FARMING OPPORTUNITIES IN WESTERN KANSAS IN THE FUTURE

by

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INTRODUCTION

The familiar theme, agriculture must adjust to a changing economy, has been a topic of considerable interest over the past decade. Kansas has been undergoing a social and economic change as a consequence of economic growth, not only from internal economies, but external economies as well. Change is not a new development, only more pronounced during the last decade.

Not only in Kansas, but also in the rest of the nation, the number of farms has been steadily declining and the average size farm sharply increasing. Farm employment has been decreasing and the amount of capital required for farming has been increasing. Yet farm output has been steadily mounting. These trends are, of course, similar for agriculture throughout the nation, but more pronounced in Kansas, particularly the western one-third.

Science and technology provide the means to produce more with less human efforts. As a consequence, progressively fewer people are needed in farming to furnish the country's basic food and fiber requirements and more human effort is available to work in other industries or services. Through these means, better technology in agriculture has and will continue to enrich the United States as a whole.

Kansas is considered to be primarily an agricultural state when compared to many other states. Thus the explosion of farm technology in recent years has exerted much pressure on many people of this state, particularly those in the western one-third where off-farm opportunities are extremely limited. With few non-agricultural employment opportunities available, it has been necessary for many of the rural youth in this area to migrate.

The improvement in farm technology emerges most dramatically in the form of mechanical power and equipment. This increase in the use of capital to purchase the products of the technological revolution has been the major

factor in the release of labor to other non-farm sectors of the economy. Efficiency of capital in agriculture has greatly increased since the change from animal power to mechanical power, along with the efficiency of the human element in farm-production. A large portion of the land formerly used to produce feed for animal power was released for production of food and fiber for human use. Technological innovations in farm power and equipment have greatly enhanced the capacity of the farmer to handle larger acreage. Thus, in many areas the average size farm has been greatly increasing. Undoubtedly most of the expansion in average size farms has been attained by acquiring smaller farms in the area, thus decreasing the number of farms in the area.

The migration of people out of farming has been rapid in recent years, but not rapid enough in relation to opportunities available for entrance in farming. There will be a continuing pull of young people away from the farm into non-farm occupations as long as the income earning opportunities in non-farm occupations are relatively greater than those in farming. For Kansas, particularly the western one-third, this off-farm migration creates tremendous economic and social adjustment problems.

Problem

Adjustments occurring in agriculture are not new phenomena. Agriculture, just as the remaining portion of the economy, has been adjusting to changing needs and conditions continuously, and quite assuredly more rapidly in the last 30 years. The effect has been an improved standard of living for the rural segment along with the rest of the economy. The pushes and pulls that influence those people leaving the farm do not stem from agriculture alone. The economy as a whole, of which agriculture is only a part, is responsible

for many of these pushes and pulls. The economy is not static, but is in a continuous state of flux. Thus, adjustments are to be expected and not ignored in this dynamic economy. The majority of the people leaving the farm anticipate better opportunities in the non-farm segment of the economy.

The adjustments that are occurring within agriculture in regard to the changes in the number of people on farms and changes in the farm size are largely the result of three types of forces.

The first force to be considered goes back to the original settlement of the United States when farms of the same size were established on soils different in productivity. The Preemption and Homestead Acts generally established the quarter-section farm (160 acres) which has long continued to be the most typical size of farm in many states. Farms of that size may have been adequate for the farming techniques and capital requirements of 100 years ago; even remaining of "good size" as long as horses and mules furnished power for farming operations.

In some areas, the 160-acre farm continues to provide adequate family incomes; for this reason the change in the number of farms and sizes has not been uniform. There are differences in adjustments not only between regions, but also between states and even counties within states. A farm located in the Great Plains might have to be four or five times as large to produce the same income as a farm located in the Corn Belt.

Income, for many families, may not be the ultimate goal. The satisfaction derived from rural living may predominate money income, however the cost, in the form of low income, of remaining on farms, has been continually increasing. In addition, there is an even greater trend arising from the higher standard of living resulting in an increased desire for purchased goods. In order for the small farmer to remain in agriculture and receive the non-

monetary returns of living on a farm, an even greater sacrifice in income is being made than was formerly.

A second force causing immigration from the land is new technology, which lowers per unit costs for larger farming operations and permits one family to operate more acres. There is mounting pressure for farm operators with adequate capital to increase acreage in production. Machinery increases total costs, but if spread over enough acres results in lower cost per acre for operation. Lower costs help increase the net income per acre and thus provide a larger total income for family living. In this process, some farms disappear as separate units and some people are "squeezed out" of farming very much like the harness makers were. This process is not unique to farming, but can be found in other businesses and even whole industries.

Thirdly, a "pulling" force exists in addition to the "pushing" force. This pulling force is one of general economic growth and growth in non-farm employment opportunities. Except for temporary recessions the economy is continually pressing forward. This forward press and growth are reflected in the size of the nation's productive plant and in the amount of goods and services produced.

Many farm families realize the self improvement which could come about by moving to non-farm employment. Families that are unable, because of shortage of capital to enlarge the farming operation, find this especially easy to recognize. Employment opportunities and relatively higher wage rates in non-farm industries provide an incentive for the families in the above described situations to change occupations.

Adjustments as mentioned above are made much easier in some areas than in others. Some communities have not lost population as a consequence of adjustments in farm size and in the number of people on farms. In these areas

the rate of industrial growth has been large enough to absorb the number of persons shifting from farm to off-farm employment. This type of adjustment is the least painful. People can continue to live in the same community. The rapid rate of industrialization in the South (during the post war years) provide a good example for shifts of this type.

However, some agricultural areas can not match the need for employment with economic growth in local industries and services. This lack of nonfarm employment is especially true in the western one-third of Kansas where off-farm migration needs to increase, but the non-farm employment opportunities are few in the area. During 1960, seven new industries were reported by the Kansas Industrial Development Commission in type-of-farming areas 10a, 10b, 11, and 12.[1] Non-farm industries depend on local markets for finished products, water and power supplies, local tax laws, transportation, quality of local government and other factors considered for a good location. If these conditions favor sufficiently rapid growth in local industries, shifts from farm to non-farm employment can be made quite readily. In other areas, the shift could come only through more extensive movements of people to jobs. This type of readjustment has proved to be least painful and most susceptible for rural male youth, particularly right after high school, rather than movement of entire families.

It is necessary for rural leaders to analyze the present and future needs in agricultural communities. Adjustments in the rural segments necessarily involve changes in educational, civic, and social needs of the communities. Adjustments do not come easily, but rural leaders may be better informed by studies such as this and be able to facilitate movement to non-farm employment.

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1. Topeka Capital-Journal, January 18, 1961, p. 4.

Geographical Areas of Study

The geographical areas analyzed in this study were type-of-farming areas 10a, 10b, 11, and 12.[1] The counties within each of these areas are listed below.

Area 10a	Area 10b	Area 11	Area 12
Finney	Ford	Cheyenne	Greeley
Gove	Grant	Decatur	Hamilton
Hodgeman	Gray	Graham	Kearny
Lane	Haskell	Rawlins	Logan
Ness	Meade	Sheridan	Scott
Trego	Morton	Sherman	Wallace
	Seward	Thomas	Wichita
	Stanton		
	Stevens		

In the following Hodges denotes:[2]

> Type of farming relates to the kind, quality, and proportion of the crops and livestock found on an individual farm. A type-of-farming area, on the other hand, is an area in which there is a fairly high degree of uniformity in the types of farming prevailing. This uniformity consists not only in the general prevalence of a particular type, but in similar soil and climatic conditions, similar trends, and similar methods and practices.

These areas mentioned above comprise approximately the western one-third of Kansas.

Perhaps these four areas presently are even more homogeneous, regarding farming conditions and types of farming than in previous years. Wheat is the major crop grown in these areas with grain sorghums occupying an increasing second place. Beef cattle are very important, with increasing emphasis being placed on feedlot operations in the area.

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1. J. A. Hodges, Types of Farming Areas, Kansas Agricultural Experiment Station Bul. 251, August 1930, p. 6.
2. Ibid.

Procedures of Study

The procedures employed in this thesis dealt mainly with assembling the relevant data needed for extrapolation purposes of determining the future farming opportunities for the western one-third of Kansas. The base period for the collection of data was 1950 with projections made to 1975. The year 1950 was the last year available in which rural farm male population was broken down on a county basis by five-year age groups; otherwise, had the rural farm population been known for 1960 it would have been possible to use this year as a more current base period.

The study was concerned with analyzing four type-of-farming areas (10a, 10b, 11, and 12). The map of Kansas (Figure 1) shows the boundaries of the four type-of-farming areas. The areas were analyzed individually and then in combination to ascertain what the supply of and demand for farming opportunities might be by quinquennial periods up to the year 1975. The analysis was carried out in each area and the aggregate area under four alternative situations: (1) a projection based on the current trend of average farm size increase per year (that occurring between 1950 and 1954) and assuming 1.3 operators per farm; (2) a projection again based on the current trend of average farm size increase, but assuming 1.5 operators per farm; (3) the third alternative considers the effects on supply of and the demand for farming opportunities if the current trend (1950 to 1954) of average farm size increase is doubled in each of the areas; (4) the fourth alternative shows the effects on supply of and the demand for farming opportunities in the future if there is no increase in farm size during the projection period. These different alternatives were employed to see what effects different rates of expansion of farm sizes might have on the availability of farming opportunities and to single out the probable surplus of farm youth under different sets of assumptions.

Tables 6, 7, 8, 9, and 10 estimate the number of farming opportunities becoming available in the active labor force through deaths, migration, and retirement for each quinquennial period throughout the projection span.[1] These tables were necessary to obtain the figures used in columns 11, 12, and 13, in Tables 1 through 5.

The results of Tables 1 through 5 are found in columns 15 and 16 of each table. Column 15 indicates the surplus rural farm males above the number required to balance the supply of with the demand for farming opportunities by five-year periods. Column 15 is obtained by adding column 7 (the decrease in opportunities by quinquennial periods) to column 9 (rural farm youth by five-year age groups) minus column 10 (those rural males dying before reaching age 20) then subtracting column 14 (farming opportunities made available by deaths, migration, and retirement). Column 16 is the surplus of farm males expressed as a percent. Column 16 is calculated by dividing column 15 by columns 9 minus 10.

Major Assumptions

A projection method requires the use of expectations about trends in question during the projection period. Formulation of certain conditions assumed to exist in the future is also necessary for estimation of supply of and demand for farming opportunities. Many of the assumptions, where possible, are based upon the most recent rates of change emphasizing trends for future occurrence. It is not to be implied that the assumptions are predictions of the future, but that they are realistically formulated regarding present conditions. In some alternatives the rate of change of factors affecting farm-

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1. All tables are in Appendix B.

ing opportunities was held constant. The results which will actually occur in the future years and those of the projection period will differ by the variation in the underlying assumption.

Rate of Change of Acres in Commercial Farms. The number of acres in commercial farms may increase, decrease or remain constant, but for the purpose of this study they were assumed to remain constant. A comparison of the data for 1950 with that of 1954 indicated an insignificant change in the total number of acres in commercial farms. It appears that retirement of land through government programs, sites for recreational areas, highway expansion programs, and expansion of cities will not have a significant effect on the number of acres in commercial farms during the projection period. By the same token, the most likely means of increasing the number of acres in commercial farms would be for those farms classified as "other" by the Agricultural Census to become either commercial farms or be absorbed by the existing commercial farms. However, had the "other" farms been added to the commercial farms, the total acreage would not change appreciably.

Rate of Change in the Size of Farms. Three different rates of change in the size of farms were assumed for each individual area and the aggregate of the four areas. The assumed rates of change are these: (1) a continuation of the rate found to exist between 1950 and 1954 in each area; (2) a doubling of that rate found to exist between 1950 and 1954 in each area; and (3) no change in average size of farm throughout the projection period in any of the areas.

Estimates of the Number of Commercial Farms. Estimates of the number of commercial farms were obtained by dividing the total number of acres in commercial farms in each area by the average size of farm in that area.

Total Number of Operators.[1] The total number of operators was determined by multiplying the number of farms times the assumed ratio of operators per farm. The two alternative ratios of operators per farm employed were 1.3 and 1.5. These ratios were held constant throughout the projection period. These figures were assumed because no other data were available. The Agricultural Census lists only one operator for each farm; however, in the area under consideration some farms have more than one operator, for example: father-son, father-son-in-law, and partnership relationships.

Hired Labor.[2] Hired labor which is essentially full time and obtains the greatest share of income from farming is defined as representing a farming opportunity. It was necessary to assume that all regular workers were employed on commercial farms for the purpose of this study, since the census makes no distinction between regular workers on commercial farms and those on "other" farms.[3] According to present trends, the number of hired laborers on commercial farms is decreasing. To comply with present trends this study projected the rate of decrease which took place in each area between 1950 and 1954. For the projection period these rates were as follows: (1) aggregate area (10a, 10b, 11, and 12), 83 percent of each previous total; (2) area 10a, 77 percent of each previous total; (3) area 10b, 79.6 percent of each previous total; (4) area 11, 84.6 percent of each previous total; and (5) area 12, 94.3 percent of each previous total.

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1. Multiple operatorships refer to the farms having more than one operator. This would include those farms where partnerships and relationships with three or more operators exist.
2. The hired labor figures used were those listed by the Agricultural Census in the category of "regular workers" (those workers employed 150 days or more).
3. "Other" farms are probably too small to have any hired labor.

Rural Farm Males. Rural farm males were assumed to represent potential demand for farming opportunities of the future. The term, potential demand, is quite distinguishable from actual demand since it includes many of those farm youth which will leave the farm for urban employment. It is not meant to be implied that potential demand consists entirely of those youth on the farms. The small segment of youth coming from the urban areas was considered in the migration rates.

Death Rates. Death rates for all ages of the male segment of the rural farm population in the areas under consideration were assumed to be the same as those used in the Iowa study.[1] It was assumed that death rates in Kansas did not differ significantly from those of males in Iowa. The death rates employed are listed in Tables 6, 7, 8, 9, and 10 in Appendix B.

Migration Rates.[2] The migration rates were calculated for the 1940-50 decade and were assumed to be applicable for the projection period. These are the only rates of migration thus far calculated which were found to be suitable for this study.[3] The migration rates were adjusted to a five-year basis. Thus one-half of the rate calculated for the ten-year period was obtained for use in the study. The migration rates used in this study are applicable for the entire economic subregion 103, which includes somewhat more than type-of-farming areas 10a, 10b, 11, and 12, but as Bowles states:[4] "are relatively homogeneous combinations of counties."

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1. Kenneth Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Unpublished Thesis, Table 17, p. 55.

2. Migration as encountered in this study will refer to the movement of people on a permanent basis. The areas of movement involved are classified generally as farm and nonfarm. All rates calculated were net migration statistics and account for movement of individuals in both directions. This study will be concerned with net off-farm movement when the term migration is used.

