only from the receipts generated by use of the items purchased from proceeds. Revenue bonds may be used to finance public utilities and other designated facilities.

DOUGLAS COUNTY

The government of Douglas County is similar to most other rural Missouri counties.⁷⁹

The county court, consisting of three judges elected by the people, performs some duties of a legislative nature; other duties of an administrative type and practically no duties that can be classed unqualifiedly as judicial.⁸⁰ "It determines the county tax rate, makes appropriations of county funds, audits the accounts of the recorder and the inquest reports of the coroner, appoints election judges, shares in dividing townships into voting precincts and has charge of the county property and its upkeep (roads, etc.). It also discharges miscellaneous duties not handled by other county agencies."⁸¹

Other county officers are as follows: circuit clerk, county clerk, recorder of deeds, prosecuting attorney, sheriff, assessor, collector of revenue, treasurer, coroner, public administrator (for estates of those who die intestate), superintendent of public schools, county surveyor, highway engineer, probate judge and magistrate.

The duties of each of these officers are indicated to some extent by their names. No central executive officer exists although the county court fulfills this post to some extent. Many of the offices do not require the full-time attention of the elected officeholder.

County revenue

Revenue receipts of the county are primarily from the various types of taxes although other sources do account for some county income. All revenue is received by the treasurer's office where it is credited to either the county revenue fund or county road fund. County property tax funds are paid first to the collector by the taxpaying citizen and then are transferred to the treasurer's office. Special funds received from the state and from the county collector, earmarked directly for schools, are received by the treasurer's office, and forwarded directly to the treasurer of the local school districts without being credited to any county fund.

⁷⁹Missouri county government is discussed in Robert F. Karsch, *The Government of Missouri* (Columbia, Lucas

⁸⁰*Ibid.*, page 155.

⁸¹*Ibid.*

The various classes under which receipts are credited to the county revenue fund are as follows:

- receipts designated for interest and sinking fund (for retirement of county indebtedness)
- fines collected and apportioned to schools
- current property taxes (real, personal, and merchants)
- railroad taxes
- all back taxes
- fees of county officers
- grants in aid from state (to superintendent of schools)
- wolf scalp refund from state
- rents on county owned property
- refunds (including intangible tax)
- beer and liquor licenses
- transfers and miscellaneous
- all loans

Receipts in the county road fund were credited in county records as a part of total revenue receipts through 1960. After 1960, they were credited in a separate fund. These receipts are itemized as:

- current and back taxes designated for road purposes
- state funds for roads (includes gasoline sales tax refund)
- custom work done for individual citizens
- state funds (includes intangible tax and forest refunds)
- transfers from other county funds
- borrowed money

General property taxation procedures

The three general classes of property are real, tangible personal, and intangible personal property. Real property is defined as landed property or real estate. Tangible personal property consists of such items as furniture, equipment, machinery, and livestock. The stocks of goods which merchants hold on January 1 each year are taxed as personal property and this is called an ad valorem tax. Intangible personal property consists of monetary assets such as bank stock and taxes on this type property are assessed, levied, and collected by the state and returned to the counties less 2 percent for collection costs.⁸²

Each citizen's real and tangible personal property is evaluated by the county assessor, or his agent, as of January 1 each year, at approximately 30 percent of its market value. If the citizen feels that he has been assessed at too high a value he may have the valuation reviewed by the County Board of Equalization when it convenes later in the year.

A tax rate, uniform for all citizens in the county, is paid on the basis of the

⁸²*Constitution of the State of Missouri. Article X, Section 4 (c).*

assessed valuation of each person's property. The maximum rate which the county court can levy for normal county purposes is 50 cents on the \$100 assessed valuation.⁸³ An additional levy of up to 35 cents may be made for road and bridge work in the county. Only by a two-thirds vote of the people, can higher rates be levied.⁸⁴

Property taxes are paid to the county collector of revenue, who transfers them to the county treasurer. Taxes not paid by December 1 of the year due, are considered delinquent.

County expenditures

A budget is prepared annually by the county court in which each office and agency is appropriated funds to meet its anticipated needs for the next year.

The county budget is divided into six classes or general categories as follows:

Class I—for care of insane in institutions.

II—for jury and criminal costs, and elections.

III—for road and bridge work.

IV—for county salaries and operation expenses.

V—for contingency and emergencies.

VI—for building and land purchases, an unused class.

County services

Various services performed by the county government include the following:

The county serves as an intermediary between the state and local citizen for the administration of items such as elections and some court proceedings, and provision of physical facilities for the cooperative Extension program.

Roads not maintained by the state or city are the responsibility of the county. The sheriff's office provides police protection. The county recorder keeps land ownership records, records mortgages, and other items of a similar nature. The county pays the cost of keeping mentally incompetent citizens in the state mental hospital.

LOCAL SCHOOL DISTRICTS

Many school districts existed in Douglas County in 1953. Ava, the largest, operated the only high school. The rural districts operated their own elementary units and paid the tuition of local high school students who attended high school at Ava or in districts outside the county. Consolidation of local districts, especially in 1956, 1958, and 1959 had reduced the number of districts considerably by 1964.

Since the Ava school district represented a large part of the population of Douglas County and data were available for most years since 1953, it was the only school district analyzed.

⁸³*Ibid.*, Section 11 (b).

⁸⁴*Ibid.*, Section 11 (c).

The responsibility for policy and other legislative matters rests with an elected board of education. It employs the superintendent of schools as chief executive officer. He prepares an annual budget to be reviewed, possibly revised, and approved by the board. The budget itemizes expected school expenses under six major funds: teacher's fund, incidental, textbook, building, sinking, and interest.

The approved budget becomes the framework within which the superintendent operates during the next year. The board of education meets monthly and may call special meetings. When necessary, funds are transferred from the incidental fund to other funds.

School revenue

School funds are received from the county treasurer throughout the entire year. The two major sources of these school funds are: transfers from the state, and receipts from general property taxes on property within the school district.

A complete listing of various sources of school funds in Douglas County is:

- State Aid (EQ, TI and AA)
 - Equalization quota (a payment to relatively poor districts to provide equal educational opportunities)
 - Teacher incentive (a payment to increase teachers' salaries as they become better qualified)
 - Average attendance (a payment to the school for each day a student attends classes)
- Transportation aid from the state
- Exceptional pupil aid (for providing education geared to the exceptionally fast or slow-learning students)
- Free-textbook aid
- Vocational aid (to help pay the salary of vocational teachers)
- County interest receipts
- Railroad and utility tax
- Current property tax (real, personal, and merchants)
- Intangible taxes
- Tuition from other districts (for non-resident students attending Ava schools)
- Lunchroom receipts (from hot lunch program)
- Student activities (clubs, class activities)
- Other local receipts.

Assessment of property, levies, and tax collection for schools

The same valuation of property and tax collection procedures are used for school purposes as for county purposes.

The maximum tax rate which the school board can levy is \$1 per \$100 assessed valuation.⁸⁵ However, the school district, like the city and county governments,

⁸⁵*Constitution of the State of Missouri*, Article X, Section 11 (b).

can by a two-thirds vote increase this tax levy rate to provide greater school revenue.⁸⁶ The Ava R-1 district rate has ranged between \$2.15 and \$2.95 since 1953. This includes special assessments to pay off general property bonded indebtedness.⁸⁷

IMPACT OF NEW INDUSTRIALIZATION ON LOCAL UNITS OF GOVERNMENT

Industrialization influenced units of local government in various ways. In this section each local governmental unit is analyzed to determine the changes which occurred after 1959 relative to its ability to pay for public services, needs for new or expanded services, and the changes occurring in services performed. The influence of the industrialization process in causing these changes is explored.

CHANGES IN GOVERNMENT IN THE CITY OF AVA

Tax base changes

The assessed value of property in the city of Ava increased from \$1,138,900 in 1959 to \$1,843,862 in 1964 (See Table 21). Most of this increase occurred from

⁸⁶*Ibid.*, Section 11 (c).

⁸⁷See *Indebtedness*, Section I, page 46.

TABLE 21--VALUATION OF PROPERTY BY CLASS IN AVA, 1959-1965

Year	Type of Property			Total value
	merchant's ad valorem	personal	real estate	
1959				\$1,138,900
1960	\$178,465	\$257,355	\$1,173,070	1,608,890
1961				1,647,460
1962	204,255	255,469	1,234,505	1,649,229
1963	207,375	275,966	1,308,355	1,791,696
1964	207,065	296,317	1,340,480	1,843,862
1965 ^a	213,203 ^a	346,317 ^a	1,440,480 ^a	2,000,000 ^a

^aEstimates by city government for budgeting purposes.