3. Gladys K. Bowles, Net Migration from the Rural-Farm Population, 1940-50. U.S.D.A. Stat. Bul. 1956, Table 7-104, p. 145.

4. Ibid., p. 6.

Thus in considering each type-of-farming area individually, it was necessary to employ the same migration rates. Necessarily then the applicability of the migration rates existing between 1940 and 1950 had to be assumed relevant for the projection period in the type-of-farming areas herein.

Average Beginning Age of Farming. Age 20 was assumed to be the average beginning age in this study. The data used for population, death rates, and migration were consistent with the use of age 20 as starting age for farming, since the data were enumerated according to five-year age groups.

Retirement Age. Age 65 was selected as the retirement age. The greatest support for age 65 is found in recent social security legislation which includes farmers under retirement benefits. Estimation procedures were carried out in Tables 6 through 10 up to 1975 with the assumption that all retirement occurred at age 65.

Technology. Technology is assumed to continue through the projection period at that rate which prevailed from 1950 through 1954. This assumed rate is partially accounted for by a continuation of the average farm size increase and the percent decrease of hired labor that took place between 1950 and 1954. The decrease in the hired labor accounts for its replacement by the capital. It is easily seen that the projected rate of technological advancement during this period was relatively conservative with what may well occur during the projection period. Thus the adaption of new technology might even be greater than that assumed in the study.

Economic Conditions. Economic conditions were assumed to continue at near full employment level without any catastrophic events throughout the projection period. Movement of the surplus labor from farm employment to nonfarm employment will be less difficult if these conditions continue during the period of projection. Any tendency of unemployment or war will inhibit

the transfer to urban employment.

Family Farm. It was assumed that the family farm would continue to be the dominant structural, organizational unit in the area of consideration. If the corporation farm became the dominant structure in the area, the changes projected may be significantly different; the average size farm may be much larger, the number of farms much smaller, and the number of hired laborers larger. However, corporation farming units have not gained in these type-of-farming areas between 1954 and 1959, according to the 1959 preliminary census report.

The proceeding are the major assumptions used for this study. The exact rates of change, death and migration rates, etc., are stated subsequently in this thesis where application is made. The major assumptions are restated as footnotes wherever applicable.

FACTORS AFFECTING FARMING OPPORTUNITIES

There are two kinds of factors affecting farming opportunities: (1) factors affecting the supply of farming opportunities and (2) factors affecting the demand for farming opportunities. The factors affecting supply of and demand for farming opportunities are not peculiar to the areas under consideration in this thesis alone, but could be used for similar analyses in other areas as well. However, the magnitude of the various factors may differ considerably from one area to another area.

Factors affecting the total number of opportunities (Columns 1 through 6 in Tables 1 through 5) as well as the death rate, migration rate, and retirement age are the supply factors. Factors affecting the number of rural farm males reaching age 20 each quinquennial period seeking farming opportunities are the demand factors.

Supply of Farming Opportunities

Factors affecting the supply of farming opportunities are: (1) change in acres of commercial farm land; (2) changing size of farms; (3) migration out of farming; (4) deaths in the active labor force; (5) ratio of multiple operatorships; (6) retirement age; (7) hired labor.

Change in Acres of Commercial Farm Land. In a predominantly rural area, where agriculture is the principal industry and where growth in non-agricultural industries is at a very slow rate, the amount of land going into non-commercial farm use is almost insignificant. A lack of industrialization is encountered in the type-of-farming areas under consideration. Rural population has been shrinking and small towns have been decreasing in size in the forementioned areas. Without a major development such as the establishment of a large defense or industrial plant it may readily be seen that conditions in the above mentioned areas, with respect to urban use of land will change by an insignificant amount during the projection period.

Factors thought to decrease the total number of acres in commercial farms were analyzed to a brief extent and found not to be applicable in the type-of-farming areas studied. Highway development programs were estimated to take out of commercial farmland only a nominal amount for the entire area. Assuming an urban development in the area was considered to be unrealistic on the basis of past trends. In areas as highly specialized as these, with little metropolitan expansion occurring, part-time farm expansion and rural residence expansion would account for little decrease in the total number of acres in commercial farmland during the projection period. Recreational facilities, such as provided by grassland parks or man-made reservoirs, were assumed not to significantly affect the number of acres in commercial farmland over the 25-year projection.

For the reasons mentioned above, it seems realistic to assume a constant number of acres in commercial farms. It is recognized that government programs may have a significant effect upon the number of acres in commercial farmland, but without knowing the specific details of such programs it is impossible to make reliable estimates. The study provides background information for estimating the efforts of these programs if needed, however. If the number of acres was largely decreased an even greater number of rural farm males than estimated in these analyses would be forced to migrate because of lack of farming opportunities.

Changing Size of Farms. As the average size of commercial farms increases the supply of farming opportunities is reduced. On the other hand, if the average size of farms decreases, the supply of farming opportunities is increased. While acreage in commercial farms remains constant, the average farm size is increasing. The increases in farm size are projected at different rates for the areas considered, with the exception of one alternative; Tables 1D through 5D assumed average size of farm to remain constant at the 1950 level. The average farm size increase between 1950 and 1954 for the type-of-farming areas 10a, 10b, 11, and 12 and the aggregate area was 8.0, 11.4, 6.2, 14.6, and 10.0 acres per year respectively.[1]

Assuming that the trend of increasing farm size will continue in the future and the continued substitution of capital for labor will prevail, it is expected a persistent decline in the supply of farming opportunities for both farm operators and for hired labor. By dividing the total number of acres in commercial farms by the successively larger average size farm for

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1. Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, p. 14.

each quinquennial period, the end result shows a decreasing number of farms in each five-year period and consequently successively fewer total opportunities.

The above approach appeared to lend itself realistically for the areas of study. The reality has also been borne out by the fact that from 1954 through 1959 the average Kansas farm increased by 64 acres, from 416.3 to 480.6 acres. It is true that farms cannot increase indefinitely, but it is the belief of the author that the assumed average annual increases per farm for the projection years are relatively conservative. Trends of what has happened during the past two decades to the average size of farm in Kansas is better indicated by Figures 2 and 3 in Appendix A.

Migration Out of Farming. Migration out of farming or migration as it shall be referred to hereafter, may have either a positive or a negative effect on the supply of farming opportunities. If migration is increased, the supply of farming opportunities will be increased and the potential demand for farming opportunities may also be decreased, that is, when the farm being migrated from is absorbed into an already existing farm unit. When migration out of farming is too slow the supply of farming opportunities is less than the demand for farming opportunities and there exists a surplus of farm population over the amount needed to balance the supply with the demand.

Migration may be affected by many factors. The five major factors are: (1) the economic growth of the rest of the economy, (2) distance of movement, (3) educational preparation for non-farm employment, (4) age, and (5) community attachments. Probably the greatest dependence is placed upon the economic growth of the non-farm economy. If non-farm employment opportunities are in abundance, the rate of migration is found to be consistently much higher.

The only migration rates found to be suitable for this study were attained from Bowles study of net migration from the rural farm population.

1940-50.[1] Migration rates obtained from this source are employed in Tables 6 through 10 in estimating the number of rural farm males by five-year age groups that would migrate in each successive quinquennial period during the projection period. It should be pointed out that 1940-50 migration rates are antiquated since conditions are dynamic and not static; however, these rates are better than artificial rates without historical justification. It is strongly suspected that the migration rates during the projection time will be greater than those employed which would tend to increase the supply of farming opportunities becoming available.

Deaths in the Active Labor Force. The number of deaths in the active labor force is another factor affecting the supply of farming opportunities becoming available in the future. The active labor force is composed of the rural farm males in type-of-farming areas 10a, 10b, 11, and 12 between the ages of 20 and 65. As a release of farming opportunities this factor has remained relatively stable, being a factor of more relative importance at the advanced ages. It was not possible to obtain the survival ratios of rural-farm males or Kansas males by age groups as required in this study. However, it appeared the death rates computed for the Iowa study for males by five-year age groups would not differ significantly from those expected in Kansas.[2] By making this assumption, the rates were used in estimating the number of deaths which would occur by quinquennial periods throughout the projection span in type-of-farming areas 10a, 10b, 11, and 12 and the aggregate area shown in Tables 6 through 10. It was also necessary to assume the death rates to remain constant throughout the projection period. Farm-

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1. Bowles, loc. cit.
2. Joslin and Timmons, loc. cit.

ing opportunities becoming available through deaths in the active labor force were of much less importance than those emerging from migration or retirement. For example, in Table 1A, 1,604 opportunities became available through deaths in the active labor force during the projection period, while 3,144 and 9,049 opportunities became available from retirement and migration respectively.

Ratio of Multiple Operatorships. Multiple operatorships, as was indicated in the major assumptions, refer to the farms having more than one operator. By taking into account multiple operatorships, farms were analyzed more thoroughly regarding the supply of farming opportunities. If each farm was considered to have only one operator, as the Agricultural Census enumerates, there would have been an understating of supply of farm opportunities in each of the type-of-farming areas and the surplus of farm youth would have been even greater. Many father-son arrangements exist as well as partnerships, and relationships with three or more operators in the western one-third of Kansas.

By employing an average ratio of operators per farm it was possible to estimate the number of operators necessary for operation of the commercial farms in the areas during the projection period. For example, the number of total operators was estimated by multiplying 1.3 times the number of commercial farms.[1] It was necessary to assume that this factor would be applicable throughout the projection period for each alternative situation considered. Two different average factors for operators were used in the four alternative analyses, 1.3 and 1.5. The first factor employed, 1.3 operators per farm, was considered to be most appropriate in the areas analyzed and was employed

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1. See Table 1A in Appendix A.

in all alternative analyses, except part B of Tables 1 through 5 where 1.5 was employed. This change in the number of operators per farm would account for any shift to more labor intensive farming operations which may occur in the future. For example, if cattle became more important in the area it is conceivable that labor requirements per farm would increase.

Retirement Age. Retirement is differentiated from normal migration in that it is a situation which warrants the withdrawal of individuals from the full employment ranks. Retirement age assumed in all the alternative analyses is 65. It was realized that retirement in reality takes place at a number of different ages, but it was necessary to assume one particular age in making a projection for the future.

The basis for selection of age 65 lies in the extension of social security coverage of the farm population. Even with social security coverage of the farming population it is surmised the number retiring at age 65 may be less than indicated in Tables 1 to 5, which, were this the case, the supply of farming opportunities becoming available would be even less.

If any factor becomes established in reducing the retirement age of individuals in farming, then fewer of the younger members of the labor force will need to migrate and more of the newcomers will find it possible to enter farming because the supply of farming opportunities will have increased.

After considering the factors regarding the current trend in retirement age it is felt that retirement age would tend to be reduced rather than increased in the future in attempting to equate the rural conditions with the urban conditions. Of course, many other factors may affect retirement age, such as nearness to urban centers, financial status, and state of health. Thus it was concluded that retirement at age 65 might be a conservative figure, but it does not deviate from reality appreciably.

Hired Labor. The basic assumption concerning hired labor is that a portion of the farm workers employed as hired labor actually represents farming opportunities. For all practical purposes, hired labor which is full-time (the classification of "regular workers" in the Agricultural Census of 1954) and which obtains the greatest share of its income from its occupation in farming, is recognized as representing a farming opportunity. Other than the preceding statement it should be stated that no criteria were established for adequacy of a farming opportunity. Assumptions regarding the hired labor factor made in the alternative analyses in each area are expected to continue during the projection period.

Hired labor, as represented in this thesis, may be effected by many factors such as the rate of replacement of labor by machines, the wage rates in the non-farm economy, the abilities of hired labor, the importance of type-of-work preference and dollar income, and the load which specialized management will be able to bear with the resulting effects on full- and part-time workers. Any of these factors may hasten or inhibit the rate of decrease of hired workers on commercial farms in Western Kansas, thus decreasing or increasing the supply of farming opportunities.

The "regular worker" category is the only classification used in this study upon which projections are based. It is also assumed that all regular workers are employed on commercial farms. Justification of this assumption is that there are few farms other than commercial farms, in any of the type-of-farming areas considered.

Throughout the projection period as the number of hired laborers on farms decreases the supply of farming opportunities decreases also. The continuation of the trend existing between 1950 and 1954 is generally expected to continue not only in Western Kansas, but throughout the United States. The

decrease of hired labor due to mechanization appears to be closely associated with the more attractive opportunities in the non-farm economy in terms of income and working environment. If the mobility of labor continues, it appears the marginal returns to labor in the farm sector would approach equilization of the marginal returns to labor in the non-farm sector. When equilibrium is attained, the quantity of labor in both markets should stabilize.

Demand for Farming Opportunities

The potential demand for farming opportunities is represented in this study by the maturing farm males (those reaching age 20) as enumerated in the rural farm category of the Census of Population, 1950.[1] The demand for farming opportunities (number of farm males seeking opportunities) is determined by (1) the number of rural farm males born, (2) the effects of in and out migration, and (3) by the number of farm males dying before age 20. The major determinants affecting demand for farming opportunities are discussed further below.

Birth Rate of Rural Farm Males. The birth rate of rural farm males appears to be affected by many factors such as the composition of the rural farm families (ages of men and women on farms), the prosperity of the national economy (inflationary or deflationary period), size of the family, and many other factors beyond the realm of present discussion. The birth rate of rural farm males is basic to the actual and potential demand for farming opportunities. However, in this study the rural farm males that represent demand for farming opportunities were all born by the base year (1950), except

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1. U. S. Department of Commerce, U. S. Census of Population, 1950, Volume II, Characteristics of the Population, Part 16, Kansas, pp. 125-131.

the group representing demand for farming opportunities between 1970 and 1975. That number of rural farm males, ages -5 through -1, was not yet born. It was necessary to estimate the figure employed by calculating the rate of decrease experienced by the 0 - 4 age groups between 1940 and 1950. By assuming that rate of decrease was linear, it was possible to interpolate and half the decrease occurring during the ten-year period was employed as the rate of decrease between 1950 and 1955.

Migration of Farm Youth before Age 20. Migration of rural farm males before age 20 is the second factor affecting the demand for farming opportunities. These are the male youth leaving the farm before entering the active labor force. Migration of rural farm males before age 20 may be merely a coincidence of their parents' moving to an urban area or it may be independent of the parents' actions such as those males entering the military service, continuing education, or establishing non-farm employment. Those youth migrating as a result of their parents' movement are generally 16 or less years old and probably have cut all ties with farm employment and will seek non-farm employment.

Deaths Among Rural Farm Males Under Age 20. Deaths are probably the least influencing factors affecting the demand for farming opportunities. For those age groups below age 20, death rates are very low and are practically insignificant except for the first year after birth. Migration does not account for deaths, therefore a separate entity was made. Deaths before age 20 are estimated in Tables 6, 7, 8, 9, and 10 in Appendix B. Deaths are deducted from the potential demand just as migrates are. By carrying this process through to age 20 for each age group, the results will be the actual demand for farming opportunities. After age 20, the age of entry into farming, vacancies resulting from either migration or death become opportunities as

set forth in the factors under supply.

ANALYSES OF INDIVIDUAL AND COMBINED AREAS

Decrease in Actual Opportunities

Census data have shown the number of commercial farms in type-of-farming areas 10a, 10b, 11, and 12, for 1950.[1] To obtain the average size of these farms, the total acres in commercial farms[2] for the involved counties were summed, then divided by the number of farms. For this particular area it was justly assumed that changes, decreases and increases, in total commercial farm acres would be nearly the same. This allowed the 1950 figure to be held constant over the projection period. Again, peculiar to this area, there is very little urban expansion requiring an increasing number of acres to be withdrawn from farm production. Any withdrawal of farm acreage for expansion of highways or recreation areas during the projection period was not thought to be conceivably significant to affect the results obtained.

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1. It was necessary to use 1950 data for number of farms in order to conform to the number of rural farm males on farms as enumerated by the 1950 Population Census.

2. Commercial Farms. Definitions of classes of farms are taken from the U. S. Census of Agriculture and include the three non-commercial classifications of part-time, residential and abnormal farms. The classification of farms by economic class was made on the basis of three factors; namely, total value of all farm products sold, number of days the farm operator worked off the farm, and the relationship of the income received from non-farm sources by the operator and members of his family, to the value of all farm products sold. Farms operated by institutions, experiment stations, grazing associations, and community projects were classified as abnormal, regardless of any of the three factors.

In making the classification of farms by economic class, farms were grouped into two major groups; namely, commercial farms and other farms. In general, all farms with a value of sales of farm products amounting to $1,200 or more were classified as commercial. Farms with a value of sales of $250 to $1,199 were classified as commercial only if the farm operator worked off the farm less than 100 days or if the income of the farm operator and members of his family received from non-farm sources was less than the total value of all farm products sold. The remaining farms with gross income of $250 to $1,199 and farms with a value of sales of all farm products of less than $250, as well as farms operated by institutions, experiment stations, grazing associations and community projects, were classified as "other farms."

Column 2 is a projection of the change in average size farm for the type-of-farming areas considered. This estimate is based on the actual change that occurred in the counties within the four type-of-farming areas 10a, 10b, 11, and 12, between 1950 and 1954. The first assumption made was that there will continue to be an average annual increase of 10.0 acres in size of farm or 50 acres each quinquennial period. With columns 1 and 2 known, column 3 (number of farms) may be projected for the future. Column 4 considers the effect of multiple operatorships. The first alternative assumption considered was 1.3 operators per farm. Although there are no data available to support this figure, it was felt to be the most realistic in the western one-third of Kansas. The alternative assumption used in Tables 1B to 5B was 1.5 operators per farm. This alternative was considered in light of a change in farming operations to a much more rigorous labor-using type operation such as cattle feeding or feed lot operations. By multiplying the number of farms (column 3) times the factor 1.3 or 1.5, as the case may be, the figures for column 4 were obtained.

Column 5 indicates the influence of hired labor on farming opportunities. The assumption made was that the declining rate of regular workers from 1950 to 1954 will continue at that same rate each five years throughout the projection period. By reducing hired labor levels by that rate of decrease occurring from 1950 through 1954, each five-year period, the figures in column 5 were obtained.

Total opportunities are the effect of aggregating the individual factors for any given year; for example, Table 1A in 1950 shows 15,275 farms each with one operator plus 4,583 multiple operators equaling 19,858 total operators in column 4. Adding to this subtotal the 2,795 hired labor opportunities makes 22,653 total opportunities. The preceding series of operations is repeated

for each remaining quinquennial period. Hence, total opportunities are affected by the integrated results of (1) acres in commercial farms, (2) number of farms, (3) average size of farms, (4) ratio of multiple operatorships, and (5) rate of decrease in hired labor on farms. Horizontal summing produced the number of total opportunities. The decrease in opportunities, column 7, is obtained by subtracting the successive sum in column 6 from the preceding quinquennial figure.

Present Opportunities Made Available

Data were obtained in this section by taking into account the influence of the various factors which cause farm opportunities to become available by persons in the active labor force.

The figures in column 12 are estimates of the number retiring in the future years at each five-year interval. Columns 11 and 13 represent the estimates of deaths and migration respectively for each five-year span throughout the projection period. These three columns were summed in column 14 and show for each quinquennial period the number of opportunities emerging. The procedure for determining these estimates has been shown in greater detail in Tables 6 to 10.

Potential Demand by Farm Youth

Potential demand for farming opportunities is represented by farm males up to age 20. Estimates of the rural farm males were obtained on a county basis and then aggregated for the area.[1] These estimates are the figures in column 9, and were enumerated by five-year age groups in the census, each

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1. Census of Population, loc. cit.

group reflecting a decrease from the original number born. Additional decreases resulting from migration and deaths were estimated for the years after 1950. By this method the number of farm males who reach age 20 were estimated and were assumed to be eligible to enter farming.

Four alternative tabular analyses were undertaken for each of the type-of-farming areas 10a, 10b, 11, and 12; then the four alternative analyses of the combined four areas were made. The four alternatives considered in each case were these:

1. The continuation of present trends regarding average size of farms.
2. An increase in the operator requirements.
3. A doubling of the average size farm increase each quinquennial period.
4. No change in farm size or hired labor requirements.

Each of the areas will be analyzed more specifically below.

Type-of-Farming Area 10a

Tables 2A, 2B, 2C, and 2D, show the results of the four alternative projections made in type-of-farming area 10a. Table 2A shows the effects of balancing the supply of with the demand for farming opportunities on the basis of continuation of current trends. Table 2B employed the same assumption as Table 2A with the exception of 1.5 operators per farm being assumed rather than 1.3 operators per farm. The basis for this assumption was explained in a previous section. Table 2C shows the effects if the average farm increase were twice of that which actually took place between 1950 and 1954. Finally, Table 2D estimates the imbalance between the supply of and the demand for farming opportunities if the present conditions regarding the acres in commercial farms, average size of farms, number of farms, operators per farm and hired

labor on farms remained constant.

The total number of acres in commercial farms was assumed to remain constant in all the alternative parts of Table 2 at 3,391,366 during the projection period. The average size farm in 1950 in area 10a was 888 acres. The average size farm increased 8.0 acres per year between 1950 and 1954.[1] Thus, the yearly increase of eight acres per farm was the figure employed in Tables 2A and 2B, and twice that, 16 acres per farm, was used in Table 2C. Table 2D assumed no change in farm size during the projection period. A decrease in the number of farms is reflected in column 3 in each table. Column 3 shows the decrease in the number of farms that would occur due to an expansion of the size of farms. If the present trend continues a decrease in the number of farms from 3,818 to 1,117 is expected by 1975. Were the trend of increasing the size of the farms accelerated, there would be even fewer farms, 2,633, thus a much greater decrease in opportunities, and consequently, a much greater surplus of farm youth.

Tables 2A, 2C, and 2D, assumed 1.3 operators per farm, thus deriving the number of total operators by multiplying 1.3 times the number of farms during each quinquennial period. However, Table 2B is based on the assumption of 1.5 operators per farm, and consequently offers a greater number of total farming opportunities. Actually, a greater decrease of opportunities took place over the projection period than that reported in Table 2A, but less than that occurring in Table 2C due to the vast annual increase in the size of farm.

Hired labor in Tables 2A, 2B, and 2C, was assumed to decrease at the same rate which occurred between 1950 and 1954. The hired labor figure for 1954 was found to be 77 percent of the 1950 figure.[2] This same rate of decrease

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1. Hoover, loc. cit.
2. Calculated from 1950 and 1954 Agricultural Censuses. "Regular workers" on farms by counties were used in both years.

was assumed to continue over the projection period. Hired labor was assumed to remain constant in Table 2D. Total farming opportunities are the addition of columns 4 and 5. Total opportunities decreased from 5,607 to 4,226 in Table 2A; from 6,371 to 4,850 in Table 2B; and from 5,609 to 3,597 in Table 2C. Therefore, the total decrease in farming opportunities for Table 2A was 1,381; 1,521 for Table 2B; and 2,012 in Table 2C. Obviously, if the size of the farms remained unchanged in the future, the number of available farming opportunities will be larger than those available under the continuing expansion in the size of farms.

Column 8 in Tables 2A, 2B, 2C, and 2D, indicates the age groups which will become of entrance age to farming during the corresponding quinquennial period as shown to the left of column 7. Column 9 lists the number of rural farm males corresponding to the age groups as shown in column 8. The number of rural farm males was obtained from the Population Census, 1950, as listed by age groups by counties.[1] The total number of rural farm males was 4,024 for the projection period. Age group -5 to -1 was not yet born in 1950, so it was necessary to estimate the figure used. Estimation was obtained by decreasing the number of individuals in the 0 to 4 age group by half the rate experienced by the same age group between 1940 and 1950. To employ this method, it was necessary to assume the decrease between 1940 and 1950 would continue at a linear rate.[2]

Column 10 in Tables 2A, 2B, 2C, and 2D, estimates the number of rural farm males dying before reaching age 20, thus the resulting decrease in the actual demand for farming opportunities. Death rates employed for these age

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1. Census of Population, loc. cit.
2. See Table 7B, footnote "a".

groups were those used in the estimating procedure in Tables 6 to 10 for the particular age groups. The number of deaths estimated to occur before age 20 for type-of-farming area 10a was 101 by 1975 or a decrease in the actual demand for farming opportunities by 101 during the 25-year period. This, as can readily be seen, is a very insignificant amount relative to those youth demanding opportunities.

Columns 11, 12, and 13, in Tables 2A, 2B, 2C, and 2D, are factors making farming opportunities available during the projection period in type-of-farming area 10a. Column 11 lists the number of rural farm males dying between ages 20 and 65 for each successive quinquennial period over the projected era. Tables 2A, 2B, 2C, and 2D, show 406 opportunities becoming available over the 25-year period due to deaths in the active labor force.[1] Column 12 indicates 777 males retiring from the active labor force of rural farm males in type-of-farming area 10a over the projected period. Column 13 lists 2,333 rural farm males in the active labor force migrating during the projection period. Columns 11, 12, and 13, were estimated from Tables 7A to 7E in Appendix B. Greater detail regarding estimation procedure may be found in the aforementioned tables. Column 14 is a total of the farming opportunities made available in columns 11, 12, and 13.

Columns 15 and 16 are the most significant in Tables 2A, 2B, 2C, and 2D. These columns show the results of the analyses of the alternative conditions and assumptions in these tables. Column 15 is the surplus of male farm youths of the original number in column 9. Column 15 was calculated in the following manner: column 7 plus column 9 (after subtracting for deaths, column 10) minus column 14. Column 16 expresses the surplus of farm youth

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1. See Tables 7A-7E.

by percentage. This column was calculated by dividing column 15 by columns 9 and 10. Column 15 is useful in that it indicates if the assumptions were correct in Table 2A; 1,788 out of 4,024 male farm youth reaching age 20 need to migrate before 1975, because of lack of farming opportunities; another way of stating this is that there will be a surplus of 45.6 percent of farm youth in area 10a by 1975. The surplus and percent surplus columns were calculated for each five-year period over the projection period. Table 2B shows a surplus of 1,928 rural farm males or 47.9 percent. Table 2C shows the greatest surplus, 2,419 farm youth or 61.7 percent by 1975, which would be expected with an increased reduction of farming opportunities occurring over the projection era. Table 2D shows that if conditions are held constant, there would still be a surplus by 1975 of 407 rural farm youth or 10.4 percent for the projection period. However, during the 1950-55 and 1955-60 quinquennial periods there would be a deficit of farm youth to fill the supply of farming opportunities becoming available by 17 and 16 respectively.

It was interesting to note that in all the tables pertaining to type-of-farming area 10a, the surplus figure dropped during the 1970-75 quinquennial period. This reduction was accounted for by the decreased number estimated to be in the -5 to -1 age group. In all tables there was a surplus of farm youth compared to the supply of opportunities becoming available during the projection period, ranging from 61.7 percent in Table 2C to 10.4 percent in Table 2D.

Type-of-Farming Area 10b

Type-of-farming area 10b was analyzed in the same manner as area 10a, thus a discussion of the assumptions which differ and are peculiar to area 10b shall follow. The average size commercial farm in area 10b was found to

be 938 acres in 1950 and increasing at an annual rate of 11.4 acres.[1] Thus, in Table 3C, where twice the rate of Table 3A was assumed, the increase was 22.8 acres per year. Assumptions regarding number of operators were the same as employed in area 10a. Hired labor decreased at a rate of 20.4 percent between 1950 and 1954; thus, it was assumed during the projection era that each successive total would be 79.6 percent of each previous total. The total number of rural farm males reaching age 20 over the 25-year projection period was 4,042 minus the 101 that died before reaching age 20. This number was very close to that found in area 10a. Columns 11, 12, and 13, were estimated from Tables 8A to 8E in Appendix B.

Columns 15 and 16 again show the surplus male farm youth and percent surplus, respectively, in Tables 3A to 3D by five-year periods and at the bottom of the tables for the 25-year projection period. Area 10b shows a higher surplus for the entire period in each alternative considered than area 10a except in Table 3D. Table 3A shows 56.6 percent surplus; Table 3B, 61.5 percent surplus; Table 3C, 76.3 percent surplus; and 9.54 percent surplus in Table 3D. The greater annual increase in the average size of farm was the primary reason for a greater surplus of male farm youth. This change in the farm size resulted in a greater decrease in opportunities in column 7 which is a primary determinant of column 15. The reason Table 3D has a smaller percent surplus (9.5) than Table 2D (10.4) for area 10a is the much greater deficit of farm male youth which occurred during the 1950-55 era in Table 3D and was averaged in with the remaining quinquennial periods, thus tending to reduce the percent surplus for the 25-year period.

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1. Hoover, loc. cit.

Type-of-Farming Area 11

The alternative analyses considered in type-of-farming area 11 are shown in Tables 4A, 4B, 4C, and 4D. Area 11 was found to have the least percent surplus of rural male youth of any area considered. This low surplus accounted for primarily by three factors: (1) a much larger number of acres in commercial farms, 4,242,696; (2) a relatively small average farm size increase per year, thus a small decrease in total opportunities; and (3) a somewhat larger percentage of hired labor employed in each successive five-year period than in previous areas considered.

The average farm size found to exist in 1950 was 841 acres.[1] The average annual increase which occurred between 1950 and 1954 was 6.2 acres.[2] This figure was assumed to continue over the projection period in Tables 4A and 4B and a yearly increase of 12.4 acres was assumed in Table 4C. Average farm size by 1975 would be 996 acres in Tables 4A and 4B, 1,151 acres in Table 4C, and it would remain at 841 acres in Table 4D. Hired labor was assumed to continue to decrease at the same rate which occurred between 1950 and 1954. However, this rate of decrease in hired labor was somewhat less than that encountered in previously considered areas: 84.6 percent of each previous total.