1959 to 1960 but data were not available to determine the relative change within different types of property for that year. A steady rate of growth in valuation, averaging about 3.5 percent annually, took place from 1960 to 1964. The largest increase was from 1962 to 1963 when valuation was increased 5.75 percent.

A look at the various types of property shows that a substantial increase occurred in the merchant's ad valorem property (stocks of merchandise) from 1960 to 1962 but, after that, increases in value barely reflect the increasing price level of consumer goods.

Personal property valuation within the city declined slightly from 1960 to 1962, then increased about 8 percent each of the next two years and was expected to make a major increase of about 17 percent in 1965.

Change in tax rates and tax levies

The rate of taxation per \$100 assessed valuation was increased from \$1.25 to \$1.75 when the sewer and water works improvement bonds were approved in November, 1959. This raised the rate of taxation for interest payments and retirement of principal on bonded indebtedness (interest and sinking fund) from its previous rate of 30 cents to 75. (Table 22).

The tax rate was lowered in 1964 as a result of two factors. First, the assessed valuation of property in the city increased over 57 percent (\$652,796) between 1959 when the bonds were voted and 1963. A surplus of \$27,191 had accumulated in the sinking fund. This was equivalent to more than a year's payment of interest and principal (Table 23). The tax rate was lowered from 75 to 50 cents for the interest and sinking fund (Table 24). Second, the increase in assessed valuation generated more revenue than the city government felt it should spend since the water and sewer fund was paying its way and the electrical department was earning a surplus. A decrease in the general fund tax rate was determined expedient.⁸⁸

Indebtedness

Revenue bonds were issued in 1953 for buying the electrical distribution system then owned by a private corporation. The bonds were issued with an option to redeem them at the end of 10 years. By 1963, a surplus had been accumulated and all bonds were called. The bond retirement in 1963 was \$84,000 and interest payments totaling \$5,385 were made.

General property obligation bonds (\$17,000) were issued in 1957 to finance the purchase of a new pump in one city well and the extension of water lines to unserved parts of town.

An issue of \$225,000 of general obligation bonds was necessary in 1959 to meet the needs of the Rawlings plant for water and the expanded sewage disposal needs of the city.

⁸⁸*Douglas County Herald*, Ava, Missouri, September 3, 1964.

TABLE 22--TAX RATE PER \$100 ASSESSED VALUATION AND DISTRIBUTION OF LEVIED TAX REVENUE
BETWEEN FUNDS OF AVA, MISSOURI, 1960-1964

Year	Tax rate per \$100 valuation			Levied revenue allocated to:			Total taxes levied
	interest and sinking fund	general revenue	park fund	interest and sinking fund	general revenue	park fund	
1959	.30	.75	.20	\$ 3,417	\$ 8,541	\$2,278	\$14,236
1960	.80	.75	.20	12,871	12,068	3,218	28,157
1961	.75	.75	.20	12,356	12,356	3,295	28,835
1962	.75	.75	.20	12,778	12,778	3,408	28,965
1963	.75	.75	.20	13,439	13,439	3,583	26,877
1964	.50	.60	.20	9,226	11,070	3,690	23,987

TABLE 23--RATE OF RETIREMENT OF GENERAL PROPERTY
BONDED INDEBTEDNESS - CITY OF AVA

Year	Interest Paid (thousands)	Payment on Principal	Total Paid	Principal Remaining (thousands)
1953	\$ 2,558	\$ 5,000	\$ 7,558	\$ 61,000
1954	1,723	7,000	8,723	54,000
1955	1,506	7,000	8,506	47,000
1956	1,262	8,000	9,262	39,000
1957	992	8,000	8,992	51,000
1958	1,691	11,000	12,691	40,000
1959	1,113	8,000	9,113	32,000
1960	859	9,000	9,859	248,000 ^a
1961	16,183	8,000	24,183	240,000
1962	11,375	8,000	19,375	232,000
1963	11,097	7,000	18,097	225,000
1964	10,745	8,000	18,745	217,000
1965	10,361	8,000	18,361	209,000

^aIncludes \$185,000 sewer bonds and \$40,000 waterworks bonds, passed during 1959.

TABLE 24--INTEREST AND SINKING FUND - CITY OF AVA

Year	Total Deposits (from all sources)	Total Warrants Issued and Cancelled	Balance in Fund at End of Year
1953	\$ 6,227	\$ 9,436	\$32,837
1954	6,433	8,736	30,534
1955	5,227	8,521	27,240
1956	4,696	24,192	7,744
1957	10,885	9,012	9,618
1958	9,259	12,717	6,160
1959	9,528	9,136	6,552
1960	17,154	9,512	10,852
1961	5,865	8,635	8,081
1962	18,638	8,405	18,314
1963	14,028	9,130	23,213
1964	9,958	13,565	19,606

Rawlings planned a sprinkler type fire protection system in the factory and more pressure was needed than the old water system provided. A 100,000 gallon capacity water tower was provided at the industrial site and extensions of lines were made to the industrial tract with the \$40,000 waterworks portion of the bond issue.

The \$185,000 sewer bond portion of the 1959 issue was in response to the factory's immediate need for improvement of facilities; but in reality, the sewage disposal system of the city was in need of modernization, with or without industrialization.⁸⁹ This program extended lines to the industrial tract and to previously unserved residential areas and financed construction of disposal lagoons with a capacity of double the city's population within 20 years.

The rate of retirement of bonded indebtedness as shown in Table 23 and Figures 3 and 4 portray this graphically. These bond schedules were set up so the yearly total payment is about the same for a given amount of initial indebtedness throughout the repayment period. As the remaining principal decreases the interest drops at a corresponding rate. To keep each annual payment about the same size, the amount paid on principal increases.

⁸⁹Statement by Mayor Fred Letho, in personal interview. August 1965.

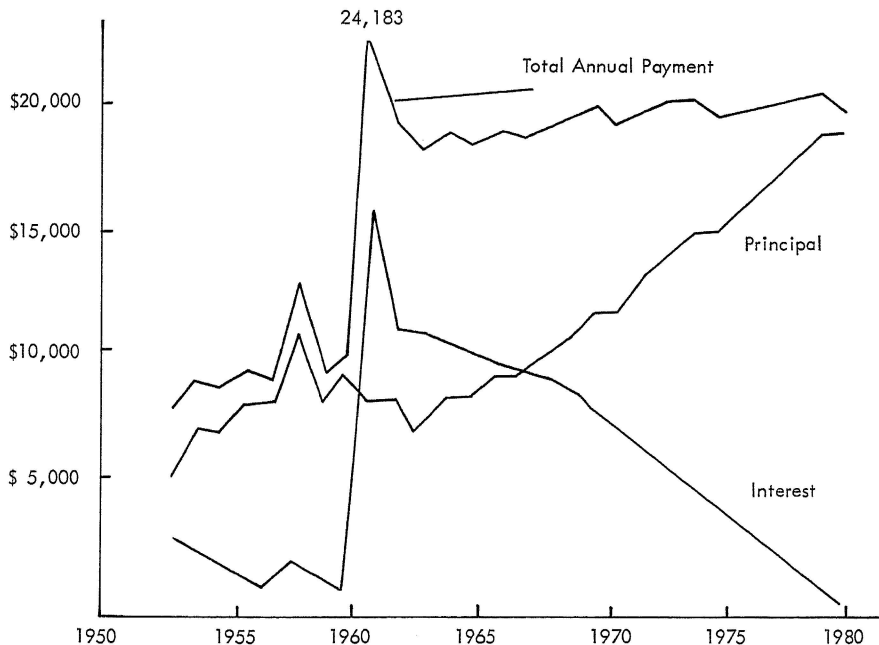


Figure 3. Annual payments for general obligation bonded indebtedness and interest (assuming no additional borrowing until 1980).