A larger number of total operators, a smaller rate of decrease in hired labor, and a smaller increase in the average annual farm size account for the fewer decreases in farming opportunities over the projection period. Area 11 had a much larger number of rural farm males attaining age 20 over the projection period (4,739) than either area 10a or 10b, thus a greater

1. Ibid.
2. Ibid.

demand for farming opportunities. However, the greater demand for was encountered by a greater supply of farming opportunities becoming available in the future, and therefore, the projected estimates for area 11 show less surplus farm youth than either area 10a or 10b. Column 15 in Tables 4A to 4D shows the following surplus of farm youth: Table 4A, 1,367 or 29.6 percent; Table 4B, 1,524 or 33.0 percent; Table 4C, 2,113 or 45.7 percent; and in Table 4D there is an estimated deficit of 38 farm males by 1975. This shortage of farm labor as estimated in Table 4D is the only case among the areas and situations considered. The shortage of farm labor would come about if the present size of the farms continued in the future which in a growing economy such as ours is not likely to take place.

Type-of-Farming Area 12

Type-of-farming area 12 had the smallest number of acres in commercial farms, the largest average size farm, the greatest average annual increase in farm size, the smallest number of farms, and the fewest number of rural farm males reaching age 20 during the projection period, of any of the type-of-farming areas previously considered. The net results of the preceding statement regarding the percent surplus in area 12 were very close to the results obtained in area 10a. Comparison of alternative tables in area 10a with those in area 12 shows: Table 2A with 45.6 percent surplus vs. Table 5A with 45.3 percent surplus; Table 2B with 47.9 percent surplus vs. Table 5B with 49.4 percent surplus; Table 2C with 61.7 percent surplus vs. Table 5C with 62.5 percent surplus; and Table 2D with 10.4 percent surplus vs. Table 5D with 12.5 percent surplus.

It was assumed acres in commercial farms would remain constant in area 12 at 3,110,306. Average farm size in 1950 was 1,365 acres with the average

annual increase being 14.6 acres.[1] Thus, the average farm size by 1975 would reach 1,730 acres shown in Tables 5A and 5B. This attained size is the largest of any of the areas previously analyzed. The annual average farm size increase in Table 5C was assumed to be 29.2 acres. Assumptions regarding total operators in area 12 were the same as those employed in the preceeding areas. Hired labor was found to be decreasing at the slowest rate in area 12, being 94.3 percent of each previous total. This factor tended to offset the rapid decrease in the number of farms due to the large average annual farm size increase, thus causing less decrease in farming opportunities over the entire projection period. This area is just the reverse of area 11; both the supply of available farming opportunities and the demand for farming opportunities are smaller in area 12 than those estimated for area 11. However, there was still a surplus of 1,074 farm youth shown in Table 5A; 1,171 in Table 5B; 1,483 in Table 5C; and 297 in Table 5D. These numbers indicate the number of rural farm males who will need to migrate in order for the supply of and the demand for farming opportunities to be brought in balance.

Aggregate Area (10a, 10b, 11, 12)

Type-of-farming areas 10a, 10b, 11, and 12, were aggregated and analyzed as a single area in Tables 1A, 1B, 1C, and 1D. The patterns of alternative analyses were the same as those employed in the preceeding analyses of the individual areas. In 1950 there were 14,623,333 acres in commercial farms in the aggregate area.[2] This figure was assumed to be applicable over the

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1. Ibid.
2. United States Census of Agriculture, 1950, Volume I, Part 13, County Table VI.

projection period and was held constant. The average size farm in the aggregate area in 1950 was 953 acres and between 1950 and 1954 the average increase in farm size was 10.0 acres per year.[1] This increase was assumed to prevail over the projection period in Tables 1A and 1B, while in Table 1C twice that rate was assumed: 20.0 acres per year. The number of commercial farms in all the tables in 1950 was 15,275, decreasing by 1975 to 12,110 farms in Tables 1A and 1B, and to 10,033 farms in Table 1C. Assumptions regarding the total number of operators were: 1.3 operators per farm in Tables 1A, 1C, and 1D; and 1.5 operators per farm in Table 1B.

Hired labor in the aggregate area is assumed to continue to decline at the rate of 17 percent for each quinquennial period. This percentage decline is based on the rate of decrease observed between 1950 and 1954. Total decrease in opportunities for the 25-year period is: in Table 1A, 5,796; in Table 1B, 6,429; in Table 1C, 8,496; and in Table 1D, 0. The variation in these figures is due to the underlying assumptions employed in the first five columns of each table.

The potential demand for farming opportunities can be seen in column 9 represented by the number of rural farm males in the various age groups in 1950. Column 10 shows the number of rural males out of column 9 dying before reaching age 20. Potential demand is decreased slightly by those dying before reaching the age requiring farming opportunities. Columns 11, 12, and 13, were ascertained from Tables 6A to 6E in Appendix B. The total farming opportunities becoming available over the projection period were estimated at 13,799 in all tables. Columns 15 and 16, surplus and percent surplus of farm males, are those which interpret the rest of the table. In

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1. Hoover, loc. cit.

Table 1A, there is a surplus of farm youth of 6,841 or 46.7 percent greater demand for than there is a supply of farming opportunities over the 25-year period. Table 1B shows 7,474 surplus of farm youth or 50.4 percent of the farm youth would need to migrate to bring supply of and demand for farming opportunities into balance. Table 1C indicates 9,451 or 64.3 percent surplus of farm males over the projection period. A surplus of 1,045 or 7.0 percent surplus is indicated in Table 1D when no change in total farming opportunities is assumed to prevail over the 25-year period.

LIMITATIONS OF STUDY

An estimation procedure must necessarily involve the use of assumptions. Therefore, limitations are to the degree of relevancy of the underlying assumptions in the projection period. A basis may be made for making specific assumptions, although there are instances where data are limited and present rates of change will not be reflected in the future. The actual results and the projected results of this study will differ to the extent of the discrepancies between the assumptions and what actually takes place.

In some cases the data needed were not available on a county basis and the data for economic areas had to be adjusted to obtain a reliable figure. For example, adjustment was necessary to estimate the number of rural farm males on commercial farms. Death rates were not obtainable for each five-year age group on a county, economic area, or state basis, so it was necessary to use the calculated death rates for males in Iowa[1] assuming the rates for Kansas males would deviate by only a negligible amount.

The assumption underlying the number of total operators has many weak-

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1. Joslin and Timmons, loc. cit.

nesses in that those employed are simply educated guesses. The Agricultural Census considers each farm to have only one operator. There are no data available to obtain a better estimate for the figure to be used in multiple operatorships. By using 1.3 and 1.5 as alternatives it was assumed that these were as realistic as those that could be obtained by taking a survey, which was the only other alternative. The basis for using these figures was the extreme size of farms in this area with many father-son farming arrangements prevailing. The greatest support for the rates used was given by the farm management specialists.

It was assumed all hired labor was employed on commercial farms. The hired labor employed on non-commercial farms in this area is negligible. The greatest weakness in the use of data on hired labor lies in assuming the continuation of the trend that took place between 1950 and 1954. Indirectly this assumption considers technological development to continue at the same rate that existed between 1950 and 1954. This rate may increase or decrease in the future years thus affecting the number of hired workers and total number of operators required on commercial farms. A comparison was made between the projected figure for 1960 and that set forth in the preliminary census report for 1959, indicating a very similar trend between 1954 and 1959. Whether this rate of change will continue can not be answered except by time.

Another limitation lies in the selection of a single age rather than a range of ages as the beginning age for farming. The actual situation encounters a range of ages, but this would have been inconsistent with the estimation procedure employed. The same inconsistency exists in assuming retirement to occur at a single age. Alternative retirement ages could have been considered, but it is felt age 65 would suffice for the analyses.

Adopting certain data to conform to the estimation procedure was another problem encountered. Migration rates employed were for Economic Subregion 103, which includes more than type-of-farming areas 10a, 10b, 11 and 12.[1] Migration rates on a county basis would have been more appropriate for the study. Migration rates were computed for a ten-year period, but employed on a five-year basis in this study. It was assumed that migrates would be in the same ratio as in the ten-year period, thus migration for the five-year period could be allocated over the appropriate age groups. Migration rates tend to be less relevant when employed in this manner.

Lack of current population data was a limitation. It was necessary to use 1950 as the base year since this was the latest available census listing the breakdown of the rural farm population by counties. A much greater degree of accuracy could have been attained for the future had the 1960 population census been available for more recent data and trends.

It is recognized that using trends as a basis for projections is not without danger. Failure to recognize the end of one trend and the beginning of another provides an opportunity for error. Generally, trend used as a basis for projection assumes that the established trend will continue - not end. Therefore, it is important to recognize the possibility of a change in direction occurring within the projection period. A more sophisticated approach in a study of projections would be to project when such changes are to occur, but this is beyond the realm of this study.

SUMMARY AND CONCLUSIONS

Kansas' agricultural society is faced with an ever-increasing imbalance

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1. Thus, migration rates were the same in all type-of-farming areas.

between the farming opportunities and the potential demand for farming opportunities represented by the farm males available to enter farming. While the imbalance has been existing since the 1930's, it has become increasingly larger during the last decade. As a result, a large number of rural people have been underemployed, particularly in the areas where off-farm employment opportunities are limited. In the areas under consideration in this study, the imbalance between the available farming opportunities and the potential demand appears to be large.

Thus the main objective of this study was to estimate the farming opportunities in Western Kansas for each quinquennial period up to 1975 and at the same time ascertain the potential demand existing in the area composed largely of rural farm males of age to enter farming. Four alternative sets of conditions, parts A through D of Tables 1 through 5 in Appendix A, are employed to show the variation in the degree of imbalance that might occur during the projection period.

Factors assumed to affect the supply of and the demand for farming opportunities were described and analyzed briefly in a preceeding section. Factors affecting the supply of farming opportunities are these: (1) changing acres in commercial farmland, (2) increasing size of farm, (3) migration out of farming, (4) retirement, (5) deaths in the active labor force, (6) multiple operatorships, and (7) hired labor. Factors affecting the demand for farming opportunities are these: (1) births of rural farm males, (2) migration of farm youth, and (3) deaths among male farm youth. Thus, the factors related to the rural farm males are catagorized as factors of demand and the remaining factors as factors of supply.

The geographical area of consideration is primarily the western one-third of Kansas. This area more specifically includes type-of-farming areas

10a, 10b, 11, and 12, which are essentially wheat and grain sorghum areas characterized by low rainfall.

Columns 15 and 16 are the most important in each of the alternative analyses. These columns indicate the surplus of farm males in numbers and in percent for each quinquennial period over the projection range. At the bottom of each table the surplus and percent surplus is shown for the entire 25-year period. The percent surplus for the combined areas shown in Tables 1A through 1D, over the 25-year projection period, is 46.1, 50.4, 64.3, and 7.04, respectively. Tables 2A through 2D, representing area 10a, show 45.6, 47.9, 61.7, and 10.37 percent surplus. Tables 3A through 3D, representing area 10b, indicate 56.6, 61.5, 76.3, and 9.54 percent surplus. Tables 4A through 4D, alternatives for area 11, list 29.6, 33.0, 45.7, and 0 percent surplus. While for type-of-farming area 12, Tables 5A through 5D, the percent surplus is 45.3, 49.4, 62.5, and 12.52, respectively.

The variation in the surplus of farm youth and percent surplus figures for the different areas is caused by the alternative assumptions underlying the factors in columns 1 through 5. By varying the assumptions underlying different factors, the surplus and percent surplus columns became either more or less pronounced, depending on the affected factor.

The method and procedure for estimating the imbalance was adopted from a similar study conducted in Iowa.[1] The relevant conditions and the data were projected under four alternative sets of conditions. The first was the continuation of trends representative of rates of change presently existing in agriculture. The second assumed all conditions to remain the same as in the first except a larger figure of operators per farm (1.5 instead of

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1. John F. Timmons, Agriculture's Capacity to Adjust, Special Report No. 20, Iowa State College, pp. 22-27.

1.3) was employed. For the third alternative, all conditions were held the same as in the first except that regarding the average annual increase in the farm size; the rate was assumed to be doubled. Finally, the fourth alternative was used to ascertain the degree of imbalance between the supply of and demand for farming opportunities if the present conditions regarding size of farms, operators per farm, and hired labor on farms continued unchanged. It was found that there would still be a small surplus of farm youth over the 25-year period, except in area 11, in which case there would be an estimated shortage of 38 male farm youths.

Thus, in making the assumptions to hold columns 1 to 6 constant, it was recognized how unrealistic these assumptions were in an ever-changing economy such as ours. The implications which were intended to be set forth from this study were to give rural leaders a better picture with respect to what has been happening and is likely to happen in the future and thus to better prepare at least a part of the farm youth for non-farm employment. This preparation will be of paramount importance, particularly in the areas which have been discussed, because in general, the non-farm employment in these areas is extremely limited. Rural farm youth seeking non-farm employment are going to have to migrate from these areas to find work, unless new industry begins to settle there. The possibilities for new industry in the western one-third of Kansas seem quite remote at the present. Out of 106 new industries established in Kansas during 1960, only seven were initiated in type-of-farming areas 10a, 10b, 11, and 12.[1] However, these seven new industries in these areas are not enough to absorb the surplus farm males, assuming a continuation of present trends.

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1. Topeka Capital-Journal, loc. cit.

As population transfers have taken place in the past, economic gains have accrued to both the farm and non-farm individuals. The implication is that a continued and more accelerated shift out of farming would enhance economic status still further. Theoretically, the transfer of labor resources out of agriculture would take place until the marginal returns to labor are equal between the agricultural sector and non-agricultural sector of the economy.

Estimates of the surplus farm males in the western one-third of Kansas under various alternatives are very important and should be helpful in providing a foundation for agricultural adjustment. In areas, such as those considered in this study, where agriculture is the major source of employment, many implications arise with such a large surplus of farm youth. It becomes necessary to re-examine the social, economic, and institutional patterns - from churches and schools through hospitals to local governments - for these must undergo changes in this agricultural revolution. Most of these institutional establishments are dependent upon the agricultural population for their support. In a changing agriculture, changes in these institutions may also be necessitated. Steps have already been taken in this direction in Western Kansas by consolidating elementary educational programs.

It appears that the greatest opportunity in migration occurs right after high school. Thus concentrated efforts should be made by farm leaders to facilitate increased movement from this segment of the farm population. This could be provided by providing opportunities in farming and in non-farming endeavors to give youth a chance to evaluate themselves, and helping male farm youth find non-farm employment or training toward non-farm occupations.[1]

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1. Timmons, loc. cit.