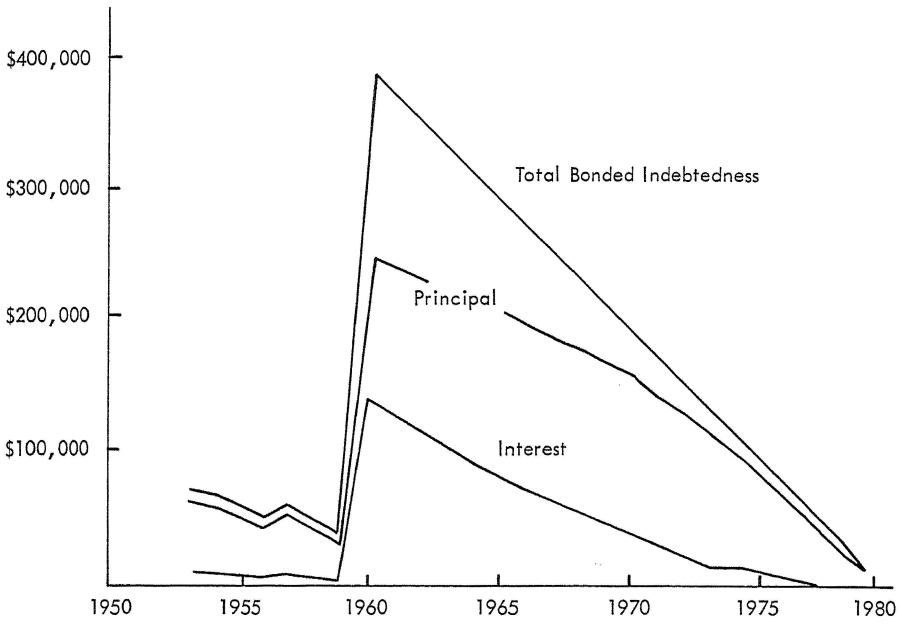


Figure 4. Total general obligation bonded indebtedness remaining at end of year (assuming no additional borrowing until 1980).

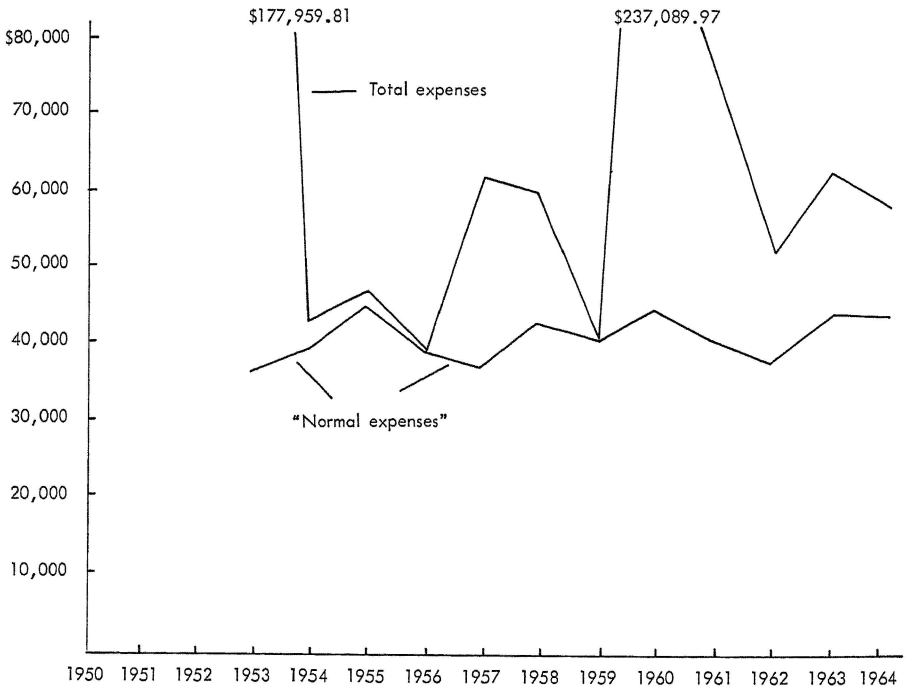


Figure 5. Comparison of total expenses to "normal expenses" in general fund of City of Ava, 1953 to 1964.

TABLE 25--GENERAL FUND RECEIPTS AND EXPENSES AND ADJUSTED FOR UNUSUAL EXPENSES

Year	Total Receipts (deposits)	Total Expenses	Balance (TR-TE)	Unusual Expenses	Normal Expenses	Normal Balance
1953	\$159,566 ^a	\$177,959	\$-18,393	\$141,858	\$36,101	\$-1,535
1954	37,610	42,173	-4,563	3,464	38,709	-1,099
1955	39,338	46,251	-6,912	2,289	43,961	-4,622
1956	43,415 ^b	38,375	-5,040	None	38,375	5,040
1957	63,092 ^b	61,247	1,844	25,245	36,002	10,090
1958	57,443	58,304	-860	16,356	41,947	15,495
1959	49,490	38,648	10,842	None	38,648	10,842
1960	271,587 ^c	237,089	34,497	193,124	43,965	2,622
1961	53,217	75,485	-22,268	35,984	39,501	13,715
1962	57,921	50,172	7,749	13,867	36,305	21,616
1963	58,497	60,721	-2,223	17,907	42,813	15,684
1964	57,101	56,566	534	13,605	42,960	14,140

^aIncludes \$125,000 bonds to purchase electrical distribution system.

^bIncludes \$17,000 bonds for new pump and water works extension.

^cIncludes \$225,000 bonds for new sewer system and waterworks.

Variation in city revenues and expenses

A record of city receipts and expenses is presented in Table 25. In a small city the purchase of capital inputs tends to be very lumpy and a great deal of variation in city accounts has occurred as a result. The balance column listed is only a comparison of receipts against expenses for the one year and does not show the actual financial value of the city at the beginning or end of a year.

The unusual expenses category is an attempt to remove the lumpy capital expenditures and arrive at a "normal" value for comparison to other years. The items listed as unusual expenses are itemized in Table 26. The normal balance is arrived at by subtracting the computed "normal expenses" from total receipts (This was also adjusted to a normal basis for the years 1953, 1957, and 1960 to remove unusual receipts of bond sales, as footnoted). An increase in the normal balance reflects the city's increased ability to pay for new services.

Figure 5 compares total expenses to "normal expenses." A general trend of increasing expenditures is shown in both expense categories. Record keeping for the water and sewer department was taken from the general fund in late 1964 and transferred to a separate account. This change can account for some decrease in expenditures in 1964 from the level of 1963.

TABLE 26--UNUSUAL EXPENSES, CITY OF AVA, 1953-1964

Item		Total for Year
1953		
Miscellaneous items connected with acquisition and operation of the electrical distribution system.	\$122, 874	
Land right of way for a street	450	
Purchase of four lots	500	
Street repair units	2, 103	
	15, 930	\$141, 858
1954		
Fairground lots		
Park building		
Balance on architects fee for municipal building		\$ 3, 464
1955		
Above normal water equipment		\$ 2, 289
1956		
None		---
1957		
Tax bills for preparation of blacktopping	\$ 303	
Transfer to water meter deposit fund	1, 660	
Payments on tractor	1, 000	
Items connected with the new well and improved water system	22, 281	\$ 25, 245
1958		
Blacktopping		\$ 16, 356
1959		
None		---
1960		
Expenses connected with the construction of sewer system lagoons and lines and building water tank		\$193, 124

TABLE 26 (Continued)

Item		Total for Year
1961		
Water and sewer retirement fund	\$12,000	
Blacktopping city alleys	1,400	
Expenses connected with water and sewer construction	22,584	\$ 35,948
1962		
Water and Sewer Retirement fund	\$12,000	
Blacktopping alleys	1,867	\$ 13,867
1963		
Partial payment for fire truck, ^a pump repair, water and sewer retirement fund, gravel, street improvements		\$ 17,907
1964		
Sewer retirement fund, transfer to water and sewer operating funds, tractor loader and backhoe and rent on civil defense storage		\$ 13,605

^aBalance of fire truck cost paid by electrical department.

Table 27 presents a breakdown of total expenses by category. Salaries changed very little from 1953 to 1960. After the first industry was obtained in 1960 the total salaries paid increased significantly. An hourly pay raise was not given until July, 1963, when the rate increased from \$1.00 to \$1.15 per hour. The decrease in 1964 may be attributed to the transfer of the water and sewer department to a separate account. Two extra workers were hired each summer starting in 1961. More extra workers were hired occasionally for specific work projects after industrialization than had been the case before 1960.⁹⁰ It seems justifiable to conclude that a city must hire additional help as a result of industrialization.

No conclusive trends are observable in the supplies and equipment category. Most of the larger expenditures occurred in years when water and sewer improvements were made or lines extended to industrial plants. One exception occurred when, in 1958, many alleys in the city were blacktopped at a cost of about \$16,500.

The unusual expenses listed in Table 25 are the same as those itemized in Table 26.

⁹⁰*Ibid.*

TABLE 27--DISTRIBUTION OF EXPENSES IN GENERAL FUND,
CITY OF AVA, 1953-1964

Year	Salaries	Supplies and Equipment	Unusual Expenses ^a	Total Expenses
1953	\$16,319	\$19,782	\$141,859 ^b	\$177,960 ^b
1954	17,329	21,380	3,464	42,173
1955	18,733	25,228	2,290	46,250
1956	15,249	23,126	0	38,375
1957	16,030	19,973	25,245	61,247
1958	16,816	25,132	13,356	58,304
1959	17,497	21,152	0	38,649
1960	16,803	27,162	193,125 ^c	237,090 ^c
1961	19,440	20,062	35,984 ^c	75,486 ^c
1962	20,113	16,192	13,867	50,172
1963	23,702	19,111	17,908	60,721
1964	17,146 ^d	25,814	13,606	56,566

^aSee Table 26 for itemization.

^bPurchase of electrical distribution system included.

^cIncludes items pertaining to water and sewer improvements.

^dDecrease is misleading because water and sewer was set up as a separate department in November, 1964.

Water and sewage disposal system

Prior to the industrialization period, Ava's water rates had been far below surrounding towns and no sewer charge was made. When the new system was installed in 1960 an attempt was made to set user charges so the system would be self-sustaining. The minimum water rate was raised from \$1.20 to \$2 for the first 2,000 gallons used per month. A monthly sewer charge of 50 cents for residence and \$1 for commercial establishments was set. No charge was made for industrial users. These fees were still equal to or lower than those in surrounding towns.⁹¹ Total receipts from sewer fees averaged about \$400 per month in 1964 and 1965.⁹²

The largest users of water in 1964 were a milk plant, the school, the factories and two commercial laundromats. A second milk plant, located outside the city limits prior to the 1965 annexation, had been charged \$30 per month sewer charge as it did not pay a city tax.⁹³ From 1953 to 1959 water receipts averaged slightly more than \$22,000 per year. The total receipts from water sales in 1960 were \$24,326. Receipts for these four years were as follows:

<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>
\$35,326	\$34,670	\$35,532	\$35,466

The gains from the preindustrial period can be attributed to the increased price of water and to increased usage. Data were not collected to determine the increased amount of water used but the uniform receipts indicates that very little more water was used in 1964 than in 1961.

Acquisition of electrical distribution system

Citizens of Ava approved the purchase of the electrical distribution system in 1954. Voters approved the issuance of \$125,000 of revenue bonds. The system was not acquired until 1953, when negotiations with Sho-Me Power Corporation were finally concluded. The cash price was \$96,320.22 with the city assuming liability for a few thousand dollars worth of customer meter deposits. The balance of the \$125,000 was used to purchase service equipment and a stockpile of materials for improvement of the system.

Table 28 shows the rate at which the bonds were retired. The bonds were issued with an option that they could be redeemed after 10 years. By 1963, a surplus had been accumulated sufficient to call all outstanding bonds. All payments in 1963 totaled \$89,482.69.⁹⁴ This paid off the \$84,000 of outstanding principal

⁹¹*Douglas County Herald*, Ava, Missouri, November 19, 1959.

⁹²Statement of city clerk in personal interview.

⁹³*Ibid.*

⁹⁴*Douglas County Herald*, *op. cit.*, July 18, 1963 and July 25, 1963.

TABLE 28--RATE OF RETIREMENT OF REVENUE BONDS (PURCHASE OF ELECTRICAL SYSTEM) CITY OF AVA

Year	Interest Paid	Principal Paid	Principal Remaining
1953	\$2,708	-	\$125,000
1954	5,417	-	125,000
1955	5,341	\$ 4,000	121,000
1956	5,161	5,000	116,000
1957	4,960	5,000	111,000
1958	4,760	5,000	106,000
1959	4,559	5,000	101,000
1960	4,358	5,000	96,000
1961	4,138	6,000	90,000
1962	3,897	6,000	84,000
1963	5,385	84,000	-

and interest for 1963, plus a penalty of an additional six months interest and costs of the transaction. After the indebtedness was repaid the system still had liquid assets (cash balance and 91 day treasury bills) totaling over \$144,000.⁹⁵

Operation of the electrical system

Four employees were hired when the city assumed control of operations in 1953. This number was not increased during the period of analysis.

The rates charged for electrical current were continued at the same level as previously. These rates were quite comparable to those charged by other distribution systems (both public and private) in the surrounding area.

Total annual receipts from the sale of electrical current to residential and commercial customers are included in Table 29. A definite and uniform increase can be observed in both classes of service. Data were not available for industrial sales in years other than 1964. The volume of industrial energy sales during 1964 indicates that it is a significant part of total receipts.

The net income (operating profit) and number of meters in use annually are

⁹⁵*Ibid.*

TABLE 29--MISCELLANEOUS DATA CONCERNING OPERATION OF MUNICIPAL ELECTRICAL UTILITY
OF AVA, MISSOURI

Year (August 1 to July 31)	Sales of Electrical Current		Total Funds Invested in 91-Day Treasury Bills	Transfers to Other City Funds
	Residential Customers	Commercial Customers		
1954	\$30, 118	\$35, 554		
1955	31, 192	39, 322		
1956	34, 707	41, 411	\$ 40, 000	
1957	37, 869	44, 248	55, 000	
1958	38, 876	49, 018	83, 000	
1959	43, 338	53, 550	92, 000	
1960	45, 920	57, 140	92, 000	
1961	48, 759	63, 897	136, 000	
1962	52, 173	65, 387	136, 000	
1963	54, 568	70, 284	100, 000	\$15, 000
1964	56, 293	70, 066	125, 000	30, 200

^aRawlings and Spalding purchased approximately \$11, 500 in electrical current in 1965.

TABLE 30--RECEIPTS, EXPENSES, AND NET INCOME OF ELECTRICAL DEPARTMENT, CITY OF AVA, 1954-1964 (FROM AUGUST 1 TO JULY 31, EACH YEAR)

Year (fiscal)	Receipts	Expenses	Net Income	Number of Meters
1954	\$ 66, 014	\$46, 648	\$19, 366	807
1955	71, 014	52, 594	18, 420	-
1956	77, 344	52, 161	25, 183	-
1957	84, 295	50, 281	30, 015	-
1958	89, 945	55, 480	34, 465	790
1959	100, 123	62, 561	37, 562	783
1960	107, 240	66, 310	40, 930	783
1961	116, 026	75, 502	40, 524	894
1962	122, 156	78, 764	43, 392	894
1963	129, 008	82, 271	46, 737	894
1964	132, 633 ^a	77, 220 ^a	55, 413	951

^aBest available estimate but accuracy is not certain.

shown in Table 30. Total receipts increased steadily while expenses were held fairly constant from 1955 through 1958. The total receipts show very little extra increase as a result of the new factories. Total expenses included capital additions which averaged about \$14,000 each year from 1959 to 1964 (Table 30).

Net income increased steadily from 1955 to 1964 except for the year of 1961. The increase in receipts that year was matched by increased expenses. No satisfactory explanation for this increase in expenses was found but it seems probable that it was in some way connected with industrialization. A large increase in meters in use occurred during 1961 (Table 30) but capital expenditures were slightly lower than the two previous years and the two following years.

Change in value of system

Table 31 shows the increase in value of the electrical distribution system. The cash value at the start of the year represents the purchase price of the system in 1953 plus the cost of all improvements to the start of a given year. This is approximately equivalent to the replacement value of the system. The book net

TABLE 31--CHANGES IN VALUE OF MUNICIPAL ELECTRIC SERVICE OF CITY OF AVA FROM
1959 TO 1964^a

Year	Cash Value at Start of Year	Capital Additions	Cash Value at End of Year	Annual Depreciation Allowance ^b	Accumulated Depreciation (since 1953)	Book Net Value after Depreciation
1959	\$165,992	\$16,110	\$182,102	\$6,079	\$30,205	\$151,897
1960	182,102	14,394	196,496	6,132	36,337	160,159
1961	196,496	13,520	210,016	6,290	42,627	167,389
1962	210,016	17,662	227,678	6,758	49,385	178,292
1963	227,678	15,915	240,267 ^c	7,634	53,693 ^c	186,573
1964	240,267	10,890	251,157	8,217	61,910	189,247

^aAs of July 31 each year.