The basis for a continuation of present trends has been supported by H. L. Stewart in the following paragraphs:[1]

> It seems probably that the average size of specialized wheat farms may increase another 15 or 20 percent by 1975 as some of the smaller farms are absorbed by other operators in an attempt to enhance returns through decreased unit costs or larger volumes of business.
>
> Should all production controls be eliminated, the average acreage of wheat per farm would increase more rapidly. Numbers of farms would decrease proportionately as the smaller, less efficient units were absorbed.

Stewart goes on to say:

> Few wheat farmers will go into livestock production in a big way. In areas where forage production is dependable, livestock production can be a profitable supplementary enterprise when wheat production is restricted. But wheat farmers are noted for their aversion to intensive livestock enterprises, and extensive livestock enterprises have been shown repeatedly to be an unprofitable alternative to wheat in the specialized areas. Large-scale drylot feeder enterprises are attracting considerable attention in some of the wheat areas where feed grain production has expanded greatly . . . . But it is doubtful whether major livestock enterprises will become an integral part of our wheat farms.

Further support was found for a continuation of rates and trends which existed between 1950 and 1954 in the preliminary reports of the 1959 Agricultural Census. The average size of farm in the aggregated areas according to the projection in Table 1A for 1960 is 1,058 acres while the census figures show the average size to be 1,047 acres in 1959. The projection for hired labor on farms in 1960 in Table 1A is 1,934; however, the preliminary census reports show 1,972 regular workers on farms. These figures do not tell the entire story in the projected areas, but lend much support to many of the assumptions necessary in studies of this nature.

It is recognized that using trends as a basis for projections is not

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1. Stewart, H. L., "The Organization and Structure of Some Representative Farms in 1975," Journal of Farm Economics, Volume 42, December, 1960, p. 1378.

without danger. Failure to recognize the end of one trend and the beginning of another provides an opportunity for error. Generally, trend used as a basis for projection assumes that the established trend will continue - not end. Therefore, it is important to recognize the possibility of a change in direction occurring within the projection period. A more sophisticated approach in a study of projections would be to project when such changes are to occur.

If leaders in these areas feel it desirable to maintain present population or increase population, then it will be necessary to plan for this by providing economic opportunities for rural farm youth as they enter the active labor force. It is hoped this study will be of benefit to agricultural leaders in anticipating problems of the future by preparing farm youth and the communities in the adjustments needed in the future.

ACKNOWLEDGMENT

The author wishes to express his sincere appreciation for the understanding aid and guidance of Associate Professor, Frank Orazem, Department of Agricultural Economics, during the preparation of this thesis. His suggestions and encouragement have been extremely valuable toward the development of this study.

The cooperation and suggestions of Victor E. Jacobs, Agricultural Extension Specialist, and other Farm Management Fieldmen throughout Kansas were greatly appreciated. Appreciation is also expressed to Miss Gee S. Lee, Graduate Research Assistant, for her help in the calculations required for this study.

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APPENDIX A

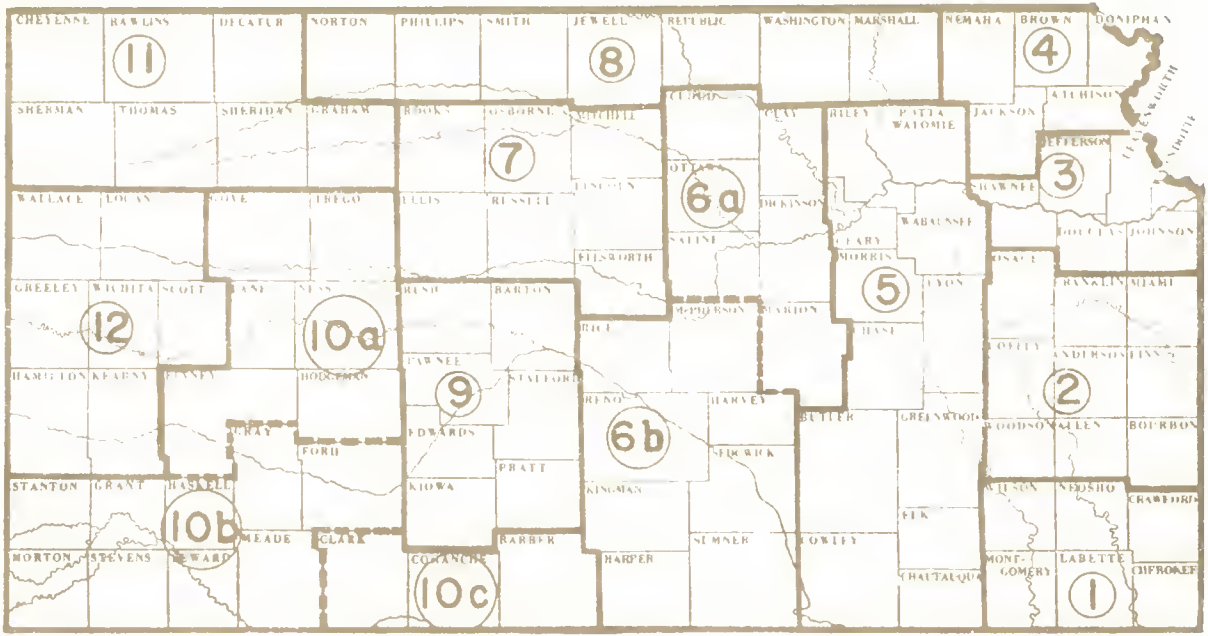

Fig. 1 Type-of-farming areas in Kansas.

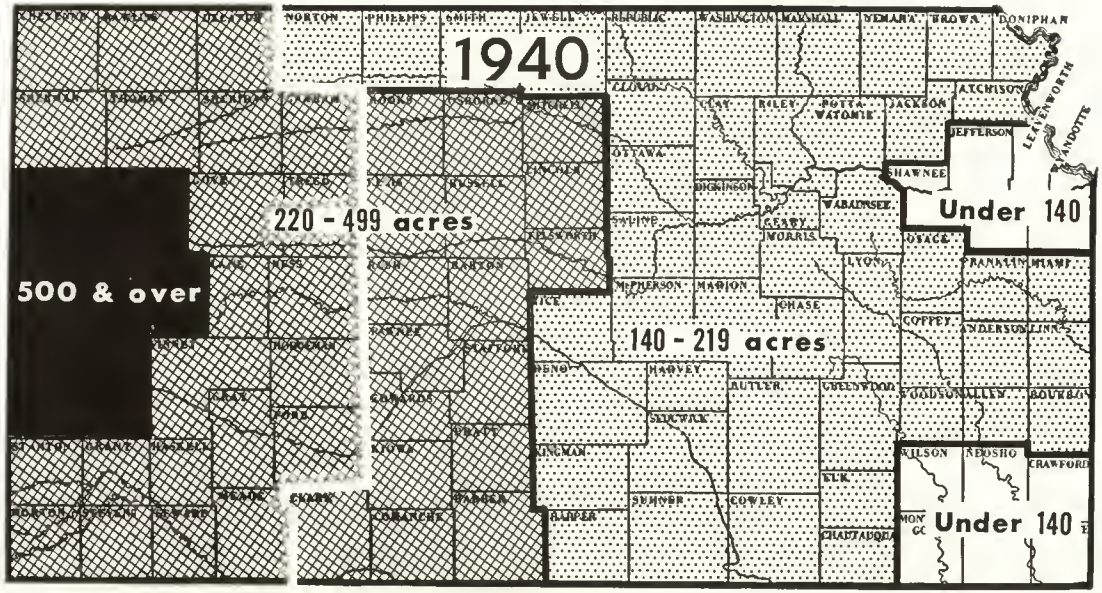

Fig. 2. Average size farms in Kansas by counties, 1940.

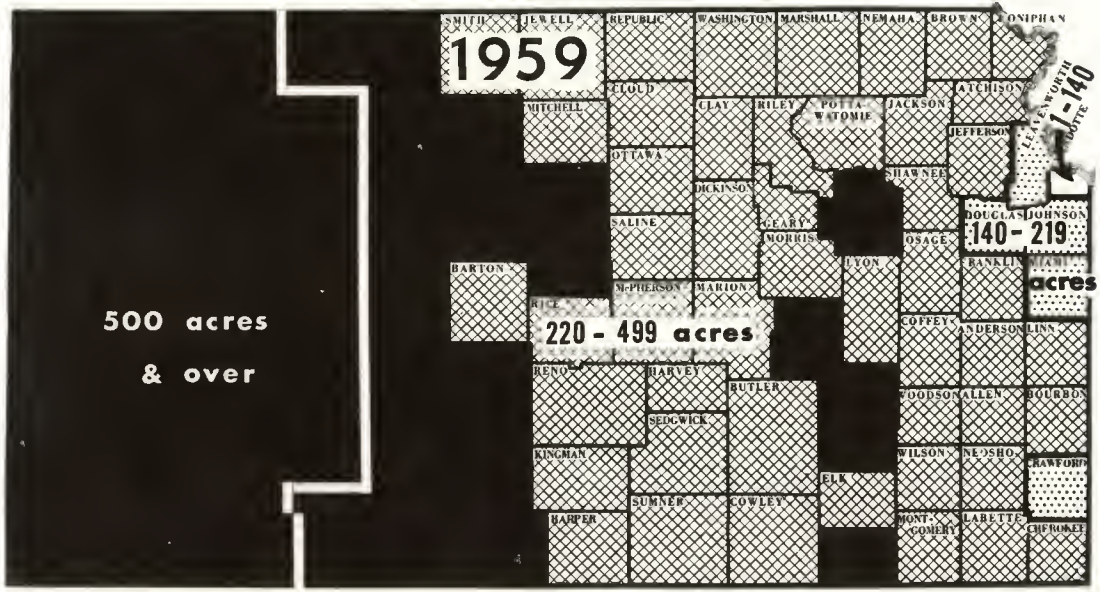

Fig. 3. Average size farms in Kansas by counties, 1959.

General Analyses of Tables 1 through 5.

Each table, setting forth an alternative was too large to get on one page, thus it was necessary to divide the tables in half and use two pages. The first page or half in each case was concerned with the decrease in farming opportunities; hence, column 7 in each table summarizes the net effects of the changes in columns 1 through 6. Columns 9 and 10 represent the potential demand for farming opportunities. Columns 11 through 14 represent the release of farming opportunities (or farming opportunities becoming available) as caused by deaths, migration and retirement of those holding farming opportunities in the active labor force. These three columns in each case were ascertained from tables 6 through 10 in the Appendix. Columns 15 and 16 show the net results of the preceeding columns in surplus and percent surplus of rural farm males by five-year periods during the projected era.

Table 1A. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming areas 10a, 10b, 11, and 12, assuming farm size increase of 10.0 acres per year (commercial farms).

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	14,628,333	958	15,275	19,858	2,795	22,653
1955	14,628,333	1,008	14,512	18,866	2,325	21,191
1960	14,628,333	1,058	13,826	17,974	1,934	19,908
1965	14,628,333	1,108	13,202	17,163	1,609	18,772
1970	14,628,333	1,158	12,632	16,422	1,339	17,761
1975	14,628,333	1,208	12,110	15,743	1,114	16,857

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 10.0 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 83 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 1A. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	1,462	15 to 19	2,836	17	368	692	2,131	3,191	1,090	38.7
1955-1960	1,283	10 to 14	2,952	30	347	690	1,991	3,028	1,177	40.3
1960-1965	1,136	5 to 9	3,073	41	318	610	1,791	2,719	1,449	47.8
1965-1970	1,011	0 to 4	3,604	168	296	589	1,630	2,515	1,932	56.2
1970-1975	904	-5 to -1(n)	2,764	129	275	565	1,506	2,346	1,193	45.3
Total	5,796		15,229	385	1,604	3,144	9,049	13,799	6,841	46.1

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming areas 10a, 10b, 11, and 12, rural farm males - estimated number of commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population. U. S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 18. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming areas 10a, 10b, 11, and 12, assuming farm size increase of 10.0 acres per year (commercial farms).

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	14,628,333	958	15,275	22,913	2,795	25,708
1955	14,628,333	1,008	14,512	21,768	2,325	24,093
1960	14,628,333	1,058	13,826	20,739	1,934	22,673
1965	14,628,333	1,108	13,202	19,803	1,609	21,412
1970	14,628,333	1,158	12,632	18,948	1,339	20,287
1975	14,628,333	1,208	12,110	18,165	1,114	19,279

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 10.0 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392 August 1957, Table 1, p. 14.

(c) Assumption based on 1.5 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 83 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 1B. Continued

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	1,615	15 to 19	2,836	17	368	692	2,131	3,191	1,243	44.1
1955-1960	1,420	10 to 14	2,952	30	347	690	1,991	3,028	1,314	45.0
1960-1965	1,261	5 to 9	3,073	41	313	610	1,791	2,719	1,574	51.9
1965-1970	1,125	0 to 4	3,604	163	296	599	1,630	2,515	2,046	59.5
1970-1975	1,008	-5 to -1(n)	2,764	129	275	565	1,506	2,346	1,297	49.2
Total	6,429		15,229	385	1,604	3,144	9,049	13,799	7,474	50.4

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming areas 10a, 10b, 11 and 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1950, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U. S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 10. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming areas 10a, 10b, 11, and 12, assuming farm size increase of 20.0 acres per year (commercial farms).

	Commercial farm acres[a] (1)	Average farm size[b] (2)	Number of commercial farms (3)	Total operators[c] (4)	Hired labor[d] (5)	Total opportunities[e] (6)
1950	14,628,333	958	15,275	19,858	2,795	22,653
1955	14,628,333	1,058	13,826	17,974	2,325	20,299
1960	14,628,333	1,158	12,632	16,422	1,934	18,356
1965	14,628,333	1,258	11,628	15,116	1,609	16,725
1970	14,628,333	1,358	10,772	14,004	1,339	15,343
1975	14,628,333	1,458	10,033	13,043	1,114	14,157

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 20.0 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 83 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 1C. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made available by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	2,354	15 to 19	2,836	17	368	692	2,131	3,191	1,932	70.3
1955-1960	1,943	10 to 14	2,952	30	347	690	1,991	3,028	1,837	62.9
1960-1965	1,631	5 to 9	3,073	41	318	610	1,791	2,719	1,944	89.7
1965-1970	1,382	0 to 4	3,604	168	296	589	1,630	2,515	2,303	67.0
1970-1975	1,186	-5 to -1(n)	2,764	129	275	565	1,506	2,346	1,475	56.0
Total	8,496		15,229	385	1,604	3,144	9,049	13,799	9,541	64.3

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming areas 10a, 10b, 11, and 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1958, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 10. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming areas 10a, 10b, 11, and 12, assuming no increase of farm size.