^bDepreciation calculated at rate of 3 percent for electrical facilities, 10 percent for office equipment, and 20 percent for transportation equipment.

^cTransportation equipment with book value of \$3,326 was retired during the year.

value after depreciation represents an estimate of the replacement value of the system since the cost of ordinary wear and obsolescence is approximated in the depreciation allowance.

Purchase of 91 day Treasury Bills

A part of the surplus funds of the electrical department has been invested in Treasury Bills since 1956. The total of all Treasury Bills owned on July 31 each year is presented in Table 29.

Transfers to other city funds

A transfer of \$15,000 of electrical funds to the general fund of the city was made in fiscal 1963 to help pay for a new fire truck.

Transfers totaling \$25,000 were made in 1964 to various other city funds and an allocation of \$30,000 was included in the 1965 electrical department budget.

Conclusions concerning the electrical distribution system

All available evidence indicated that the system has been well managed. It would seem that any utility with the following attributes would be a great asset to any town. It was completely paid for within 10 years. It had doubled in net book value. Its annual net income was equal to more than one-half of the normal expenses of the city general fund. The presence of this electrical system surplus helped make a property tax rate decrease possible in 1964.

Street department

Before 1962 street department accounts were kept in the general fund without specific detailing of street receipts and expenses. Two employees (a superintendent and a helper) were assigned to the street department in 1962 and more detailed accounts have been kept since.

An increased rate of taxation on gasoline sales was inaugurated by the state government early in 1962, with each city and county receiving a share of the proceeds according to their 1960 population. Ava's receipts under this program were as follows:

<u>1962</u>	<u>1963</u>	<u>1964</u>
\$3,828	\$5,355	\$6,757

These receipts represent a new source of revenue for the town. Some funds had been received from the county previously but these were discontinued after the state program went into effect.

This gasoline tax distribution was not received as a result of industrialization. It is based on city population so industry's effect on population change influences the city's gas tax receipts.

Park fund

Concrete bleachers and a floodlighted ballfield were constructed at the city fairgrounds in 1957, at a cost of about \$18,500.⁹⁶ A loan of \$13,500, obtained from the Ava Chamber of Commerce, helped pay for improvements. The loan was repaid during the next several years. In 1964, an exhibits building was erected at the fairgrounds at a cost of about \$5,000.⁹⁷

Cemetery fund

The cemetery fund was activated in 1957, and was used to pay carekeeping costs of the city cemetery. These have been primarily labor costs although a 1960 entry includes machine rental, and a power mower was purchased in 1963. The expenses of this fund are about \$700 annually and no increase occurred as a result of new industrialization.⁹⁸

Other categories of city expense

No conclusive changes were observed in the cost of police or fire protection as a result of new industrialization. A new fire truck was purchased in 1963, but this could not be considered a direct result of new industries.

Conclusions concerning the impact of industrialization on the Ava city government

Although the data will not support clear inferences, several conclusions as to the impact of industrialization on the city government of Ava are as follows: follows:

1. The ability to pay for services was increased. Property valuation increased by 61.9 percent from 1959 to 1964.
2. The increased ability to pay for service was greater than the demand for new services. The general fund tax rate was lowered from 75 to 60 cents in 1964.
3. City ownership of the electrical distribution system was very important. The electrical system's operating surplus provided an emergency "cushion" to aid other city departments.
4. Industrialization served as a catalyst to bring about the needed expansion and improvements of the sewer system.
5. A self-supporting water and sewer system was an indirect result of industrialization. Fees and rates were set to cover operating costs and retire the indebtedness.
6. Additional employees were hired by the city after industrialization.

⁹⁶*Douglas County Herald*, Ava, Missouri, July 11, 1957.

⁹⁷*Ibid.*, July 9, 1964.

⁹⁸Obtained from city financial records.

In addition, the state program of gasoline tax refunds caused an additional substantial impact on city receipts during this period. However, this change was not related to industrialization.

IMPACT OF INDUSTRIALIZATION ON DOUGLAS COUNTY GOVERNMENT

Ability to pay for county improvements

New industrialization did not significantly affect Douglas County's ability to pay for governmental services. Table 32 shows the changes in valuation of various property classes from 1953 to 1965. A substantial increase in valuation occurred from 1953 to 1965 but most of this increase was realized by 1959.

The valuation reported for 1959 includes one item of a \$302,000 assessment of road construction machinery which was in the county that year only. This item must be kept in mind since it was reported in the 1959 valuation and was large enough to significantly affect results.

TABLE 32--PROPERTY VALUATION IN DOUGLAS COUNTY, 1953-1965^a
(THOUSANDS)

Year	Real Property	Tangible Personal Property	Public Utilities	Merchants and Manufacturers	Total County Valuation
1953	\$4,326	\$2,234	\$176	\$203	\$6,941
1954	4,359	2,533	205	169	7,268
1955	4,347	2,012	202	164	6,726
1956	5,410	2,055	207	162	7,835
1957	5,148	1,899	218	154	7,691
1958	5,411	2,023	235	146	7,817
1959	5,621	2,312 ^b	242	185	8,362
1960	5,682	1,978	257	202	8,120
1961	5,736	2,050	278	211	8,278
1962	5,855	2,085	316	223	8,480
1963	5,987	2,146	368	229	8,732
1964	6,158	2,340	505	228	9,233
1965	6,251	2,311	789	497	9,850

^aMissouri State Tax Commission. Proceedings and Decisions of the Missouri State Tax Commission. Jefferson City, Missouri, for the years of 1953 through 1963. Data for 1964 and 1965 are from unpublished records of the county collector, Ava, Missouri.

^bIncludes an assessment of \$302,000 on road construction machinery which was in the county during 1959 only.

Douglas County's total increase in valuation from 1959 to 1964 (excluding the road construction machinery) totaled \$1,173,141. This was an increase of only 14.6 percent compared to the city of Ava's increase of 61.9 percent during the same time.

The lack of impact on the county was even more obvious when the total city gain was subtracted from the total county evaluation increase. The rest of the county accounted for an increase of only \$468,179 in valuation from 1959 to 1964. This was a gain in assessed valuation of property of only 6.8 percent. The purchasing power of a 1957-1959 dollar was only 92.5 cents in 1964. Some county expenses, especially salaries which comprise a large share of county expenses, are fixed by law and remain stable regardless of price level. However, an increase valuation of only 6.8 percent indicates little, if any, beneficial impact on the rural county's property values.

The primary impact on the county valuation was on city assessments. Table 33 presents a breakdown of county real estate into the classes of land (rural real property) and town lots (real property in town). Unfortunately, data were avail-

TABLE 33--ASSESSED VALUATION OF REAL ESTATE IN
DOUGLAS COUNTY, 1953-1965

Year	Land	Town Lots	Total
1953	\$3, 507, 665	\$ 818, 690	\$4, 326, 355
1954	3, 527, 040	832, 710	4, 359, 750
1955	3, 490, 457	857, 300	4, 347, 757
1956	4, 320, 445	1, 090, 215	5, 410, 660
1957	4, 309, 364	1, 109, 380	5, 418, 744
1958	4, 299, 705	1, 112, 210	5, 411, 915
1959	4, 494, 735	1, 127, 200	5, 621, 935
1960	4, 453, 515	1, 228, 497	5, 682, 012
1961	4, 457, 244	1, 279, 640	5, 736, 884
1962	4, 544, 655	1, 311, 110	5, 855, 765
1963	4, 588, 241	1, 399, 755	5, 987, 996
1964	-	-	6, 158, 915
1965	-	-	6, 251, 265

Source: Missouri State Tax Commission; Proceedings and Decision of the Missouri State Tax Commission; Jefferson City, Missouri, for years 1953-63.

able only through 1963 for the two classes. Town lots increased in valuation by a total of \$272,555 between 1959 and 1963 to account for almost 75 percent of the total increase in real estate valuation in the county.

Tangible personal property valuation increased by \$329,305 (Table 32) from 1959 to 1964. Data were not available to differentiate the rural gain from town gain in this category.

Public utilities were assessed at a much higher value in 1964 and 1965 than in previous years. This increase was chiefly on electrical lines in the rural section of the county.

Tax rate

Increasing costs in the county operation brought about a situation in 1958 requiring increased income in the county revenue fund. Voters were faced with the choice of approving an increase in the county revenue fund tax rate from 50 to 75 cents or with an increase in property valuation sufficient to raise the needed revenue. The tax rate increase was approved by a majority vote of 1454-30.⁹⁹ Legally, a rate increase to a levy above 50 cents can remain in effect for only four years, then another referendum must be held if the increase rate is to continue. The second referendum was held in 1962 and again passed by a large majority.¹⁰⁰

County revenue fund

All county finances are handled in the county revenue fund except the payment of bonded indebtedness and care and maintenance of county roads. In order to derive an accurate accounting, the money actually available and spent each year, receipts and disbursements in this fund were itemized for each year (Table 34). Neither beginning and ending balances nor loans secured or repaid were included in this itemized accounting.

Receipts in 1956 were abnormally high due to an unusually large receipt entry for fees of county officers.

Total receipts in the county revenue fund had increased significantly by 1959 as a result of the increased tax rate. The range of total receipts from 1960 to 1964 made it impossible for definite conclusions but any increase resulting from industrialization appeared to be slight.

Total expenses (total warrants issued), however, continued to increase as industrialization occurred. Between 1959 and 1964 the *total warrants issued* increased by \$26,446 while total receipts increased only \$7,351. The major category of increased expenditures in other revenue fund classes also increased slightly from 1959 to 1964.¹⁰¹

⁹⁹*Douglas County Herald*, Ava, Missouri, March 29, 1958.

¹⁰⁰*Ibid.*, March 8, 1962.

¹⁰¹*Ibid.* From actual disbursement of funds section of annual financial statement (Douglas County). Published annually in February or March.

TABLE 34--SUMMARY OF ITEMIZED RECEIPTS AND EXPENSES IN DOUGLAS COUNTY ROAD FUND,
REVENUE FUND, AND BOTH FUNDS COMBINED, 1953-1964^a

Year	Road Fund (Class III)		Revenue Fund (combined classes I, II, IV, and V)		All Classes Combined	
	Receipts	Warrants Issued	Receipts ^b	Warrants Issued	Receipts	Warrants ^c Issued
1953	\$22,762	\$12,806	\$42,310	\$43,267	\$ 65,072	\$ 56,073
1954	34,554	27,331	53,480	50,499	88,034	77,830
1955	26,092	36,949	48,715	47,155	74,660	84,104
1956	38,631	38,449	71,144	54,940	109,775	93,389
1957	40,946	44,322	49,298	54,792	90,244	99,114
1958	30,426	45,994	60,455	62,453	90,881	108,447
1959	39,891	43,209	76,208	58,230	116,099	101,439
1960	40,974	37,326	86,680	63,011	127,474	100,337
1961	46,489	38,783	77,424	69,228	123,913	108,011
1962	46,272	62,025	76,568	77,917	122,839	139,942
1963	57,203	61,335	74,996	74,150	132,199	135,485
1964	63,560	65,573	83,559	84,676	147,119	150,249

^aFrom annual financial statements published during February or March in the Douglas County Herald, Ava, Missouri.

^bDoes not include beginning balance or loans.

^cDoes not include repayment of loans.

Road fund

Road fund receipts come from local tax revenues and transfer funds from the state. Local revenues are derived from a 35 cents per \$100 assessed valuation tax levy. Receipts varied with county valuation and the rate of payment of current and back taxes. State transfer funds prior to 1963 came from a fund reported as the C.A.R.T. fund. Receipts averaged about \$12,000 per year. Beginning in 1963, the state gasoline tax was increased and counties and cities received a share of this revenue based on their population. Douglas County's receipts from this tax were over \$27,000 in both 1963 and 1964.¹⁰²

Warrants issued in the road fund increased greatly in 1962 after a slight decrease in 1960 and 1961. Expenses depended primarily on the amount of county roads improved and/or resurfaced during the year.

Conclusions concerning the impact of industrialization on the county government

Expenses of the Douglas County government have increased more rapidly than have either valuation or receipts. The evidence was not conclusive but it appeared that industrialization had no beneficial impact on the financial situation of the county.

Increases in total receipts of the county resulted from several factors not associated with the new industrialization. These were:

1. Increased road fund receipts from the state government, resulting from a new law and an increased gasoline tax rate.
2. Rural electrical lines were appraised at a higher value.
3. Some valuation increase did occur that can be attributed to industrialization but this was mostly in the city of Ava.

The increased rate of county expenditures could not be associated with industrialization. Further research is needed to determine if rural counties in general are experiencing increasing difficulty in matching their receipts to the costs of providing needed services. It seems likely that a more efficient method of providing county services is needed; either by combining the duties of various present county officers into fewer offices or by combining several counties into area-wide administrative units.

IMPACT OF INDUSTRIALIZATION IN THE AVA R-1 SCHOOL DISTRICT

Many changes occurred in the Ava R-1 school district during the period from 1953 to 1965. The specific impact of industrialization could not be measured precisely because of several non-industrial factors which also had a profound impact on the affairs of school districts. These other factors included increased state aid

¹⁰²*Ibid.*

programs, school district reorganizations, population changes, and the "war baby" effect of increased birth rates just after World War II. An indirect result of the industrialization process was the increased construction employment in the area after 1959. Growth trends in the Ava school system are shown in Table 35.

All county schools

Table 36 provides data for all school districts in the county. This was used as a guide to keep reorganizational (growth of district size through annexations) changes in better focus. The valuation set forth in Table 36 is not the same as the total county valuation because of school districts which overlap across state lines. State funds include all state and federal aid to schools. The value listed for total school apportionment includes state funds and a few county receipts (primarily fines, which are apportioned to the schools). It does not include receipts from property taxes.

Ava R-1 valuation

Assessed valuation of private property in the Ava R-1 district increased in both 1956-57 and 1958-59 as a result of reorganization. Student enrollment, particularly in the elementary school, increased with each of these annexations.

State assistance

State funds varied considerably in size but the impact of the Missouri School Foundation Program can be observed in the increased receipts in 1961 and 1962. The most important part of this program for Douglas County schools is the equalization quota. This is a program whereby school districts with a relatively low assessed valuation per pupil receive additional state funds to provide better educational opportunities. Other parts of the foundation program include a teacher qualification payment and a student attendance payment. Incentive payments are made on the basis of the number of teachers who have 120 or more college semester hours credit and a higher payment is made for teachers with over 150 hours credit. A flat-grant payment of \$108 per pupil in average daily attendance is made to all school districts meeting the participation requirements.¹⁰³

Population influence

The effects of population decline are difficult to pinpoint due to changes in enrollment brought about by other factors. A generally decreasing trend in enrollment would seem to be indicated from 1952 to 1956, especially in the elementary school.

¹⁰³Missouri State Teachers Association, *Facts About The Financial Needs of Missouri's Public Schools*, 1965. (Columbia, Missouri) page 30-31.

TABLE 35--GROWTH TRENDS IN SELECTED CATEGORIES OF AVA R-1 SCHOOL DISTRICT, 1953 to 1965

School	School Rating	Assessed Valuation of District (Thousands)	Students			Total Teachers (all grades)
			1-8	9-12	1-12	
1952-53	AA	\$1,552	415	471	886	33
1953-54	AAA	1,587	395	456	851	31
1954-55	AA	1,745	390	488	878	33
1955-56	AA	1,640	329	480	809	32
1956-57 ^a	AA	3,304 ^a	824 ^a	522 ^a	1346 ^a	50 ^a
1957-58	AA	4,149	865	524	1389	49
1958-59 ^b	AA	4,470 ^b	949 ^b	525 ^b	1474 ^b	51 ^b
1959-60	AA	4,470	930	511	1441	53
1960-61	AA	5,069	945	504	1449	55
1961-62	AA	4,748	926	532	1458	56
1962-63	AA	4,790	888	544	1432	54
1963-64	AA	5,060	896	583	1479	57
1964-65	AAA	5,200	937	611	1548	59
1965-66						65

^aMarch 29, 1956, 36 districts reorganized into R-1.

^bMarch 29, 1958, District R-9 annexed to district R-1.