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	14,628,333	953	15,275	19,858	2,795	22,653
1955	14,628,333	953	15,275	19,858	2,795	22,653
1960	14,628,333	953	15,275	19,858	2,795	22,653
1965	14,628,333	953	15,275	19,858	2,795	22,653
1970	14,628,333	953	15,275	19,858	2,795	22,653
1975	14,628,333	953	15,275	19,858	2,795	22,653

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Average size farm assumed to remain constant at 1950 figure.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the number of regular workers (150 days or more) remains constant.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 1D. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	0	15 to 19	2,836	17	368	692	2,131	3,191	-372	0
1955-1960	0	10 to 14	2,952	30	347	690	1,991	3,028	-106	0
1960-1965	0	5 to 9	3,073	41	318	610	1,791	2,719	313	10.32
1965-1970	0	0 to 4	3,604	168	296	589	1,630	2,515	921	26.80
1970-1975	0	-5 to -1(n)	2,764	129	275	565	1,506	2,346	289	10.97
Total	0		15,229	385	1,604	3,144	9,049	13,799	1,045	7.04

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming areas 10a, 10b, 11, and 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 2A. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10a assuming farm size increase of 8.0 acres per year (commercial farms).

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	3,391,366	888	3,818	4,963	644	5,607
1955	3,391,366	928	3,655	4,752	496	5,248
1960	3,391,366	968	3,504	4,555	382	4,937
1965	3,391,366	1,008	3,365	4,375	294	4,669
1970	3,391,366	1,048	3,236	4,207	226	4,433
1975	3,391,366	1,088	3,117	4,052	174	4,226

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 8.0 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 77 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 2A. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made available by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	359	15 to 19	782	5	91	168	535	794	342	44.0
1955-1960	311	10 to 14	763	8	87	172	512	771	295	39.1
1960-1965	268	5 to 9	779	10	79	134	461	674	363	47.2
1965-1970	236	0 to 4	953	44	78	154	424	656	489	53.8
1970-1975	207	-5 to -1(n)	747	34	71	149	401	621	299	41.9
Total	1,381		4,024	101	406	777	2,333	3,516	1,788	45.6

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10a, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 28. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10a assuming farm size increase of 8.0 acres per year (commercial farms).

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	3,391,366	888	3,818	5,727	644	6,371
1955	3,391,366	928	3,655	5,483	496	5,979
1960	3,391,366	968	3,504	5,256	382	5,638
1965	3,391,366	1,008	3,365	5,048	294	5,342
1970	3,391,366	1,048	3,236	4,854	226	5,080
1975	3,391,366	1,088	3,117	4,676	174	4,850

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 8.0 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.5 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 77 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 20. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made avail. by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total:	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	392	15 to 19	782	5	91	168	535	794	375	48.3
1955-1960	341	10 to 14	763	8	87	172	512	771	325	43.0
1960-1965	296	5 to 9	779	10	79	134	461	674	391	50.8
1965-1970	262	0 to 4	953	44	78	154	424	656	515	50.7
1970-1975	230	-5 to -1(n)	747	34	71	149	401	621	322	45.2
Total	1,521		4,024	101	406	777	2,333	3,516	1,928	47.9

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10a, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S.Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 20. Supply of the demand for farming opportunities between 1950 and 1975 for type-of-farming area 10a assuming farm size increase of 16.0 acres per year (commercial farms).

	Commercial farm acres[a] (1)	Average farm size[b] (2)	Number of commercial farms (3)	Total operators[c] (4)	Hired labor[d] (5)	Total opportunities[e] (6)
1950	3,391,366	888	3,818	4,965	644	5,609
1955	3,391,366	968	3,503	4,554	496	5,050
1960	3,391,366	1,048	3,236	4,207	382	4,589
1965	3,391,366	1,128	3,007	3,909	294	4,203
1970	3,391,366	1,208	2,807	3,649	226	3,875
1975	3,391,366	1,288	2,633	3,423	174	3,597

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 16.0 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture after 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 77 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 20. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made avail. by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	559	15 to 19	782	5	91	168	535	794	542	69.8
1955-1960	461	10 to 14	763	8	87	172	512	771	445	58.9
1960-1965	386	5 to 9	779	10	79	134	461	674	481	62.5
1965-1970	328	0 to 4	953	44	78	154	424	656	531	63.9
1970-1975	278	-5 to -1(n)	747	34	71	149	401	621	370	51.9
Total	2,012		4,024	101	406	777	2,333	3,516	2,419	61.7

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10a, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1953, Table 17, p.55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 20. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10a assuming no increase of farm size.

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	3,391,366	888	3,819	4,965	644	5,609
1955	3,391,366	888	3,819	4,965	644	5,609
1960	3,391,366	888	3,819	4,965	644	5,609
1965	3,391,366	888	3,819	4,965	644	5,609
1970	3,391,366	888	3,819	4,965	644	5,609
1975	3,391,366	888	3,819	4,965	644	5,609

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Average size farm assumed to remain constant at 1950 figure.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the number of regular workers (150 days or more) remains constant.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 2D. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	0	15 to 19	782	5	91	168	535	794	-17	0
1955-1960	0	10 to 14	763	8	87	172	512	771	-16	0
1960-1965	0	5 to 9	779	10	79	134	461	674	95	12.35
1965-1970	0	0 to 4	953	44	78	154	424	656	253	27.83
1970-1975	0	-5 to -1(n)	747	34	71	149	401	621	92	12.90
Total	0		4,024	101	406	777	2,333	3,516	407	10.37

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10a, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 3A. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10b assuming farm size increase of 11.4 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	3,863,965	938	4,120	5,356	892	6,248
1955	3,863,965	995	3,883	5,048	710	5,758
1960	3,863,965	1,052	3,673	4,775	565	5,340
1965	3,863,965	1,109	3,484	4,529	450	4,979
1970	3,863,965	1,166	3,314	4,308	358	4,666
1975	3,863,965	1,223	3,159	4,107	285	4,392

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 11.4 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 79.6 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 3A. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made avail. by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total:	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	490	15 to 19	714	4	96	190	554	840	360	50.7
1955-1960	418	10 to 14	735	8	86	171	510	767	428	55.1
1960-1965	361	5 to 9	847	11	82	156	464	702	495	59.2
1965-1970	313	0 to 4	980	45	74	137	426	637	611	65.3
1970-1975	274	-5 to -1(n)	716	33	73	143	403	619	338	49.5
Total	1,856		4,042	101	411	797	2,357	3,565	2,232	56.6

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10b, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons. Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1958, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population. U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1955, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 38. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10b assuming farm size increase of 11.4 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	3,863,965	938	4,120	6,180	892	7,072
1955	3,863,965	995	3,883	5,825	710	6,535
1960	3,863,965	1,052	3,673	5,510	565	6,075
1965	3,863,965	1,109	3,484	5,226	450	5,676
1970	3,863,965	1,166	3,314	4,971	358	5,329
1975	3,863,965	1,223	3,159	4,739	285	5,024

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 11.4 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.5 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 79.6 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 3B. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total:	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	537	15 to 19	714	4	96	190	554	840	407	57.3
1955-1960	460	10 to 14	785	8	86	171	510	767	470	60.5
1960-1965	399	5 to 9	847	11	82	156	464	702	533	63.8
1965-1970	347	0 to 4	980	45	74	137	426	637	645	69.0
1970-1975	305	-5 to -1(n)	716	33	73	143	403	619	369	54.0
Total	2,048		4,042	101	411	797	2,357	3,565	2,424	61.5

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10b, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 30. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10b assuming farm size increase of 22.3 acres per year (commercial farms).

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	3,863,965	938	4,119	5,355	892	6,247
1955	3,863,965	1,052	3,673	4,775	710	5,485
1960	3,863,965	1,166	3,314	4,308	565	4,873
1965	3,863,965	1,280	3,019	3,925	450	4,375
1970	3,863,965	1,394	2,772	3,604	358	3,962
1975	3,863,965	1,508	2,562	3,331	285	3,616

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 22.3 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 79.6 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 30. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made available by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	762	15 to 19	714	4	96	190	554	840	632	89.0
1955-1960	612	10 to 14	785	8	86	171	510	767	622	80.1
1960-1965	498	5 to 9	847	11	82	156	464	702	632	75.6
1965-1970	413	0 to 4	980	45	74	137	426	637	711	76.0
1970-1975	346	-5 to -1(n)	716	33	73	143	403	619	410	60.0
Total	2,631		4,042	101	411	797	2,357	3,565	3,007	76.3

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10b, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 3D. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 10b assuming no increase of farm size.

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	3,863,965	938	4,119	5,355	892	6,247
1955	3,863,965	938	4,119	5,355	892	6,247
1960	3,863,965	938	4,119	5,355	892	6,247
1965	3,863,965	938	4,119	5,355	892	6,247
1970	3,863,965	938	4,119	5,355	892	6,247
1975	3,863,965	938	4,119	5,355	892	6,247

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Average size farm assumed to remain constant at 1950 figure.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the number of regular workers (150 days or more) remains constant.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 3D. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total:	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	0	15 to 19	714	4	96	190	554	840	-130	0
1955-1960	0	10 to 14	785	8	86	171	510	767	10	1.29
1960-1965	0	5 to 9	847	11	82	156	464	702	134	16.03
1965-1970	0	0 to 4	980	45	74	137	426	637	298	31.87
1970-1975	0	-5 to -1(n)	716	33	73	143	403	619	64	9.37
Total	0		4,042	101	411	797	2.357	3.565	376	9.54

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 10b, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 4A. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 11 assuming farm size increase of 6.2 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	4,242,696	841	5,045	6,556	682	7,238
1955	4,242,696	872	4,865	6,325	577	6,902
1960	4,242,696	903	4,698	6,107	488	6,595
1965	4,242,696	934	4,543	5,906	413	6,319
1970	4,242,696	965	4,397	5,716	349	6,065
1975	4,242,696	996	4,260	5,538	295	5,833

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 6.2 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 84.6 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 4A. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made available by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total:	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	336	15 to 19	922	6	129	244	721	1,094	158	17.2
1955-1960	307	10 to 14	991	10	121	256	669	1,046	242	24.7
1960-1965	276	5 to 9	959	13	110	230	596	936	286	30.2
1965-1970	254	0 to 4	1,061	49	97	208	527	832	434	42.9
1970-1975	232	-5 to -1(n)	806	37	89	192	473	754	247	32.1
Total	1,405		4,739	115	546	1,130	2,986	4,662	1,367	29.6

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 11, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age of 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farming opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age groups were not yet born in 1950 - values were estimated.

Table 48. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 11 assuming farm size increase of 6.2 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	4,242,696	841	5,045	7,565	682	8,247
1955	4,242,696	872	4,865	7,298	577	7,875
1960	4,242,696	903	4,698	7,047	488	7,535
1965	4,242,696	934	4,543	6,815	413	7,228
1970	4,242,696	965	4,397	6,596	349	6,945
1975	4,242,696	996	4,260	6,390	295	6,685

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 6.2 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.5 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 84.6 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 43. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	372	15 to 19	922	6	129	244	721	1,094	194	21.2
1955-1960	340	10 to 14	991	10	121	256	669	1,046	275	28.0
1960-1965	307	5 to 9	959	13	110	230	596	936	317	33.5
1965-1970	283	0 to 4	1,061	49	97	208	527	832	463	45.8
1970-1975	260	-5 to -1(n)	806	37	89	192	473	754	275	35.8
Total	1,562		4,739	115	546	1,130	2,986	4,662	1,524	33.0

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 11, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age of 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population. U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farming opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age groups were not yet born in 1950 - values were estimated.

Table 4C. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 11 assuming farm size increase of 12.4 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	4,242,696	841	5,045	6,559	682	7,238
1955	4,242,696	903	4,698	6,107	577	6,684
1960	4,242,696	965	4,397	5,716	488	6,204
1965	4,242,696	1,027	4,131	5,370	413	5,783
1970	4,242,696	1,089	3,896	5,065	349	5,414
1975	4,242,696	1,151	3,686	4,792	295	5,087

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 12.4 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 84.6 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 4C. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	554	15 to 19	922	6	129	244	721	1,094	376	41.0
1955-1960	430	10 to 14	991	10	121	256	669	1,046	415	62.3
1960-1965	421	5 to 9	959	13	110	230	596	936	431	65.6
1965-1970	369	0 to 4	1,061	49	97	208	527	832	549	54.2
1970-1975	327	-5 to -1(n)	806	37	89	192	473	754	342	44.6
Total	2,151		4,739	115	546	1,130	2,986	4,662	2,113	45.7

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 11, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age of 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1955, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farming opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age groups were not yet born in 1950 - values were estimated.

Table 4D. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 11 assuming no increase of farm size.

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	4,242,696	841	5,045	6,559	682	7,238
1955	4,242,696	841	5,045	6,559	682	7,238
1960	4,242,696	841	5,045	6,559	682	7,238
1965	4,242,696	841	5,045	6,559	682	7,238
1970	4,242,696	841	5,045	6,559	682	7,238
1975	4,242,696	841	5,045	6,559	682	7,238

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Average size farm assumed to remain constant at 1950 figure.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the number of regular workers (150 days or more) remains constant.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 4D. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made available by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	0	15 to 19	922	6	129	244	721	1,094	-178	0
1955-1960	0	10 to 14	991	10	121	256	669	1,046	-65	0
1960-1965	0	5 to 9	959	13	110	230	596	936	10	1.06
1965-1970	0	0 to 4	1,061	49	97	208	527	832	180	11.78
1970-1975	0	-5 to -1(n)	806	37	89	192	473	754	15	1.95
Total	0		4,739	115	546	1,130	2,986	4,662	-38	0

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 11, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1958, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age of 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farming opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age groups were not yet born in 1950 - values were estimated.

Table 54. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 12 assuming farm size increase of 14.6 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	3,130,306	1,365	2,294	2,982	577	3,559
1955	3,130,306	1,438	2,177	2,830	544	3,374
1960	3,130,306	1,511	2,072	2,694	513	3,207
1965	3,130,306	1,584	1,976	2,569	484	3,053
1970	3,130,306	1,657	1,889	2,456	456	2,912
1975	3,130,306	1,730	1,809	2,352	430	2,782

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 14.6 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 94.3 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 54. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made avail. by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	185	15 to 19	418	3	54	90	320	464	136	32.8
1955-1960	167	10 to 14	413	4	51	92	299	442	134	32.8
1960-1965	154	5 to 9	483	6	48	89	269	406	230	47.7
1965-1970	141	0 to 4	610	29	44	90	252	386	336	57.3
1970-1975	130	-5 to -1(n)	508	23	43	82	252	377	238	49.1
Total	777		2,437	65	240	443	1,392	2,075	1,074	45.3

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa. Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population. U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 53. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 12 assuming farm size increase of 14.6 acres per year (commercial farms).