TABLE 36--DOUGLAS COUNTY SCHOOL DISTRICTS TOTAL VALUATION,
AND APPORTIONMENT OF REVENUE, 1953-1964

Year	Valuation	State Funds	Total School Apportionment
1953	\$6, 756, 540	\$305, 180	\$325, 513
1954	6, 391, 340	255, 343	270, 683
1955	6, 362, 410	237, 939	257, 599
1956	7, 618, 275	294, 428	313, 686
1957	7, 362, 419	246, 962	261, 690
1958	7, 580, 905	244, 146	271, 482
1959	8, 121, 330	291, 981	315, 020
1960	7, 857, 245	302, 984	326, 737
1961	7, 984, 685	356, 622	382, 691
1962	7, 984, 685	401, 173	428, 293
1963	8, 159, 772	392, 812	420, 959
1964	8, 364, 166	394, 827	427, 716

War babies

The "war baby" influence is not clearly defined and it seems doubtful that it had much influence on the Ava R-1 school system. The only set of observations showing possible "war baby" influence is the decrease of elementary students from 1960 to 1963 and the corresponding increase in high school enrollment during those years. This would correspond to the approximate age levels of babies born during the immediate post-World War II period. The new high school building was built in 1962-63. The high school enrollment had been almost as high in 1956-59 as it was in 1961-63 and the first class of "war babies" should have been graduated from high school in 1964. This would have led to an expectation of declining enrollments after 1964, as the graduating classes were replaced by smaller classes just starting school. The marginal costs of providing instructional staff or building space for these slightly larger classes of "war babies" would be expected to be small since most schools have some excess capacity to handle temporary increases in enrollment. Increased high school enrollment in the 1964-65 school year cannot be attributed to "war babies" due to a corresponding enrollment increase in the elementary school.

The school district showed no apparent effects from the different types of construction activity.

Change in ability to pay for education

Based on assessed valuation of property within the school district and within the county, there was little increase in the ability of the newly industrialized area to pay for educational needs. As measured by the consumer's price index, the cost of living rose 8.1 percent from 1959 to 1964. When this price increase was added to the 1959-60 valuation of the Ava R-1 school district it was found that a valuation of \$4,833,120 was needed to purchase the same quantity of goods as the 1959-60 valuation of \$4,470,694 would have purchased. Subtracting this \$4,833,120 from the 1963-64 valuation left an increased valuation of only \$226,880 to provide the increased educational needs. The tax rate that year was \$2.40 per \$100 assessed valuation (Table 37). This would have provided only \$5,445 of extra buying power over the 1959-60 valuation. Using the same method of calculation and a consumer price index increase of 9.3 percent from 1959 to 1964 it was found that the increase in buying power was only \$7,525 from 1959 to 1964.

Changes in teacher's average salary may be used to measure the changed ability to pay for education. This measure leads to the conclusion that the Ava R-1 district has actually declined in ability to pay for education. Missouri teacher's salary average increased from \$4,476 in 1959 to \$5,535 in 1963 (the latest year available).¹⁰⁴ This was an increase of 24 percent. The increase in Ava R-1 school district's assessed valuation was 13.2 percent during the same period. This is a somewhat misleading comparison, however, because a substantial portion of the increase in teacher's salaries was a result of the school foundation program payments.

School tax rate changes

The tax rate levied on the assessed valuation of private property is shown in Table 37. This rate was lowered substantially for the 1956-57 school year resulting from the economies of scale in the reorganization of the Ava district and 36 rural districts which had combined valuation comparable to the Ava district (See Table 35). This lowered tax rate of \$2.15 remained in effect until 1962, even though additions costing over \$130,000 were made to the elementary building in 1957 and 1958.¹⁰⁵

The levy rate was increased in 1962 as a result of a school bond election. General property obligation bonds totaling just over \$350,000 were sold to raise money for construction of a new high school building. A schedule showing the bonded indebtedness of the Ava school district is presented in Table 38.

¹⁰⁴*Ibid.*, page 9.

¹⁰⁵*Douglas County Herald*, Ava, Missouri, January 31, 1957 and February 13, 1958.

TABLE 37--FINANCIAL DATA--AVA R-1 SCHOOL DISTRICT, 1953 TO 1965

School Year	Assessed Evaluation of District (thousands)	Tax Rate	Total Aid from State and Federal Governments	Current Tax Receipts	Total Payments in Interest and Sinking Fund	Total Receipts	Total Expenses
1952-53	\$1,552	\$2.95	\$ 96,224 ^a	\$ 47,207	\$ 4,718	\$166,168	\$180,769
1953-54	1,587	2.95	---	---	---	---	---
1954-55	1,745	2.90	86,517 ^a	50,872	5,530	174,070	173,036
1955-56	1,640	2.90	92,664 ^a	49,700	5,650	274,884	211,534
1956-57	3,304	2.15	197,841 ^a	81,885	6,772	373,750	372,959
1957-58	4,149	2.15	232,348 ^a	88,055	5,244	542,168	471,395
1958-59	4,470	2.15	236,692 ^b	99,000 ^c	---	---	---
1959-60	4,470	2.15	250,976 ^b	100,000 ^c	5,054	498,723	444,691
1960-61	5,069	2.15	270,834	112,000 ^c	4,964	507,086	447,640
1961-62	4,748	2.15	319,404	104,540	5,865	883,275	498,242
1962-63	4,790	2.40	335,357	118,633	24,652	570,298	744,750
1963-64	5,060	2.40	349,556	124,500 ^c	18,650	842,337	724,374
1964-65	5,200	2.40	---	---	---	768,934	---

^aDoes not include state aid for food services or a few other small miscellaneous items.

^bIncludes state aid for purposes of EQ, TI, and AA only.

^cEstimated total tax receipts. Estimated by multiplying valuation by tax rate and adding a value for tax on intangible property and local assessed utility property. Total receipts from all local sources were \$150,283 in 1959-60; \$149,347 in 1960-61; and \$184,628 in 1963-64.

TABLE 38--BONDED INDEBTEDNESS OF AVA R-1 SCHOOL DISTRICT, 1953-1965

School Year	Interest Due	Principal Due	Total Due	Principal Remaining	Total Remaining
1952-53	\$ 1,715	\$ 3,003	\$ 4,718		
1953-54					
1954-55	1,530	4,000	5,530		
1955-56	1,444	4,205	5,649		
1956-57	1,412	5,360	6,772		
1957-58	1,244	4,000	5,244		
1958-59					
1959-60	1,054	4,000	5,054		
1960-61	964	4,000	4,964		
1961-62	865	5,000	5,865		
1962-63	14,651	10,000	24,651	359,000	534,237
1963-64	14,250	10,000	24,250	349,000	509,987
1964-65	13,937	14,000	27,937	345,000	482,050
1965-66	13,462	15,000	28,462	330,000	453,587
1966-67	12,962	15,000	27,962	315,000	425,625
1967-68	12,462	15,000	27,462	300,000	398,162
1968-69	11,962	15,000	26,962	285,000	371,200
1969-70	11,400	15,000	26,400	270,000	344,800
1970-71	10,800	15,000	25,800	255,000	319,000
1971-72	10,200	20,000	30,200	235,000	288,800
1972-73	\$ 9,400	\$20,000	\$29,400	\$215,000	\$259,400
1973-74	8,600	20,000	28,600	195,000	230,800
1974-75	7,800	20,000	27,800	175,000	203,000
1975-76	7,000	25,000	32,000	150,000	171,000
1976-77	6,000	25,000	31,000	125,000	140,000
1977-78	5,000	25,000	30,000	100,000	110,000
1978-79	4,000	25,000	29,000	75,000	81,000
1979-80	3,000	25,000	28,000	50,000	53,000
1980-81	2,000	25,000	27,000	25,000	26,000
1981-82	1,000	25,000	26,000	-	-

A comparison of the Ava tax rate to the average of all districts maintaining high schools in Missouri is as follows:

	1953	1956	1959	1962	1964
Ava R-1	\$2.95	2.15	2.15	2.40	2.40
State average ^a	\$2.03	2.27	2.37	2.71	2.81

^aMissouri State Teacher's Association, *op. cit.*, page 11.

This information indicates that Ava school district citizens pay less to support their school than does the average citizen of Missouri. If all taxed property in the state were valued on the same basis this would be true.

Needs for improved school facilities

Analysis of the student enrollment data in Table 35 shows that the major changes as a result of school reorganization occurred in the elementary school, because the various rural elementary districts had been sending most of their high school students to Ava, even before reorganization. The elementary facilities had to be increased to provide room for the new students from rural areas.