	Commercial farm acres(a)	Average farm size(b)	Number of commercial farms	Total operators(c)	Hired labor(d)	Total opportunities(e)
	(1)	(2)	(3)	(4)	(5)	(6)
1950	3,130,306	1,365	2,294	3,441	577	4,018
1955	3,130,306	1,438	2,177	3,266	544	3,810
1960	3,130,306	1,511	2,072	3,108	513	3,621
1965	3,130,306	1,584	1,976	2,964	484	3,448
1970	3,130,306	1,657	1,889	2,834	456	3,290
1975	3,130,306	1,730	1,809	2,714	430	3,144

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 14.6 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.5 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 94.3 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 58. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	208	15 to 19	418	3	54	90	320	464	159	38.3
1955-1960	189	10 to 14	413	4	51	92	299	442	156	38.1
1960-1965	173	5 to 9	488	6	43	89	269	406	249	51.7
1965-1970	156	0 to 4	610	29	44	90	252	386	353	60.8
1970-1975	146	-5 to -1(n)	508	23	43	32	252	377	254	52.4
Total	874		2,437	65	240	443	1,392	2,075	1,171	49.4

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census. 1950. type-of-farming area 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953. Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population. U.S. Department of Agriculture Statistical Bulletin 176. Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 5C. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 12 assuming farm size increase of 29.2 acres per year (commercial farms).

	Commercial farm acres[a] (1)	Average farm size[b] (2)	Number of commercial farms (3)	Total operators[c] (4)	Hired labor[d] (5)	Total opportunities[e] (6)
1950	3,130,306	1,365	2,293	2,981	577	3,558
1955	3,130,306	1,511	2,072	2,694	544	3,238
1960	3,130,306	1,657	1,889	2,456	513	2,969
1965	3,130,306	1,803	1,736	2,257	484	2,741
1970	3,130,306	1,969	1,606	2,088	456	2,544
1975	3,130,306	2,095	1,490	1,942	430	2,372

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Increase of 29.2 acres per year in average size of farm - based on 1950 and 1954 data obtained from Leo M. Hoover, Kansas Agriculture After 100 Years, Kansas Agricultural Experiment Station Bulletin 392, August 1957, Table 1, p. 14.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that percentage of regular workers (150 days or more) to total workers given for year 1954 would be applicable for 1950. Continuation of trend assumed, i.e., 94.3 percent of each previous total.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 5C. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Dying before 20(h)	Farm opportunities made avail. by: Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	320	15 to 19	413	3	54	90	320	464	271	65.3
1955-1960	269	10 to 14	413	4	51	92	299	442	236	57.7
1960-1965	228	5 to 9	488	6	48	89	269	406	304	63.1
1965-1970	197	0 to 4	610	29	44	90	252	386	392	67.5
1970-1975	172	-5 to -1(n)	508	23	43	82	252	377	280	57.7
Total	1,186		2,437	65	240	443	1,392	2,075	1,483	62.5

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1953, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

Table 5D. Supply of and demand for farming opportunities between 1950 and 1975 for type-of-farming area 12 assuming no increase of farm size.

	Commercial farm acres(a) (1)	Average farm size(b) (2)	Number of commercial farms (3)	Total operators(c) (4)	Hired labor(d) (5)	Total opportunities(e) (6)
1950	3,130,306	1,365	2,293	2,981	577	3,558
1955	3,130,306	1,365	2,293	2,981	577	3,558
1960	3,130,306	1,365	2,293	2,981	577	3,558
1965	3,130,306	1,365	2,293	2,981	577	3,558
1970	3,130,306	1,365	2,293	2,981	577	3,558
1975	3,130,306	1,365	2,293	2,981	577	3,558

(a) Total acres in commercial farms assumed constant - estimate based on 1950 Agriculture Census data.

(b) Average size farm assumed to remain constant at 1950 figure.

(c) Assumption based on 1.3 operators per farm (partnerships, multiple operatorships).

(d) Assumption that the number of regular workers (150 days or more) remains constant.

(e) Total opportunities - column 6 (column 4 plus column 5).

Table 50. Continued.

	Decrease in opportunities(f)	Age group	Rural farm males(g)	Farm opportunities made available by: Dying before 20(h)	Dying after 20(i)	Retirement(j)	Migration(k)	Total	Surplus(l)	Percent surplus(m)
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1950-1955	0	15 to 19	418	3	54	90	320	464	-49	0
1955-1960	0	10 to 14	413	4	51	92	299	442	-33	0
1960-1965	0	5 to 9	488	6	48	89	269	406	76	15.77
1965-1970	0	0 to 4	610	29	44	90	252	386	195	33.56
1970-1975	0	-5 to -1(n)	508	23	43	82	252	377	108	22.27
Total	0		2,437	65	240	443	1,392	2,075	297	12.52

(f) Decrease in opportunities in successive five-year periods.

(g) Population Census, 1950, type-of-farming area 12, rural farm males - estimated number on commercial farms.

(h) Death rates for age groups - same as those used for Iowa males. Kenneth H. Joslin and John F. Timmons, Procedures Used in the Identification and Measurement of Factors Affecting Future Farming Opportunities in Iowa, Iowa State College Agricultural Experiment Station, November 1958, Table 17, p. 55.

(i) Ibid.

(j) Assumed retirement age at 65.

(k) Migration estimates based on rates for Economic Subregion 103. Farm Population, U.S. Department of Agriculture Statistical Bulletin 176, Washington, D.C., June 1956, Table 7-103, p. 145.

(l) Surplus of farm youths reaching age 20 if demand for farm opportunities is to be brought into balance with supply.

(m) Percentage of numbers in columns 9 minus 10 regarded as surplus.

(n) Minus numbers indicate that age group not yet born in 1950 - values were estimated.

APPENDIX B

Table 6A. Estimating the number of deaths, migrates and retirements in the active labor force for type-of-farming - areas 10a, 10b, 11 and 12, between 1950 and 1975.

Age group	Death rate(a)	Migration rate(b)	1950 Population	1950-55			
				Deaths	Residual	Migrates	Residual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
60-64	.034	.237	990	83	907	215	692
55-59	.060	.207	1,326	80	1,246	258	988
50-54	.041	.159	1,449	59	1,390	221	1,169
45-49	.027	.124	1,646	44	1,602	199	1,403
40-44	.017	.114	1,813	31	1,782	203	1,579
35-39	.011	.108	1,911	21	1,890	204	1,686
30-34	.009	.097	1,859	17	1,842	179	1,663
25-29	.007	.111	2,082	15	2,067	229	1,838
20-24	.008	.195	2,189	18	2,171	423	1,748
15-19	.006	.250	2,836	17	2,819	705	2,114
10-14	.004	.231	2,952	12	2,940	679	2,261
5-9	.003	.142	3,073	9	3,064	435	2,629
0-4	.034	.108	3,604	123	3,481	376	3,105
Total in active labor force age 20 to 65				368	14,897	2,131	12,766

(a) Assumed the death rate for males in Kansas is the same as the death rate for males in Iowa.

(b) Migration rate is a net rate, based on 1940 to 1950 rates; a linear trend was assumed to prevail - adjusted to a five-year basis.

Table 6B. Continued.

Age group	1955 Population	1955-60 Deaths	Residual	Migrates	Residual
(9)	(10)	(11)	(12)	(13)	(14)
60-64	988	83	904	214	690
55-59	1,169	70	1,099	227	872
50-54	1,403	58	1,345	214	1,131
45-49	1,579	43	1,534	190	1,344
40-44	1,686	29	1,657	189	1,468
35-39	1,663	18	1,645	178	1,467
30-34	1,838	17	1,821	177	1,644
25-29	1,748	12	1,736	193	1,543
20-24	2,114	17	2,097	409	1,688
15-19	2,261	14	2,247	562	1,685
10-14	2,629	11	2,618	605	2,013
5-9	3,105	9	3,096	440	2,656
0-4(a)	2,764	94	2,670	288	2,382
Total(b)		347	13,838	1,991	11,847

(a) The number of rural farm males born between 1950 and 1955 was estimated by decreasing the number of individuals in this age group by the same rate of decrease experienced by the 0-4 age group between 1940 and 1950. Assumption that a linear trend decrease prevailed. Half the rate of decrease was 23.3 percent.

(b) The total is for all age groups over age 20.

Table 6C. Continued.

Age group	1960 Population	1960-65 Deaths	Residual	Migrates	Residual
(15)	(16)	(17)	(18)	(19)	(20)
60-64	872	73	799	189	610
55-59	1,131	68	1,063	220	843
50-54	1,344	55	1,289	205	1,084
45-49	1,468	40	1,428	177	1,251
40-44	1,467	25	1,442	164	1,278
35-39	1,644	18	1,626	176	1,450
30-34	1,543	14	1,529	148	1,381
25-29	1,688	12	1,676	186	1,490
20-24	1,685	13	1,672	326	1,346
15-19	2,013	12	2,001	500	1,501
10-14	2,656	11	2,645	611	2,034
5-9	2,382	7	2,375	337	2,038
0-4					
Total(a)		318	12,524	1,791	10,733

(a) Total is for all age groups over age 20.

Table 6D. Continued.

Age group	1965 Population	1965-70 Deaths	Residual	Migrates	Residual
(21)	(22)	(23)	(24)	(25)	(26)
60-64	843	71	772	183	589
55-59	1,084	65	1,019	211	808
50-54	1,251	51	1,200	191	1,009
45-49	1,278	35	1,243	154	1,089
40-44	1,450	25	1,425	162	1,263
35-39	1,381	15	1,366	148	1,218
30-34	1,490	13	1,477	143	1,334
25-29	1,346	9	1,337	148	1,189
20-24	1,501	12	1,489	290	1,199
15-19	2,034	12	2,022	506	1,516
10-14	2,038	8	2,030	469	1,561
5-9					
0-4					
Total[a]		296	11,328	1,630	9,698

(a) Total is for all age groups over age 20.

Table 6E. Continued.

Age group	1970 Population	1970-75 Deaths	Residual	Migrates	Residual
(27)	(28)	(29)	(30)	(31)	(32)
60-64	808	68	740	175	565
55-59	1,009	61	948	196	752
50-54	1,089	45	1,044	166	878
45-49	1,263	34	1,229	152	1,077
40-44	1,218	21	1,197	136	1,061
35-39	1,334	15	1,319	142	1,177
30-34	1,189	11	1,178	114	1,064
25-29	1,199	8	1,191	132	1,059
20-24	1,516	12	1,504	293	1,211
15-19	1,561	9	1,552	388	1,164
10-14					
5-9					
0-4					
Total[a]		275	10,350	1,506	8,844

(a) Total is for all age groups over age 20.

Table 7A. Estimating the number of deaths, migrates and retirements in the active labor force for type-of-farming - area 10a, between 1950 and 1975.

Age group	Death rate[a]	Migration rate[b]	1950 Population	1950-55			
				Deaths	Residual	Migrates	Residual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
60-64	.084	.237	240	20	220	52	168
55-59	.060	.207	330	20	310	64	246
50-54	.041	.159	317	13	304	48	256
45-49	.027	.124	432	12	420	52	368
40-44	.017	.114	475	8	467	53	414
35-39	.011	.108	528	6	522	56	466
30-34	.009	.097	471	4	467	45	422
25-29	.007	.111	517	4	513	57	456
20-24	.008	.195	559	4	555	108	447
15-19	.006	.250	782	5	777	194	583
10-14	.004	.231	763	3	760	176	584
5-9	.003	.142	779	2	777	110	667
0-4	.034	.108	953	32	921	99	822
Total in active labor force age 20 to 65				91	3,778	535	3,243

(a) Assumed the death rate for males in Kansas is the same as the death rate for males in Iowa.

(b) Migration rate is a net rate, based on 1940 to 1950 rates; a linear trend was assumed to prevail - adjusted to a five-year basis.

Table 7B. Continued.

Age group	1955 Population	1955-1960 Deaths	Residual	Migrates	Residual
(9)	(10)	(11)	(12)	(13)	(14)
60-64	246	21	225	53	172
55-59	256	15	241	50	191
50-54	368	15	353	56	297
45-49	414	11	403	50	353
40-44	466	8	458	52	406
35-39	422	5	417	45	372
30-34	456	4	452	44	408
25-29	447	3	444	49	395
20-24	583	5	578	113	465
15-19	584	4	580	145	435
10-14	667	3	664	153	511
5-9	882	3	879	125	754
0-4(a)	747	25	722	78	644
Total(b)		87	3,571	512	3,059

(a) The number of rural farm males born between 1950 and 1955 was estimated by decreasing the number of individuals in this age group by the same rate of decrease experienced by the 0-4 age group between 1940 and 1950. Assumption that a linear trend decrease prevailed. Half the rate of decrease was 21.6 percent.

(b) The total is for all age groups over age 20.

Table 7C. Continued.

Age group	1960 Population	1960-1965 Deaths	Residual	Migrates	Residual
(15)	(16)	(17)	(18)	(19)	(20)
60-64	191	16	175	41	134
55-59	297	18	279	58	221
50-54	353	14	339	54	285
45-49	406	11	395	49	346
40-44	372	6	366	42	324
35-39	408	4	404	44	360
30-34	395	4	391	38	353
25-29	465	3	462	51	411
20-24	435	3	432	84	348
15-19	511	3	508	127	381
10-14	754	3	751	173	578
5-9	644	2	642	91	551
0-4					
Total(a)		79	3,243	461	2,782

(a) Total is for all age groups over age 20.

Table 7D. Continued.

Age group	1965 Population	1965-70 Deaths	Residual	Migrates	Residual
(21)	(22)	(23)	(24)	(25)	(26)
60-64	221	19	202	48	154
55-59	285	17	268	55	213
50-54	346	14	332	53	279
45-49	324	9	315	39	276
40-44	360	6	354	40	314
35-39	353	4	349	38	311
30-34	411	4	407	39	368
25-29	348	2	346	38	308
20-24	381	3	378	74	304
15-19	578	3	575	144	431
10-14	551	2	549	127	422
5-9					
0-4					
Total[a]		78	2,951	424	2,527

(a) Total is for all age groups over age 20.

Table 7E. Continued.

Age group	1970 Population	1970-75 Deaths	Residual	Migrates	Residual
(27)	(28)	(29)	(30)	(31)	(32)
60-64	213	18	195	46	149
55-59	279	17	262	54	208
50-54	276	11	265	42	223
45-49	314	8	306	38	268
40-44	311	5	306	35	271
35-39	368	4	364	39	325
30-34	308	3	305	30	275
25-29	304	2	302	34	268
20-24	431	3	428	83	345
15-19	422	3	419	105	314
10-14					
5-9					
0-4					
Total[a]		71	2,733	401	2,332

(a) Total is for all age groups over age 20.

Table 8A. Estimating the number of deaths, migrates and retirements in the active labor force for type-of-farming - area 10b, between 1950 and 1975.

Age group	Death rate(a)	Migration rate(b)	1950 Population	1950-55			
				Deaths	Residual	Migrates	Residual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
60-64	.084	.237	272	23	249	59	190
55-59	.060	.207	328	20	308	64	244
50-54	.041	.159	370	15	355	56	299
45-49	.027	.124	381	10	371	46	325
40-44	.017	.114	460	8	452	52	400
35-39	.011	.103	504	6	498	54	444
30-34	.009	.097	533	5	528	51	477
25-29	.007	.111	545	4	541	60	481
20-24	.008	.195	580	5	575	112	463
15-19	.006	.250	714	4	710	178	532
10-14	.004	.231	785	3	782	181	601
5-9	.003	.142	847	3	844	120	724
0-4	.034	.103	980	33	947	102	845
Total in active labor force age 20 to 65				96	3,877	554	3,323

(a) Assumed the death rate for males in Kansas is the same as the death rate for males in Iowa.

(b) Migration rate is a net rate, based on 1940 to 1950 rates; a linear trend was assumed to prevail - adjusted to a five-year basis.

Table 8B. Continued.

Age group	1955 Population	1955-60 Deaths	Residual	Migrates	Residual
(9)	(10)	(11)	(12)	(13)	(14)
60-64	244	20	224	53	171
55-59	299	18	281	58	223
50-54	325	13	312	50	262
45-49	400	11	389	48	341
40-44	444	8	436	50	386
35-39	477	5	472	51	421
30-34	481	4	477	46	431
25-29	463	3	460	51	409
20-24	532	4	528	103	425
15-19	601	4	597	149	448
10-14	724	3	721	167	554
5-9	845	3	842	120	722
0-4(a)	716	24	692	75	617
Total(b)		86	3,579	510	3,069

(a) The number of rural farm males born between 1950 and 1955 was estimated by decreasing the number of individuals in this age group by the same rate of decrease experienced by the 0-4 age group between 1940 and 1950. Assumption that a linear trend decrease prevailed. Half the rate of decrease was 26.9 percent.

(b) The total is for all age groups over age 20.

Table 8C. Continued.

Age group	1960 Population	1960-65 Deaths	Residual	Migrates	Residual
(15)	(16)	(17)	(18)	(19)	(20)
60-64	223	19	204	48	156
55-59	262	16	246	51	195
50-54	341	14	327	52	275
45-49	386	10	376	47	329
40-44	421	7	414	47	367
35-39	431	5	426	46	380
30-34	409	4	405	39	367
25-29	425	3	422	47	375
20-24	448	4	444	87	357
15-19	554	3	551	138	413
10-14	722	3	719	166	553
5-9	617	2	615	87	528
0-4					
Total(a)		82	3,264	464	2,801

(a) Total is for all age groups over age 20.

Table 8D. Continued.

Age group	1965 Population	1965-70 Deaths	Residual	Migrates	Residual
(21)	(22)	(23)	(24)	(25)	(26)
60-64	195	16	179	42	137
55-59	275	17	258	53	205
50-54	329	13	316	50	266
45-49	367	10	357	44	313
40-44	380	6	374	43	331
35-39	367	4	363	39	324
30-34	375	3	372	36	336
25-29	357	2	355	39	316
20-24	413	3	410	80	330
15-19	553	3	550	138	412
10-14	528	2	526	122	404
5-9					
0-4					
Total(a)		74	2,984	426	2,558

(a) Total is for all age groups over age 20.

Table 8E. Continued.

Age group	1970 Population	1970-75 Deaths	Residual	Migrates	Residual
(27)	(28)	(29)	(30)	(31)	(32)
60-64	205	17	188	45	143
55-59	266	16	250	52	198
50-54	313	13	300	48	252
45-49	331	9	322	40	282
40-44	324	6	318	36	282
35-39	336	4	332	36	296
30-34	316	3	313	30	283
25-29	330	2	328	36	292
20-24	412	3	409	80	329
15-19	404	2	402	101	301
10-14					
5-9					
0-4					
Total(a)		73	2,760	403	2,357

(a) Total is for all age groups over age 20.

Table 9A. Estimating the number of deaths, migrates and retirements in the active labor force for type-of-farming - area 11, between 1950 and 1975.

Age group	Death rate(a)	Migration rate(b)	1950 Population	1950-55			
				Deaths	Residual	Migrates	Residual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
60-64	.034	.237	349	29	320	76	244
55-59	.060	.207	491	29	462	96	366
50-54	.041	.159	550	23	527	84	443
45-49	.027	.124	580	16	564	70	494
40-44	.017	.114	614	10	604	69	535
35-39	.011	.108	573	6	567	61	505
30-34	.009	.097	574	5	569	55	514
25-29	.007	.111	667	5	662	73	589
20-24	.008	.195	706	6	700	137	563
15-19	.006	.250	922	6	916	229	687
10-14	.004	.231	991	4	987	228	759
5-9	.003	.142	959	3	956	136	820
0-4	.034	.108	1,061	36	1,025	111	914
Total in active labor force age 20 to 65				129	4,975	721	4,253

(a) Assumed the death rate for males in Kansas is the same as the death rate for males in Iowa.

(b) Migration rate is a net rate, based on 1940 to 1950 rates; a linear trend was assumed to prevail - adjusted to a five-year basis.

Table 9B. Continued.

Age group	1955 Population	1955-60 Deaths	Residual	Migrates	Residual
(9)	(10)	(11)	(12)	(13)	(14)
60-64	366	31	335	79	256
55-59	443	27	416	86	330
50-54	494	20	474	75	399
45-49	535	14	521	65	456
40-44	505	9	496	57	439
35-39	514	6	508	55	453
30-34	589	5	584	57	527
25-29	563	4	559	62	497
20-24	687	5	682	133	549
15-19	759	5	754	189	565
10-14	820	3	817	189	628
5-9	914	3	911	129	782
0-4(a)	806	27	779	84	695
Total(b)		121	4,575	669	3,906

(a) The number of rural farm males born between 1950 and 1955 was estimated by decreasing the number of individuals in this age group by the same rate of decrease experienced by the 0-4 age group between 1940 and 1950. Assumption that a linear trend decrease prevailed. Half the rate of decrease was 24.0 percent.

(b) The total is for all age groups over age 20.

Table 9C. Continued.

Age group	1960 Population	1960-65 Deaths	Residual	Migrates	Residual
(15)	(16)	(17)	(18)	(19)	(20)
60-64	330	28	302	72	230
55-59	399	24	375	78	297
50-54	456	19	437	69	368
45-49	439	12	427	53	374
40-44	453	8	445	51	394
35-39	527	6	521	56	465
30-34	497	4	493	48	445
25-29	549	4	545	60	485
20-24	565	5	560	109	451
15-19	628	4	624	156	468
10-14	782	3	779	180	599
5-9	695	2	693	98	595
0-4					
Total(a)		110	4,105	596	3,509

(a) Total is for all age groups over age 20.

Table 9D. Continued.

Age group	1965 Population	1965-70 Deaths	Residual	Migrates	Residual
(21)	(22)	(23)	(24)	(25)	(26)
60-64	297	25	272	64	208
55-59	368	22	346	72	274
50-54	374	15	359	57	302
45-49	394	11	383	47	336
40-44	465	8	457	52	405
35-39	445	5	440	48	392
30-34	485	4	481	47	434
25-29	451	3	448	50	398
20-24	468	4	464	90	374
15-19	599	4	595	149	446
10-14	595	2	593	137	456
5-9					
0-4					
Total[a]		97	3,650	527	3,123

(a) Total is for all age groups over age 20.

Table 9E. Continued.

Age group	1970 Population	1970-75 Deaths	Residual	Migrates	Residual
(27)	(28)	(29)	(30)	(31)	(32)
60-64	274	23	251	59	192
55-59	302	18	284	59	225
50-54	336	14	322	51	271
45-49	405	11	394	49	345
40-44	392	7	385	44	341
35-39	434	5	429	46	383
30-34	398	4	394	38	356
25-29	374	3	371	41	330
20-24	446	4	442	86	356
15-19	456	3	453	113	340
10-14					
5-9					
0-4					
Total[a]		89	3,272	473	2,799

(a) Total is for all age groups over age 20.

Table 10A. Estimating the number of deaths, migrates and retirements in the active labor force for type-of-farming - area 12, between 1950 and 1975.

Age group	Death rate(a)	Migration rate(b)	1950 Population	1950-55			
				Deaths	Residual	Migrates	Residual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
60-64	.034	.237	129	11	118	28	90
55-59	.060	.207	176	11	165	34	131
50-54	.041	.159	211	9	202	32	170
45-49	.027	.124	252	7	245	30	215
40-44	.017	.114	265	5	260	30	230
35-39	.011	.108	306	3	303	33	270
30-34	.009	.097	281	3	278	27	251
25-29	.007	.111	354	2	352	39	313
20-24	.008	.195	345	3	342	67	275
15-19	.006	.250	418	3	415	104	311
10-14	.004	.231	413	2	411	95	316
5-9	.003	.142	488	1	487	69	418
0-4	.034	.108	610	21	589	64	525
Total in active labor force age 20 to 65				54	2,265	320	1,945

(a) Assumed the death rate for males in Kansas is the same as the death rate for males in Iowa.

(b) Migration rate is a net rate, based on 1940 to 1950 rates; a linear trend was assumed to prevail - adjusted to a five-year basis.

Table 10B. Continued.

Age group	1955 Population	1955-60 Deaths	1955-60 Residual	1955-60 Migrates	1955-60 Residual
(9)	(10)	(11)	(12)	(13)	(14)
60-64	131	11	120	28	92
55-59	170	10	160	33	127
50-54	215	9	206	33	173
45-49	230	6	224	28	196
40-44	270	5	265	30	235
35-39	251	3	248	27	221
30-34	313	3	310	30	280
25-29	275	2	273	30	243
20-24	311	2	309	60	249
15-19	316	2	314	79	235
10-14	418	2	416	96	320
5-9	525	2	523	74	449
0-4(a)	508	17	491	53	438
Total(b)		51	2,115	299	1,816

(a) The number of rural farm males born between 1950 and 1955 was estimated by decreasing the number of individuals in this age group by the same rate of decrease experienced by the 0-4 age group between 1940 and 1950. Assumption that a linear trend decrease prevailed. Half the rate of decrease was 24.0 percent.

(b) The total is for all age groups over age 20.

Table 10C. Continued.

Age group	1960 Population	1960-65 Deaths	1960-65 Residual	1960-65 Migrates	1960-65 Residual
(15)	(16)	(17)	(18)	(19)	(20)
60-64	127	11	116	27	89
55-59	173	10	163	34	129
50-54	196	8	188	30	158
45-49	235	6	229	28	201
40-44	221	4	217	25	192
35-39	280	3	277	30	247
30-34	243	2	241	23	218
25-29	249	2	247	27	220
20-24	235	2	233	45	188
15-19	320	2	318	80	238
10-14	449	2	447	103	444
5-9	438	1	437	62	375
0-4					
Total(a)		48	1,911	269	1,642

(a) Total is for all age groups over age 20.

Table 10D. Continued.

Age group	1965 Population	1965-70 Deaths	1965-70 Residual	1965-70 Migrates	1965-70 Residual
(21)	(22)	(23)	(24)	(25)	(26)
60-64	129	11	118	28	90
55-59	158	9	149	31	118
50-54	201	8	193	31	162
45-49	192	5	187	23	164
40-44	247	4	243	28	215
35-39	218	2	216	23	193
30-34	220	2	218	21	197
25-29	188	1	187	21	166
20-24	238	2	236	46	190
15-19	444	3	441	110	331
10-14	375	2	373	86	287
5-9					
0-4					
Total[a]		44	1,747	252	1,495

(a) Total is for all age groups over age 20.

Table 10E. Continued.

Age group	1970 Population	1970-75 Deaths	1970-75 Residual	1970-75 Migrates	1970-75 Residual
(27)	(28)	(29)	(30)	(31)	(32)
60-64	118	10	108	26	82
55-59	162	10	152	31	121
50-54	164	7	157	25	132
45-49	215	6	209	26	183
40-44	193	3	190	22	168
35-39	197	2	195	21	174
30-34	166	1	165	16	149
25-29	190	1	189	21	168
20-24	331	3	328	64	264
15-19	287	2	285	71	214
10-14					
5-9					
0-4					
Total[a]		43	1,693	252	1,441

(a) Total is for all age groups over age 20.

FARMING OPPORTUNITIES IN WESTERN KANSAS IN THE FUTURE

by

ROGER ALLEN BELL

B. S., Kansas State University, 1960

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1961

The major objective of this study was to estimate the farming opportunities in the western one-third of Kansas for each quinquennial period up to 1975 under four alternative sets of conditions. The four alternatives analyzed were the continuation of the present trends regarding average size of farms, an increase in the operator requirements, a doubling of the rate of the average size farm increase each quinquennial period, and no change in farm size or hired labor requirements. For the purpose of this study, a "farming opportunity" is considered to be employment for either an operator or a "regular worker" (hired labor working 150 days or more on the farm).

In estimating farming opportunities for the future, it was necessary to consider the decrease in actual opportunities, the present opportunities being made available, and the potential demand, as represented by rural farm youth living in the area. The factors affecting the decrease in opportunities and which were considered in this study are the number of acres in commercial farms, the average farm size, the number of commercial farms, the number of operators per farm, and the rate of decrease of hired labor on farms. Present opportunities are made available by the rural farm males dying, retiring, and migrating from the active labor force (ages 20 to 65). Potential demand for farming opportunities was estimated by the number of rural farm males in the various five-year age groups as listed in the 1950 Census of Population that will reach the assumed entrance age to farming (age 20) each quinquennial period.

By balancing the estimated supply of and demand for farming opportunities each quinquennial period, it was possible to estimate the surplus of rural farm males attaining age 20. The four alternative situations indicate 46.1 percent, 50.4 percent, 64.3 percent, and 7.04 percent surplus of farm labor respectively, for the 25-year period. The subsequent analyses of the type-

of-farming areas within the aggregate area show the west-central and southwestern part of Kansas with more farm labor surplus than the northwestern part of Kansas.

The variation in the surplus of farm youth and in the excess of demand for farming opportunities in different areas is a result of different changes that are being assumed for different areas in the future. By varying the assumptions underlying different factors, the surplus and percent surplus columns become either more or less pronounced, depending on the affected factor.

The implications intended to be set forth from this study were to point out the changes that will be needed in the area in order to bring the supply of farming opportunities into a balance with the potential demand for farming opportunities and to alert rural leaders to what is likely to happen in the future and thus to better prepare at least a part of the farm youth for nonfarm employment. As population transfers have taken place in the past, economic gains have accrued to both the farm and nonfarm individuals. A continued shift out of farming would enhance economic position of those remaining on farms.

If leaders in the communities in the western one-third of Kansas feel it desirable to maintain the present population or increase population, then it will be necessary to plan accordingly by providing economic opportunities for rural farm youth as they enter the active labor force.