Interest in improving the high school facilities was shown when several planning meetings were held in 1960 and 1961.¹⁰⁶ The old building had been constructed about 1900 and was, in the opinion of many citizens, not only inadequate for modern instruction, but also unsafe. Classrooms were filled beyond their practical capacity and an enrollment increase was anticipated as employment at the Rawlings factory increased. Facilities for the farm mechanics program of vocational agriculture were judged to be inadequate by the State Department of Education in early 1959.¹⁰⁷

Improvement and expansion of school facilities

An addition to the elementary school costing \$88,833, was made during 1957.¹⁰⁸ In 1958, six more classrooms were added at a cost of \$45,359.¹⁰⁹ A new shop building was constructed for the high school vocational agriculture program during 1959.¹¹⁰ None of these improvements required the issuance of bonds.

Approval of the bond issue to finance construction of the new high school building was difficult to secure. Bond issues require approval of two-thirds of the voters. Six elections took place before approval was obtained in February, 1962. The building was completed in November, 1963. Another addition to the elementary school was completed during the summer of 1965 costing about \$77,000.¹¹¹

¹⁰⁶*Douglas County Herald*, Ava, Missouri, issues of May 5, 1960; February 9, 1961; February 23, 1961; and March 2, 1961.

¹⁰⁷*Ibid.*, January 15, 1959.

¹⁰⁸*Ibid.*, January 31, 1957.

¹⁰⁹*Ibid.*, April 3, 1958.

¹¹⁰*Ibid.*, July 30, 1959.

¹¹¹*Ibid.*, December 30, 1965.

School district receipts and expenses

Financial data for the Ava R-1 School District are set forth in abbreviated form in Table 37. Aid from state and federal sources increased in 1956-57. Federal aid is available for approximately 50 percent of the cost of new buildings or additions necessitated by reorganization. State aid increased with more enrollment and the total amount of state aid available to all schools was also gradually increased during the period analyzed, especially during and after the 1961-62 school year.

Current tax receipts increased somewhat after 1959-60 but primarily only as a result of the tax rate increase to pay off the bonds issued to finance the new high school building.

Total receipts increased somewhat during the period from 1959 to 1965 but it was not possible to determine if it was the direct result of industrialization.

Expenses also increased in the same general proportion as did receipts (Table 37). These increases resulted from the following factors: increased price level, increased teacher's salaries, new buildings or additions to old buildings, new equipment needs for students gained through reorganization, and the effect of increasing salaries for non-teaching employees due to a slight wage increase in the area because factory wages were at or above the legal minimum wage.

Impact on quality of education offered

The official rating system of the Missouri State Department of Education is based on several measures of quality. As shown in Table 35 the Ava school attained the high rating of AAA during the school year 1964-65 for the first time since reorganization occurred. Several measures of quality which had previously been listed as less than perfectly satisfactory were:¹¹²

1. All teachers were not fully certified.
2. Some classes contained over 30 students.
3. Some elementary teachers taught more than one grade.
4. Buildings were not safe or adequate.
5. A speech correctionist was not employed.
6. It was recommended that the school continue improving the science and reading programs for grades one through twelve.

Total expenses of the Ava school district increased gradually during the period studied (Table 37). An increase in expenses of 7.3 percent over the previous year was recorded in 1956-57 while enrollment increased about 66.4 percent. The following year total expenses increased 26.5 percent (\$98,678) while enrollment (Table 35) was increasing only 3.2 percent. These increases in expenses are abnormally high because additional equipment and teaching materials were needed to meet the needs of the new students gained through reorganization. An addition to the elementary building in 1957 cost \$88,833 accounting for most of the

¹¹²*Ibid.*, March 5, 1959.

increased expenses that year. Information was not available for the year 1958-59 but total expenses during the years of 1959-60 and 1960-61 were lower than the 1957-58 total, while enrollment was about 4 percent greater than 1957-58.

School expenditures

Major school expenditure categories, as shown in Table 39, are the teachers fund, incidental fund, and the building fund.

The only impact industrialization was expected to have on the teachers fund was increased population leading to more students and thus a need for more teachers. The only year in which a substantial increase of enrollment was observed was 1964-65. It was concluded that industrialization had little, if any, effect on the increased expenditures in the teachers fund.

The incidental fund is used to pay the operating expenses of the school. Fuel, electricity, teachers' instructional supplies, non-teaching employees' salaries, and many other items are paid from the incidental fund. Definite conclusions were not reached concerning the impact of industrialization on this fund. There was little increase in 1959-60 and 1960-61 over 1957-58 but a significant increase did occur by the period of 1962-64. Part of the increase may be attributed to the increased price level. The purchase of equipment during 1963 for the new high school accounted for most of this increase.

The building fund is used to pay for the cost of new buildings, additions to buildings, and repairs to existing buildings. The larger entries in this fund were related primarily to new building projects. The balance of expenditures was for repairs and building improvements.

Conclusions concerning impact of industry on the Ava R-1 school district

No significant changes were evidenced in the Ava school system as an impact of industrialization. Many changes have occurred but they seem to have been caused by other factors, primarily increased state aid to rural schools in poor areas and by school reorganization. "War babies" and population changes have also probably had some influence on the school district.

The major impact industrialization may have had on the school was an indirect effect. It is probable many of the families with a member employed in the new factories would have left Douglas County to seek work elsewhere. If this is true, then the enrollment in the Ava R-1 school has been held at a higher level than it would have been otherwise.

Construction of the new high school building would have occurred without new industry. It might not have been so large, but erection of new school facilities has been a popular activity in rural Missouri since 1950 and reorganization almost invariably has led to improvement of existing facilities.

TABLE 39--SCHOOL EXPENDITURES BY FUNDS, DOUGLAS COUNTY R-1 SCHOOL DISTRICT, 1952-1964

	Teachers	Incidental	Textbook	Building	Sinking	Interest	Total Expenses
1952-53	\$ 99,538	\$ 47,973	\$ 2,573	\$ 25,968	\$ 3,003	\$ 1,715	\$180,770
1953-54							
1954-55	100,638	58,579	2,672	5,617	4,000	1,530	173,036
1955-56	100,503				4,205	1,444	211,534
1956-57	164,177				5,360	1,412	372,958
1957-58	189,007	175,629	8,017	93,740	4,000	1,244	471,637
1958-59							
1959-60	220,266	177,088	10,190	32,094	4,000	1,054	444,692
1960-61	228,614	183,217	9,905	20,940	4,000	964	447,640
1961-62	262,159				5,000	865	498,242
1962-63	271,475	202,765	9,782	236,076	10,000	14,652	744,750
1963-64	297,261	224,573	7,505	170,700	10,000	14,334	724,373

SUMMARY AND CONCLUSIONS

The greater use of technology in agriculture has meant an increasing average size of farm and resulted in declining rural population in many predominantly agricultural areas. Leaders in these communities have become alarmed at the loss of population, political power, and declining business activity. State and Federal governments are concerned over the problems of young and displaced workers from rural areas migrating to cities seeking jobs which may be non-existent or very low paying.

This study was designed to analyze the changes in local units of government and the business economy that resulted when new industrial plants were located in a rural area.

Conclusions concerning the impact of industrialization on city government were as follows:

1. The ability to pay for services was increased. Property valuation increased by 61.9 percent from 1959 to 1964.
2. The increased ability to pay for services was greater than the demand for new services. The general fund tax rate was lowered from 75 to 60 cents in 1964.
3. City ownership of the electrical distribution system was very important. The electrical system's operating surplus provided an emergency "cushion" to aid the city departments.
4. Industrialization served as a catalyst to bring about the needed expansion and improvement of the sewer system.
5. A self-supporting water and sewer system was an indirect result of industrialization. Fees and rates were set to cover operating costs and pay off the indebtedness.
6. Additional employees were hired by the city after industrialization.
7. The state program of gasoline tax refunds caused an additional substantial impact on city receipts.

Conclusions concerning the impact of industrialization on county government were as follows:

1. The county government did not receive the same benefits from industrialization as did the city.
2. County operating expenses increased more rapidly than did assessed valuation or county receipts.
3. The increases occurring in county receipts were non-industrially associated, except for the increase in City of Ava assessed valuations.

4. The direct causes of increased county expenses were not identified.
5. The increased rate of county expenditures could not be associated with industrialization. Further research is needed to determine if rural counties in general are experiencing increased difficulty in matching their receipts to the cost of providing needed services.
6. It seems most likely that a more efficient method of providing county services is needed; either by combining the duties of various present county officers into fewer offices or by combining several counties into area-wide administrative units.

Conclusions concerning the impact of industrialization on Ava R-1 school system were as follows:

1. Industrial employment probably slowed the population decline and thus caused larger school enrollments than would have been obtained otherwise.
2. Increased property valuation, especially in the city, increased the ability to pay for education.